ANNUAL REPORT OF THE COMMISSIONER OF PATENTS

VOL. 1 1858

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REPORT

OF THE

COMMISSIONER OF PATENTS

FOR THE YEAR 1858.

ARTS AND MANUFACTURES.

IN THREE VOLUMES.

VOLUME I.

U.S. Patent office

WASHINGTON:
WILLIAM A. HARRIS, PRINTER.
1859.

IN THE SENATE OF THE UNITED STATES,

March 3, 1859.

Resolved, That there be printed, in addition to the usual number, ten thousand extra copies of the Annual Report of the Commissioner of Patents on Arts and Manufactures for the year 1858, for distribution by the Senate, with the plates and drawings necessary to illustrate each subject.

Attest:

ASBURY DICKINS, *Secretary*.

UNITED STATES PATENT OFFICE,
January 31, 1859.

SIR: As required by the 14th section of the act approved March 3, 1837, I have the honor to transmit herewith the Annual Report of this Office for the year 1858, which I have to request may be laid before the Congress of the United States.

I have the honor to be, very respectfully, your obedient servant,

J. HOLT,
Commissioner of Patents.

HON. JOHN C. BRECKINRIDGE,
Vice President United States.

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REPORT

OF THE

COMMISSIONER OF PATENTS

FOR THE YEAR 1858.

UNITED STATES PATENT OFFICE,
January 31, 1859.

SIR: I have the honor to submit the following tables as illustrating the operations and condition of this office for the year closing the 31st December, 1858:

No. 1.

Number of applications for patents during the year 1858	5,364
Number of patents granted, including designs, re-issues, and additional improvements	3,710
Number of caveats filed	943
Number of applications for extensions of patents	24
Number of patents extended	20
Number of patents expired on 31st December, 1858	563

Of the patents granted, there were—

To citizens of the United States	3,668
To subjects of Great Britain	20
To subjects of the French empire	14
To subjects of other foreign governments	8
Total	3,710

The patents issued to citizens of the United States were distributed among the several States, Territories, &c., as follows:

New York	1,075
Pennsylvania	447
Massachusetts	438
Ohio	302
Connecticut	211
Illinois	155
New Jersey	126
Maryland	82
Indiana	82
Virginia	61
Maine	58
Michigan	54
Wisconsin	54
District of Columbia	52
New Hampshire	51
Rhode Island	48
Missouri	46
Vermont	42
Louisiana	34
Iowa	33
Mississippi	31
Kentucky	30
Alabama	24
California	23
North Carolina	22
Georgia	21
Tennessee	19
South Carolina	12
Texas	10
Delaware	8
Florida	4
Washington Territory	4
Arkansas	3
Minnesota	2
Kansas Territory	1
United States navy	2
United States army	1
Total	3,668

Of the 3,710 patents thus issued, 561 were for inventions relating to agricultural implements and processes, of which 152 were for improvements in reaping and mowing machines; 42 were for improvements in cotton gins and presses, and in packing cotton; 164 for improvements in the steam-engine; 198 for improvements in railroads, railroad cars, &c.; and 116 for improvements in the sewing-machine. Since the issue of the first patent for the latter to J. J. Greenough, in 1842, two hundred and eighty-five patents have been granted for

improvements upon it. This machine, so wonderful alike for the delicacy and accuracy as for the simplicity of its operations, may now be regarded as rapidly approaching perfection, and is destined to bless all lands with its truly beneficent ministrations. In a form so cheap as to be within the reach of the humblest household, it now enables a single female to perform, within the accustomed hours of labor, with slight fatigue, an amount of sewing which would be a painful task for twenty-five operatives stitching with the hand and needle. The belief is confidently entertained that at no distant day it will become almost as universal as were the distaff and spinning-wheel of the olden time; but, unlike these memorials of ceaseless toil, it will enter the homes of impoverished and suffering humanity, to lighten the burdens and brighten the lives of those whose elevation and happiness have been the unceasing care, as they are now the crowning glory, of the Christian civilization of the world.

No. 2.

Statement of moneys received at the Patent Office during the year 1858.

Received on applications for patents, re-issues, additional improvements, extensions, caveats, disclaimers, and appeals	$188,087 00
Received for copies, and for recording assignments	15,629 16
Total	203,716 16

No. 3.

Statement of expenditures from the patent fund during the year 1858.

For salaries	$82,073 41
Temporary clerks	42,355 03
Contingent expenses	37,803 90
Payment to judges in appeal cases	200 00
Refunding money paid into the treasury by mistake	374 75
Refunding money on withdrawals	30,386 65
	193,193 74

No. 4.

Statement of the condition of the patent fund.

Amount to the credit of the patent fund, 1st January, 1858	$39,719 46
Amount paid in during the year	203,716 16
Total	243,435 62
Deduct amount of expenditures during the year	193,193 74
Leaving in the treasury, 1st January, 1859	50,241 88

No. 5.

Table exhibiting the business of the office for seventeen years, ending December 31, 1858.

Years.	Applications filed.	Caveats filed.	Patents issued.	Cash received.	Cash expended.
1842	761	291	517	$36,505 68	$31,241 48
1843	819	315	531	35,315 81	30,776 96
1844	1,045	380	502	42,509 26	36,344 73
1845	1,246	452	502	51,076 14	39,395 65
1846	1,272	448	619	50,264 16	46,158 71
1847	1,531	533	572	63,111 19	41,878 35
1848	1,628	607	660	67,576 69	58,905 84
1849	1,955	595	1,070	80,752 78	77,716 44
1850	2,193	602	995	86,927 05	80,100 95
1851	2,258	760	869	95,738 61	86,916 93
1852	2,639	996	1,020	112,056 34	95,916 91
1853	2,673	901	958	121,527 45	132,869 83
1854	3,324	868	1,902	163,789 84	167,146 32
1855	4,435	906	2,024	216,459 35	179,540 33
1856	4,960	1,024	2,502	192,588 02	199,931 02
1857	4,771	1,010	2,910	196,132 01	211,582 09
1858	5,364	943	3,710	203,716 16	193,193 74

It will be observed that the depression under which the business of the office was laboring at the date of the last annual report has passed away, and that the rebound from the disastrous effects of the revulsion of 1857, then so confidently predicted, has already been fully realized. The applications of 1858 amount to 5,364 against 4,771 in 1857 and 4,960 in 1856, while the receipts show an excess over the expenditures of $10,522 42 against a deficit of $15,450 08 in 1857.

From the most reliable sources of information to which access could be had, the subjoined table has been compiled, with a view of exhibiting the comparative progress of inventions for a single year in the several countries therein enumerated.

Country.	Patents granted in 12 months.	Population.
France	5,820	35,781,628
United States	3,710	23,191,918
Great Britain (sealed)	1,890	27,511,447
Belgium	1,406	4,426,202
Austria	703	36,514,466
Sardinia	171	4,368,972
Saxony	107	1,828,732
Sweden	64	3,482,541
Victoria (Australia)	53	410,766
Prussia	49	16,923,721
Bavaria	41	4,519,546
Netherlands	39	3,203,232
Russia	26	69,660,146
Hanover	20	349,958

It is a fact, as significant as it is deplorable, that of the 10,359 inventions shown to have been made abroad during the last twelve months, but forty-two have been patented in the United States. The exorbitant fees exacted of the foreigner, and the severity of the offensive discrimination established to his prejudice, afford a sufficient explanation of this result. Were we to judge alone from the ninth section of the act of 1836, it might well be concluded that the government of this country regarded an invention made beyond the seas as something intrinsically dangerous, if not noxious, the introduction of which it is morally just and politically wise to burden with taxation, just as you would thus burden the importation of some foreign poisonous drug. There is a loftier view of this question, and one deemed more in harmony with the progressive spirit of the age—a view which hails the fruits of the inventive genius, in whatever clime matured, as the common property of the world, and gives them cordial welcome as the common blessings of the race to whose amelioration they are devoted.

Since the month of November, 1857, a board temporarily organized, and consisting of three examiners, specially detailed for this duty, have been occupied in the examination of appeals from the decisions of the primary examiners to the Commissioner. During the past year they investigated and disposed of 535 cases, in most of which they have submitted elaborately prepared reports. The results of their action have been eminently satisfactory, and have commanded, it is believed, the entire confidence of the country. The withdrawal of these officers from their respective classes has practically reduced the examining corps to nine instead of twelve, the number at which it was fixed in 1856. The applications of that year amounted to 4,960, those of 1858 amounted to 5,364, so that with a reduced force there is a heavy increase of the labor to be performed. This is unfortunate and to be deplored in reference alike to the public and the inventor. The former has a deep interest in that thorough and faithful examination of applications contemplated by the patent laws, in order that rights which belong to all may not be unjustly monopolized by one; the latter has the same interest, lest a patent, hastily and incautiously granted, should prove, in his hands, but a lure to draw him into harassing and impoverishing litigation. The legalization of this board, and the restoration of examiners to the three classes now virtually deprived of them, would furnish at once the relief required.

Since the establishment of this temporary board of appeals, the classes from which its members were respectively withdrawn have been in charge of those who have the rank and pay of assistant examiners only. In the new position, however, assigned them they have had imposed upon them the responsibilities of examiners in chief, and it is due to them to say that they have discharged their duties with zeal and fidelity. In my judgment, it is but just that they should be compensated according to the character of the services they have rendered. Assistant examiners similarly circumstanced were provided for by Congress in 1856, and I commend the claims of those now referred to to your favorable consideration.

There are now on file in this office upwards of twenty thousand models belonging to rejected cases. For a series of years they have,

for want of sufficient room, been kept in a condition little favorable to their preservation or usefulness. They present a chaotic and partially dilapidated mass of mechanical devices of no value as compared with the space they will occupy, and the expense their repair, arrangement, and preservation will involve. The fact that they are illustrations of inventions which have been determined to be not patentable, generally for want of novelty, is proof conclusive that they are, in effect, but duplicates of illustrations previously existing, and a large portion of which are already preserved by the office in patented cases. There would seem, therefore, to be no adequate motive for permitting them longer to encumber the building. The west wing of the Patent Office, to which, if retained, they must be transferred, is approaching completion; and the present moment, before the heavy expense incident to their restoration and custody is incurred, is deemed appropriate for deciding the final disposition which shall be made of them.

The defects in the existing patent laws have again and again been pointed out in the annual reports of this office, and are believed to be thoroughly understood and appreciated by the country. The subject has been so often and so earnestly pressed upon the consideration of Congress, that I cannot regard it as my duty, if, indeed, it would be my privilege, to renew the discussion at this moment. I cannot, however, forbear expressing again, with emphasis, my conviction as to the necessity of a change in that feature of the existing law which withholds from parties to controversies pending in this office the process of subpœna for compelling the attendance of witnesses and the production of papers. Every judicial tribunal in the land, from the highest to the lowest, no matter how paltry the amount in contest, is armed with this authority, without which, indeed, the administration of public justice would prove but little better than a mockery. With the issues of fact to be tried here are often bound up the entire fortunes of inventors, and the interests they involve are to be estimated by thousands and hundreds of thousands of dollars. Under the pressure of legislation, the parties to these issues are driven into this office, and compelled to have them investigated and decided here, while at the same time they are denied the only instrumentality by which their rights can be vindicated and maintained. They are thus forced to beg their testimony as an alms, or buy it as they would their provisions upon the shambles of the market. They are completely at the mercy of those witnesses who sell the truth, and are, of course, often subjected to the most onerous, and not unfrequently to the most infamous exactions. It is a gross and monstrous injustice, which admits of no defence, of no palliation, and which cannot fail to shock the moral sense of all who, in the heady current of political life, can be induced to pause long enough to contemplate its revolting features. It may well be doubted whether an evil of such deformity, and unredeemed as it is by any pretence of right or reason, would, if exposed as this has been, under any other form of government upon the earth, have been permitted to endure for a single day.

In view of the frequency with which the proposed changes in the patent laws have been urged upon the notice of Congress, it has been with extreme diffidence that I have ventured even a passing allusion

to the subject. A just estimate of the magnitude of the issues of which this office has charge, and a conviction of the vastly increased efficiency which these changes would secure to its administration, must be my apology. A class of men who have given to their native land and to the world the cotton gin, the steam-engine, the electric telegraph, the reaper, the planing and the sewing machines—inventions whose beneficent influences tell with measureless power upon every pulsation of our domestic, social, and commercial life—may well be pardoned for believing that their wants should not be treated with entire indifference by that body which represents alike the intellect and heart, as it does the material interests of the great country of which they are citizens.

J. HOLT.

Hon. JAMES L. ORR,
Speaker of the House of Representatives.

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR INVENTIONS AND DISCOVERIES HAVE EXPIRED DURING THE YEAR 1858.

No.	Patentee.	Invention or discovery.	Class.
3691	Abbé, Alanson	Corselet for curved spines, &c	20
4001	Ackerman, Gershom L	Wheels, carriage	10
376	Adams, Nathaniel	Moulding and pressing brick	13
3769	Adams, Seth	Printing-presses	18
3744	Adams, Thomas F	Printing in colors, machine for	18
3416	Allen, William K	Ploughs, adjusting	1
3827	Amelung, H. A	Lard, preparing	4
3711	Ansell, John, and James Gallery.	Grist-mills	13
3468	Arnold, Erastus	Grinding grain, portable mill for	13
3665	Arnold, William E	Washing-machines	17
3618	Avery, Wyllys	Turning wood tapering	14
3508	Bailey, Loammi	Stoves	5
3683	Baker, Horace	Barrels, machinery for making	14
3731	Baker, C. B., and E. Gifford	Brick-presses	15
3552	Barber, Sprague	Steam valves, conical seat	6
3843	Barbour, Horace, and John Gleason.	Carding fibrous substances, self-stripping card for.	3
3661	Barkdull, Joseph S	Crimps for collar pads	16
3676	Barnum, Daniel	Boiler, steam-engine, regulating the supply of water to.	6
3600	Bartley, Jonathan P	Shingle-cutter	14
3755	Bartol, Barnabas H	Steam valves, method of connecting the action of the cut-off and.	6
3707	Barton, Gardner, jr	Engines, fire	11
3438	Battin, Joseph	Coal, breaking	5
3539	Bay, James M	Railroads, connecting cast iron rails for	9
251	Bayley, Moses	Rotary press for woollen goods	12
3645	Baylor, Peter	Boring-machines, method of securing, to the article to be bored.	14
3451	Bazin, S. and J. A	Ropes, machinery for laying and winding the same into coils	3
3767	Beecher, Mather	Bark-mill for grinding tanners' bark	13
3557	Bennet, William	Ships, cellars, &c , mode of calking the seams of.	7
3571	Bennett, Epenetus A	Trusses	20
3454	Benson, Joseph	Oil-feeders	5
3613	Bent, Thomas, assignor to W. and R. P. Resor.	Stoves, cooking	5
3556	Bentley, Harness	Churns	1
3470	Bentz, Samuel	Stoves, cooking	5
169	Bigelow, Erastus B	Lace, power loom for weaving	3
3611	Bingham, Albert	Bolt in door fastenings, operating the	2
3819	Birdsell, James	Cultivator teeth	1
3699	Black, John	Mill-stones, dressing	15
3730	Blaney, Benjamin	Warming buildings, apparatus for	5
3399	Booth, John, and William H. Stevenson.	Brick-moulding machines	15
3636	Bradley, Jeptha	Furnaces, air-heating	5
3834	Bradley, Leman	Furnaces for smelting iron	2
3853	Bradley, Leman	Furnaces of steam boilers	6
3397	Brayton, William H	Loom for regulating the delivery of the warp from the warp beam.	3
3525	Breuer, Dierck	Planting-machines	1
3596	Broadmeadow, Simeon	Steel, manufacture of	2
3605	Broadmeadow, Simeon	Iron, wrought, mode of obtaining directly from the ore.	2

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3409	Broadmeadow, S., assignor to Wm. Green.	Furnace, reverberatory, for smelting or puddling iron.	2
3455	Brower, Jacob W	Smut-machines	1
3770	Brown, Benjamin H	Brick-presses	15
3704	Brown, Charles W	Tonguing and grooving machines	14
3474	Brown, Harvey	Ploughs, combined	1
3688	Brown, William	Tanning	16
3641	Bruce, Aaron F	Hemp and flax break	3
3680	Buchanan, Ryburn	Bolter for bolting flour	13
3484	Buel, Abel B	Harness, check-hooks for	16
3476	Bulkley, Ralph	Propelling boats and other vessels, oblique paddle propeller for.	7
3752	Bull, J. H. and R. H	Balance-spring	12
3608	Burke, W. A., assignor to Amoskeag Manufacturing Co	Dyeing yarn, machinery for	4
3722	Burt, Henry	Machinery, governor for regulating the movements of mill-wheels, steam-engines, and other.	13
3519	Bush, Rosswell	Stoves, cooking	5
3402	Butler, Constant B	Hemp-breaker and cleaner	3
3712	Butterfield, Benjamin	Railroads, key for fastening the rails of, to their chairs.	9
3640	Camp, Henry W	Stoves, cooking	5
3530	Carnegy John	Water-wheels, current	11
3741	Carr, W and J., and J. Shannon	Fish-nets	3
3521	Carver, Eleazer	Ginning cotton, saw-gin for	3
3689	Carver, George	Brushes, scrubbing	17
1710	Cary, Jonathan H	Turning spools	14
3558	Cathcart, Charles W	Threshing-machines	1
3733	Chamberlin, Edward	Saleratus, making	4
3774	Chandler, Adoniram	Life-preserver	7
3852	Chandler, Thomas, and Asa D. Reed.	Winnowing-machines	1
3679	Chatterton, Richard D	Paddle-wheels of steamboats, &c	7
3445	Chesnut, William D	Cars, railroad, locomotive, &c , coupling bars for.	10
3572	Childs, A. D	Horse-power for driving machinery	13
3547	Choate, Warren C	Square-rigged vessels, forming and rigging the sails of.	7
3656	Chollar, J. B., and H Parmlee, assignors to Chollar, Jones, and Low.	Stoves, railway	5
3723	Clark, Edwin	Cutters, sausage meat	17
3499	Clark, James M	Smut-machines	1
3400	Cline, John	Stoves, air-tight	5
3660	Cochrane, John	Boilers, steam, &c , regulating the supply of water to.	6
3422	Coffin, James B	Washing-machine	17
3737	Cole, Erastus E	Saws, circular, for cutting off piles under water.	14
3696	Cole, Thomas, and John Littlefield.	Winnowing-machines	1
3837	Cole, Tillott	Shingles, cutting, machine for	14
3548	Coleman, Obed M	Piano-fortes	18
3395	Colton, Sabin	Lock, combination	2
3820	Combs, John P	Tailors' measures	21
3872	Converse, William F., and Richard H. Penny, and Richard H. Hannaford.	Bedsteads, cutting screws in the posts and on the rails of.	17

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3460	Cook, George W	Churns	1
3740	Cook, Roswell	Water wheels	11
3778	Cooper, Isaac	Bedsteads, sacking-bottoms for	17
3439	Cope, S. and J. D.	Bee-hives	1
3456	Cornell, Ezra	Cutting trenches and laying pipes	9
3449	Covel, Emerson G	Water-wheels, combined	11
3614	Cox, John	Tanning	16
3464	Cram, Smith	Pressing and raising weights, machines for.	12
491	Crompton, William	Loom, figure power	3
3481	Cranage, Thomas	Boots, cutting	16
3867	Crawford, A. B	Hulling clover machines	1
3732	Crawford, Benjamin	Steam-engines, condenser and boilers of	6
3856	Cutter, Calvin	Trusses	20
3638	Cutting, James A	Bee-hives	1
3812	Darling, Eliakim C	Trusses	20
3697	Davenport, Charles, assignor to Davenport & Bridges.	Railroad truck-frames	9
3836	Davison, Clement	Stereotyping	18
3910	Davy, John T	Bakers	5
3788	Day, Horace H	India rubber goods corrugated and sherred	22
3822	Dennett, Daniel	Wind-wheels, horizontal	11
3598	Deutsch, Edward	Cements and pigments, water-proof	4
472	Dewey, David	Rake, horse	1
3537	Dodd, Robert J	Cupping instrument	20
3485	Dodge, J Smith	Teeth, setting artificial	20
3632	Downey, Robert	Leather, making	16
5403	Doyen, J. Le	Compounds, disinfecting	4
3500	Draper, Francis	Lamp-caps	5
3559	Dubosq, Henry	Suspender buckles	21
3780	Dupuy, Eugene	Nursing-bottle	20
3709	Dyzert, William	Cultivators	1
3582	Eddy, R. H., assignor to D. Jarves and New England Glass Company.	Lamp-caps	5
3789	Ellis, Zabina	Tallow, &c , cutting	4
3695	Embree, James	Scythe-handles, &c., machine for making	14
3869	Ericsson, John	Propelling ships	7
3803	Esterly, George	Harvesting-machines	1
3506	Evans, David	Refrigerator	17
3518	Farrar, Alonzo	Reflectors, metallic	5
3544	Fatman, Joseph	Sealing-wax, igniting	4
4476	Ferguson, Robert, and John Clark.	Printing calico	18
3502	Ferguson, Hiram	Water-wheels	11
3591	Fernald, Henry B	Lamps	5
3693	Field, William	Rolling irregular figures to a pattern, machine for.	2
3533	Fink, Julius	Ranges, kitchen	5
3828	Fish, Ezra	Sewing-machines	1
3790	Fish, Randal	Hats of leather, skins, and other materials, machinery for forming.	16
3823	Fitzgerald, Elisha	Braid, Tuscan, &c., weaving	3
4702	Fontaine de Marreau, Peter A. L.	Barometers	8
3428	Forsyth, William F	Doors, sliding	9
3751	Fowler, De Grasse	Pins, arranging and sticking in papers	2
3771	Francis, William, and William Johnson.	Marking and lettering packages, &c	18

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3646	Fulkerson, Jacob D	Bee-hives	1
3626	Fulton, Calvin	Stoves, cooking	5
3800	Gale, Dan	Uterine injections, instrument for	20
3657	Gale, Isaiah	Boot-shanks, elastic	16
3503	Gardiner, Perry G	Presses, cotton	12
3534	Garrison, H. and G	Sugar candy	4
3581	Gathing, Richard I	Seed-planters	1
3826	Gilbert, Joseph	Chimneys, building	5
3716	Gilman, Alonzo	Printing-press	18
3715	Gilman, Eliphalet C	Laths and clapboards, sawing	14
3461	Goodyear, Charles	India rubber fabrics	22
3462	Goodyear, Charles	India rubber fabrics	22
3619	Gordon, James W. W	Ointment, mercurial, machine for making	4
3504	Gori, Ottoviano, and P. Ernst	Piano-fortes	18
3785	Gould, Ezra	Wool, combing	3
3453	Grandjean, Auguste	Composition for dyeing the hair	4
3658	Groat, Jacob	Grinding grain, cylindrical mill for	13
3659	Groat, Jacob	Hulling and pearling rice	1
3817	Groat, Jacob	Smut-machines	1
3564	Grout, John R	Drill or borer, governing the feed of	2
3496	Grout, John H., and F. M. Ray.	Plates, door	2
5028	Grouvelle, P. and L. N., and E. Mouchot, assignors to B. Rodriguez.	Ovens, bake	5
3794	Guernsey, Calvin O	Grain, fanning mill for	1
3473	Hager, Abraham	Sugar-boilers	4
3846	Haines, Alford C	Baths, vapor, apparatus for	20
3871	Hains, Samuel B	Horse-power for driving machinery	13
3480	Halsted, Oliver	Exercise, machines for producing	17
3664	Hamlin, Lemon	Bee palaces	1
3809	Hammond, Thomas	Bonnets, portable	3
3435	Harley, Benjamin F., and John D. Morris.	Hinges, butt, moulds for	2
3684	Harris, James S	Silk reels	3
3627	Hatch, George W	Carriages, wagons, &c., couplings for	10
3440	Hatch, Julius W	Buckles	2
3574	Hatfield, Jehu	Interest, machines for calculating	8
3505	Heck, John	Mill bush	13
3821	Hemingway, Daniel	Fireplaces	5
3538	Herbert, James	Ploughs for excavating ditches	1
3628	Hermance, John C	Stoves, cooking	5
3524	Herr, Samuel L	Grinding corn and cobs, mill for	13
3777	Hills, Dudley	Ploughs, gathering weeds under the furrow slice of.	1
3483	Hinton, Jacob H	Brooms, machine for making	17
3550	Hoe, Richard M	Inking-rollers	18
3551	Hoe, Richard M	Printing-presses	18
5687	Hoe, Richard M	Printing-press	18
3761	Holmes, James G	Invalids, chairs for	20
3735	Horn, Edwin B	Lamps, self-supplying	5
3413	Hoskins, Thomas H	Corn-planters	1
3447	Hotchkin, Ashley	Stoves, cooking	5
3431	Hovey, William	Straw-cutters	1
3649	Hubbell, William W	Fire-arms	19
3772	Hurd, Joseph	Sugar, cleaning	4
3854	Hurd, Joseph	Chimneys, caps for regulating the draught of	5
3673	Huse, Enoch	Tobacco, renovating	4

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
389	Imlay, Richard	Supporting bodies of cars, &c	8
3868	Isbister, Caleb	Nail-cutting machine, feeder for	2
3603	Isham, Henry	Tailors' measures	21
3403	Ives, Joseph Shaler	Piano-forte, tuning-pins for	18
3637	Jackson, Amos	Presses	12
3398	James, Aaron E	Bee-hives	1
3588	James, Henry B	Smut-machines	1
3642	Jenks, Jacob	Stone-cutters	15
3793	Jennings, Isaiah	Lamps, volatile, ingredients for burning	5
3866	Johnson, Edwin F	Steam-engines, locomotive	6
3701	Johnson, Israel G	Shingles, sawing	14
3585	Johnson, John, and O. Freeman, assignor to W. H. Tuttle.	Cracker-machines	17
3510	Johnson, Nelson	Water-wheels	11
3441	Jones, S. S	Stoves, cooking	5
3750	Katen, Lewis	Block-letters, making	18
3713	Kaufman, David	Washing-machines	17
3728	Kendall, Thomas	Bonnet tips, apparatus for pressing	3
3682	Kenney, Cyrus	Hinges, butt blank, machinery for trimming.	2
3690	Kenney, Cyrus	Hinges, butt, of wrought iron, machinery for making.	2
3717	Kenney, Cyrus	Hinges, butt, of wrought iron, bending the knuckles of.	2
3758	Kephart, Peter	Fruit and vegetable preservers	17
3531	Kesselmeier, Frederick	Clock pendulums	8
3535	Kesselmeier, Frederick	Stoves, cooking	5
3442	Ketchum, Archibald C	Potato-diggers	1
3831	Ketchum, William F	Reaping-machines	1
3848	Ketler, Adam	Stoves, cooking	5
3639	Kettering, Adam, and A. Vogle	Tanning	16
3870	Kilburn, W., and F. Haines	Seed-planters	1
3792	Kingman, Henry W	Bedsteads, bureau	17
3671	Kymer, John	Furnace grate-bars	5
3489	Lamb, Seth	Presses, cotton	12
3511	Lane, Isaac C	Loom, rotary temples for	3
3662	Lawrence, Henry	Buckles	2
3748	Lauve, Norbert	Ratan and cane cutters	1
3719	Law, Hervey	Match-splints, cutting	14
3448	Lear, P., and E. Buck, assignors to P. Lear.	Paddle-wheels, horizontal	7
3526	Leland, Abner	Stoves, cooking	5
3426	Lester, Ebenezer A	Steam-engines, vibrating	6
3700	Lester, Ebenezer A	Wheels, cast iron railroad-car, making	10
3753	Lewis, James	Stoves, cooking	5
3692	Lewis, Winslow, sr., and Benjamin Hemmenway.	Lamps, light-house	5
3714	Ling, Thomas	Churns	1
3736	Locke, Edward	Steam-engine, rotary, exhausting the case of a	6
3465	Long, Israel	Ploughs, wheel	1
3459	Loper, Richard F	Propeller, rotary inclined, for vessels	7
3685	Loper, Richard F	Guns, constructing large	19
3786	Loper, Richard F	Propellers, submerged, coupling the shafts of, for steamboats and other vessels.	7
3427	Loring, Thomas	Hinges, flask for moulding	2
4540	Low, Charles	Steel and iron, manufacture of	2
3472	Lukins, Ephraim	Washing-machines	17

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3602	Lyman, Eldridge	Tenoning and mortising machines	14
3830	Lyon, James H	Stoves, cooking	5
3652	Madden, John	Carriages, detaching horses from	10
3851	Maguire, John	Flats, manufacture of	3
3407	Mallory, Meredith	Smut-machines	1
3842	Maples, Darius W	Lock, permutation, for vaults, safes, &c	2
3743	Marshall, William, and J. B. Thursly.	Hides, raw, machine for cutting	16
3840	Martin, John, jr	Presses, cheese, self-acting	12
3494	Mayo, John K	Saws, circular, for sawing lumber, &c., manner of applying.	14
3540	McAll. William	Corn-shellers	1
3615	McCauley, William L	Boots, cork-sole	16
3578	McCollum, James	Carriages, wrought-iron wheels for	10
3801	McCully, Francis, jr	Bobbins, method of operating the, in machinery for spinning fibrous substances.	3
3437	McDonough, Thomas	Steam-engines, conical balance valves of	6
3478	McWilliams, Alexander	Fruit-gatherers	1
3477	Merritt, Caleb	Bonnets and hats, machinery for pressing.	3
3412	Miller, John	Saw-mills, tail-blocks of	14
3775	Miller, Rudolph	Corn-fodder, cutting and crushing	1
3570	Mills, Peter	Stoves, cooking	5
3824	Mini, G	Lampblack, making	4
3452	Montgomery, William	Hemp, &c., heckling and spinning	3
3745	Moody, R., and S. D. Dakin	Dock, floating dry, basin to be used in connexion with a.	9
3644	Mooers, Jonathan	Ploughs	1
3490	Moor, Albert	Harpoon	7
3396	Moore, George R	Balances	12
3414	Moreau, Gabriel H	Propelling steam and other vessels	7
3415	Moreau, Gabriel H	Steam-generators	6
3746	Morewood, Edmund P	Iron and copper, coating, with tin and other metals.	2
3609	Morgan, Amos	Drilling-machines	2
3675	Morgan, Morgan, jr	Fire-fenders	5
3565	Morris, Edmund	Plates, door, and signs, of separate types, &c., method of making.	2
3738	Morris, Edmund	Paper, sand, glass, or emery, making	3
3516	Mumford, Silas G	Cotton, wool, &c, burring and cleaning	3
3514	Myers, Gideon	Composition for aqueduct pipes	4
3560	Naylor, Peter	Roofs of houses, &c., securing tin plate, &c., on.	9
3406	Nelson, Robert	Cultivators	1
3749	Newbrough, William	Washing-machines	17
3747	Newell, Robert	Lock, combination, for doors, safes, &c	2
3479	Nichols, Eli B, and D. Marsh	Grinding grain, mills for	13
3865	Nicolls, Gustavus A	Railroads, safety-switch for	9
3668	Nicolson, Samuel	Ice-breaker for boats and other vessels	7
3599	Nield, James	Looms, power	3
3486	North, Oren S	Labels for mail-bags	2
3563	Noyes, Isaac	Salt making	4
3757	Owens, Edwin	Ditching machines	9
3832	Packard, M and C. B	Grain, separating, from straw	1
3705	Pagin, John	Smut-machines	1
3463	Palmer, Moses	Wheel-hubs, lining metallic boxes for	10
3678	Palmer, Waterman B	Logs, setting saw	16
3847	Parish, Nathan	Washing-machines	17

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3825	Park, Jesse K	Manifold letter-writers	18
3443	Parker, E. and T	Composition for glazing	4
3629	Parker, Joseph J	Saw-mills, tail and head blocks of, self-setting.	14
3482	Partridge, Benoni F	Rakes, grain	1
3429	Peas, Abram	Steam-engine, rotary	6
3466	Peck, George	Presses, cotton	12
3721	Peck, Jacob	Corn and cane cutters	1
3670	Peck, Lauren M	Vise, standing or bench	14
3 97	Perry, Stuart	Gases or vapors, engine to be operated by the explosive mixtures of inflammable.	6
3762	Peters, William T., executor of Ithiel Town.	Bricks, moulding	15
3433	Pettes, Simon	Stoves, cooking	5
3991	Pfisher, D , assignor to John Keller.	Stone, sawing and dressing	15
7269	Phillips, W. H	Fire, apparatus for extinguishing	5
4124	Pilbrow, James	Railroads, atmospheric	10
3509	Pittenger, William	Cutters, sausage-meat	17
542	Pitts, J. A. and H. A	Threshing and cleaning grain	1
3859	Post, Lewis	Fracture apparatus	20
3634	Post, Nathan	Hames, horse	16
3408	Potter, B. and A. F	Lathe for turning boats' oars	14
3861	Potter, William L	Stoves, cooking	5
3562	Pratt, Loea	Seed-planters	1
3815	Prescott, Jedediah	Presses, cotton	12
3739	Provost, William F	Presses, cotton	12
3703	Putney, David	Water-wheels	11
3457	Quail, John H	Cars, railroad, for turning curves	10
3694	Rand, John	Vessels of soft metal, method of making	2
3595	Reid, Elisha	Journals, preventing, from heating	13
3760	Reinhardt, C. C., and V. Carter	Trusses	20
3607	Reynolds, Griffin, jr	Hemp cradles	1
3653	Reynolds, John	Carriage-bodies, hanging	10
3841	Reynolds, Oliver	Bee-hives	1
3425	Reynolds, R., jr	Gin, cotton, roller	3
3681	Reynolds, S. G	Spike-machines	2
3589	Rice, Dennis	Harrows, sward-cutting	1
3857	Richards, Richard	Soles, cutting	16
3522	Richardson, Samuel S	Fitting ladies' dresses	21
3643	Ricketts, Lovering	Piano-fortes	18
3807	Riggs, John W	Stoves, cooking	5
3417	Riley, William W	Ointments for piles	4
3779	Ringgold, Samuel	Saddles, construction of	16
3724	Ripley, Ezra	Metal, method of making patterns for casting hollow ware and other articles of.	2
4189	Ritterbrant, Louis Antoine	Boiler, steam, removing incrustation of	6
3796	Robbins, Zenas C	Boilers, steam, &c., heater of	6
3804	Robinson, J. D	Water-wheels	11
3555	Robinson, Peter	Steam-engine and other boilers, supplying air to consume the combustible gases, &c., that escape from the furnace of.	6
3672	Rodgers, James	Sewing with a running stitch, machine for.	16
3810	Roe, Livingston	Fractures, apparatus for	20
3849	Rogers, Calvin B	Saws, machinery for filing	14

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3765	Rogers, Henry J	Telegraph signal	9
3401	Roome, William J	Composition for leather, water-proof	4
3575	Roop, Benjamin	Mash-tubs	4
3726	Rose, William	Wood, shaving	14
3727	Rose, William	Hoops, splitting	14
3590	Ross, Charles	Rules or measures for boards, leather, &c.	8
3816	Ross, John G	Wheels, tide	13
4226	Rowan, William, assignor to Thomas Murray Megget.	Boxes, anti-friction, for axles, &c.	10
3749	Rowland, Daniel	Coffee-pots	17
3783	Roys, Franklin	Bread, knife for cutting	17
3776	Russell, Thomas J	Boring timber, machine for	14
3467	Rust, Samuel	Lamp-wicks, raising	5
3498	Sabins, David	Trusses	20
3446	Sanderson, Robert	Pressing, lever-powers for	12
3838	Sanford, Levi	Planes, bench, setting the bit in	14
3686	Savage, E., and S. North	Fire-arms	19
3512	Savage, Elisha C	Hooks and eyes	20
3768	Sawyer, Nathan	Brick-presses	15
3806	Saxton, J., and G. Elliott, assignors to Harned & Elliott.	Stoves, air-tight, self-regulating	5
3532	Scammon, Samuel, and R. Nason	Smut-machines	1
3616	Schermerhorn, J. B	Churns	1
3725	Sealy, Richard	Hydro-pneumatic apparatus for raising beer, &c., from casks.	11
3594	Sebo, John	Awnings	22
3475	Sellers, C. and G E	Pipes, lead, machinery for manufacture of	2
3631	Sewell, William, jr	Presses, cotton	12
3580	Shailer, Thomas	Trap for catching animals	22
3568	Sherard, John H	Ginning cotton, saw-gin for	3
3536	Shnell, James S	Carriages, disengaging horses from	10
3802	Sickels, Frederick E	Steam-engines, opening and closing the valves of.	6
3845	Sickels, Gerard, assignor to G. L. F. Griswold.	Bedsteads, sofa	17
8988	Sievier, Robert W	Looms for weaving piled fabrics without the figuring wires.	3
3892	Slane, P. F., and John Golding	Lamps, glass, making	5
3574	Slater, Joseph R., and S. G. Pratt	Hames, horse	16
3515	Smart, John	Stoves	5
3720	Smedley, Jeffery	Brick-presses	15
3576	Smith, Aaron	Ploughs	1
3579	Smith, Aaron	Ploughs, double	1
3404	Smith, David	Pressing, machines for preparing tobacco for	12
3773	Smith, Elisha	Friction-matches	4
3718	Smith, Joseph	Excavator, scoop, or dredging-machine	9
3621	Smith, William H	Cements, making	4
3569	Snyder, Elisha S	Smut-machines	1
3586	Soule, William	Washing-machines	17
3742	Southall, Thomas, and Charles Crudgington.	Iron and steel, process of manufacturing, &c.	2
3635	Spicker, Charles F	Coloring and hardening wood	4
3729	Sprout, Erastus T	Carriages, spring-brace for	10
3787	Squier, John B	Saw-mill, setting logs on the carriage of a.	14
3829	Stanley, William	Wheat-fans	1

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3669	Stanton, Henry	Saw-mill carriages, for steadying the logs thereon.	14
3808	Stearns, Nathaniel P	Saw-mills, setting saw-logs and opening and shutting gates of.	14
3543	Stephenson, Marcus R., and O. Edwards.	Lock, door, combination	2
3546	Stephenson, Marcus R., and O. Edwards.	Locks for banks, safes, vaults, &c	2
3651	Stephenson, Marcus R , and O. Edwards; Marcus R. Stephenson, assignor to Edwin Holman.	Locks for banks, safes, &c	2
3667	Stetson, Francis M., and John Eaton.	Saw-mills, setting logs on the carriages of.	14
3862	Stevens, John H	Boxes, machinery for preparing wood for making.	14
3666	Stevens, Pelatiah, jr	Boot-crimps	14
3553	Stevens, Phineas	Spinning, flier and dead-spindle for	3
3863	Stickney, Gage	Hinges, butt, planing and dressing the knuckles on their inner sides.	2
3858	Stigleman, Calvin, and A. Seely.	Saws of saw-mills without a gate, straining the.	14
3764	Stiles, A. C	Chairs, rocking	17
3567	Stimpson, Albert	Water-wheels	11
3587	Stimpson, H. H	Ranges, cooking	5
3592	Straub, Abraham	Smut-machines	1
3612	Straub, Isaac	Stoves, cooking	5
3620	Stuart, Frederick A	Threshing-machines	1
3647	Stuart, Frederick A	Forges, blacksmiths'	2
3604	Stutton, Samuel G	Scrapers for repairing and making roads, &c.	9
4277	Tatham, I. and D. Cheetham	Roving in cars, mode of laying	3
3864	Taylor, Anthony	Ploughs	1
3791	Taylor, Eliakim	Straw-cutters	1
3811	Taylor, Ezra	Straw-cutters	1
3418	Taylor, John	Anvils, machine for making	2
3593	Taylor, Samuel	Brushes, trimming the bristles of, &c	17
3411	Theaker, Thomas C	Saw-mills, tail and head blocks of	14
3501	Thompson, Ambrose W	Ranges, kitchen	5
3542	Thompson, John	Ploughs	1
3650	Thorndike, John H	Pipes, supply, construction of, for aqueducts.	11
3766	Thorp, John	Hook-spinner and twister, whirling and rotary ring.	3
3545	Tillman, Samuel D	Stoves, apparatus for regulating the heat of.	5
3763	Timby, Theodore R	Water-wheels	11
300	Titcomb, E. M	Spinning woollen roving	2
3513	Tobin, John	Lamp, lard	5
3450	Tolles, Elisha	Cars, railroad, to prevent accidents from what are called "snake-heads."	10
3850	Tower, Jonas	Iron or other ores, process of reducing, to the metallic state by coating them with certain fluxes.	2
3756	Trail, Archibald	Ships and other vessels, strengthening the sails of.	7
3805	Tucker, Edwin	Turning irregular forms, machinery for	14
5261	Turnbull, Alexander	Tanning	16
3622	Twitchell, Mark	Brick-presses	15

Persons whose patents for inventions have expired.

No.	Patentee.	Invention or discovery.	Class.
3782	Henry G. Tyer & John Helm	India rubber, maching for cutting	22
3855	Valentine, Samuel L	Water-wheels	11
3487	Varnel, Reuben C	Cloth, brushing and winding	3
3818	Vermillion, Dennis	Excavator or drag for removing mud, &c., in beds of rivers.	
3471	Verplank, Isaac B	Buckles	
3708	Vestal, Aaron H	Potatoes, keeping sweet	17
3458	Vine, William	Cutlery, cleaning and polishing	2
3606	Von Schmidt, Peter	Propellers, submerged	7
3601	Wade, Robert M	Mill bush	13
3655	Wager, James	Stoves, cooking	5
3623	Walker, George	Furnaces for heating buildings	5
3436	Walker, Rd., and J. McIntire	Loom, knitting	3
3434	Walters, George T	Grinding-mills	13
3528	Ward, Hammond	Stone, dressing	15
3491	Waring, George E	Furnaces, portable	5
3759	Waste, Oramel W	Chronometer escapement	8
3423	Watkins, David	Wheat-fans	1
3625	Weaver, Daniel	Water-wheels	11
3577	Webb, Benjamin	Saw-mill carriages, self-setting apparatus for setting logs on.	14
3617	Webster, James W	Smut-machines	1
3420	Wiseman, Joseph	Paints, fire and water-proof	4
3663	Wemple, Jacob V. A., and G. Westinghouse.	Grain-separators	1
3781	West, Christopher	Lamps, construction of	5
3554	West, George R	Bee-hives	1
3624	White, James	Stoves	5
3497	Whitman, L. and Ezra, jr	Threshing-machines	1
3795	Whiton, Lyman	Stays for supporting spine of the human body.	20
3860	Wieting, Archibald	Stoves, cooking	5
3654	Wight, Oliver B	Washing-machines	17
3706	Wilkinson, Thomas	Currycombs	2
3797	Wilson, Alexander M	Streets, machine for sweeping	9
3784	Wilson, Ebenezer	Lard, rendering	4
3839	Wilson, William	Latch, mortise, for doors	2
3583	Wiszt, John A	Water and animal power	11
3529	Wolfe, T. Jefferson	Pumps	11
3405	Wood, Simeon	Shingles, shaving	14
3495	Wood, William	Shingles, cutting	14
3814	Wood, William A., and J. C. Loveland.	Grain-cradles	1
4691	Woodcock, Bancroft	Stoves, cooking	5
233	Woodcock, Bancroft	Plough, improvement in	1
4441	Woodcroft, Bennett	Propellers, spiral	7
3520	Woodward, Lewis	Washing-machines	17
3492	Woolley, John	Stoves, air-heating and cooking	5
3507	Woolley, John	Roofs of houses, &c., manner of making	9
3424	Worthington, H. R	Propelling canal and other boats	7
3677	Worthington, H. R	Steam-engine, auxiliary, constructing and governing an, for the purpose of supplying a steam-boiler with water.	6
3835	Wright, Peter M	Presses, cotton	12
3517	Wyeth, Nathaniel J	Composition for making brick	4
3630	Yale, Linus	Locks, door	2
3610	Young, E. W., & T. H. Wilson	Smut-machines	1
3430	Young, Jas., & Elmon Parker	Stoves, cooking	5

ALPHABETICAL LIST OF PERSONS WHOSE PATENTS FOR DESIGNS HAVE EXPIRED DURING THE YEAR 1858.

No.	Patentees.	Designs.
368	Abendroth, John	Stoves, cooking.
362	Ames, Winslow, assignor to Hartshorn & Ames	Grates, parlor.
429	Ames, W., assignor to J. Hartshorn & W. Ames	Stoves.
367	Arnold, Dutee	Stoves, cooking.
369	Ball, Thomas	Bust of Jenny Lind.
372	Batchelor, Nathaniel A	Clock frame.
401	Blanchard, Reuben, jr., assignor to Learned & Thatcher	Stoves.
402	Blanchard, Reuben, jr., assignor to Learned & Thatcher	Stoves.
403	Blanchard, Reuben, jr., assignor to Learned & Thatcher	Stoves.
370	Burleigh, M. C	Stove doors and panels.
392	Burnet, William	Water coolers.
415	Chapin, Nathan	Tables.
352	Chilson, Gardner	Furnace registers.
353	Chilson, Gardner	Furnace registers.
354	Chilson, Gardner	Furnace registers.
355	Chilson, Gardner	Furnace registers.
417	Cobb, Lyman	Stoves.
405	Cook, Aaron	Combs for ladies.
382	Cox, A., E. Johnson, and D. B. Cox	Stoves.
383	Cox, A., E. Johnson, and D. B. Cox	Stoves.
341	Davis, William C	Stoves, cook.
390	Davis, William C	Stoves.
419	Davy, John T	Fences, cast iron.
350	Delany, Edward J., assignor to Heins & Adamson	Umbrella stands.
393	Dewitt, James V	Stoves.
423	Fitzgerald, Frederick, assignor to Silas C. Herring and John Ryer.	Iron railing.
400	Flinchbaugh, H K	Tomb, cast iron.
430	Freeman, Edmund L	Presses, mantle-pieces, &c., for frames for.
406	Fulton, Calvin	Stove plates.
345	Gibbs, Samuel W., assignor to North, Harrison & Co	Stoves.
346	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves, cooking.
356	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves.
357	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves.
359	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves.
3	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves.
380	Gibbs, Samuel W., assignor to Jagger, Treadwell & Perry	Stoves.
394	Gibbs, Samuel W, assignor to North, Harrison & Chase	Stoves.
422	Gibbs, Samuel W., assignor to North, Harrison & Chase	Stoves.
342	Gilbert, Charles	Stoves.
428	Green, Jeremiah D., assignor to Backus, Bacon & Co	Stoves.
381	Hallman, W. G	Stoves.
378	Hapgood, Lyman S	Stove plates.
347	Harris, Conrad, and Paul W. Zoiner	Stoves.
375	Hathaway, William L	Stoves.
348	House, Samuel A	Stoves, cooking.
349	House, Samuel A	Stoves, parlor.
388	House, Samuel A	Stoves.
371	Hutchinson, James, assignor to D., A. E., and N. Powers	Floor oil-cloth.
411	Hutchinson, James, assignor to Deborah, Albert E., and N B Powers.	Floor oil-cloth.
374	Hutton, P. M	Bedsteads.
407	Hutton, Pelatiah M	Bedsteads, cast iron
408	Jones, Anthony W., assignor to James McGregor, jr	Stoves.
344	Lamb, Joseph G	Stoves.
380	Lamb, Joseph G	Stoves.

Persons whose patents for designs have expired.

No.	Patentees.	Designs.
387	Lamb, Joseph G	Stoves.
360	Lewis, W. and W. H	Pedestals and columns.
410	Merchant, Silas	Stoves.
425	Muller, Charles	Hat stand.
397	Penniman, Elijah P	Stove plates.
398	Penniman, Elijah P	Stove plates.
414	Penniman, E. P., assignor to H. Ruttan	Stove or furnace for ventilating.
358	Perry, John S	Stoves.
361	Pratt, Joseph	Grates, parlor.
391	Pratt, Joseph	Stoves, parlor.
384	Rathbone, John F	Stoves.
389	Rathbone, John F	Stoves, cooking.
395	Rathbone, John F	Stoves, cooking.
396	Rathbone, John F	Stoves, plates of Franklin.
363	Richardson, N. P	Stoves, air-tight.
376	Richardson, N. P	Stoves.
399	Richmond, Apollos, assignor to A. C. Barstow & Co	Stoves, parlor, plates of.
424	Richmond, Apollos, assignor to A. C. Barstow & Co	Stove plates, parlor.
416	Ripley, Ezra	Stove fronts.
377	Ripley, Ezra, assignor to D. Stafford & Co	Stoves.
421	Ripley, Ezra, assignor to Chollar, Sage, & Dunham	Stove.
426	Ripley, Ezra, and N. S. Vedder, assignor to Low & Hicks	Stove, parlor.
351	Sailor, S. H., assignor to Warnick, Leibrandt, & Co	Stoves, cooking.
409	Sailor, Samuel H., assignor to North, Harrison, & Chase	Stoves.
379	Sanderson, William L., assignor to R. R. Finch	Stoves.
420	Savery, William	Stoves.
364	Schultz, Frederick	Stoves, air-tight.
343	Smith, Elihu	Stoves.
385	Stuart, David, and Jacob Beesley, assignors to William P. Cresson.	Stoves.
427	Stuart, David, and Jacob Beesley, assignors to William P. Cresson.	Stove registers.
404	Vedder, N. S, assignor to A. T. Dunham & Co	Stoves.
373	Wager, James, David Pratt, and Volney Richmond	Stoves.
413	Weeman, Ebenezer	Gates, metallic.
365	Williams, Seth, jr., assignor to Williams, Bird & Co	Stoves.
418	Woolson, Charles J	Stoves.
412	Zeuner, Charles, assignor to M. Greenwood & Co	Shovels, stands for.

CLASS I.—AGRICULTURE, *including instruments and operations.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Bee-hives	Aaron E. James	Point Pleasant, Va	Jan. 6, 1844.
Bee-hives	S. and J. D. Cope	Damascusville, Ohio	Feb. 12, 1844.
Bee-hives	George R. West	Fairfield, Ohio	April 20, 1844.
Bee-hives	James A. Cutting	Haverhill, N. H	June 24, 1844.
Bee-hives	J. D. Fulkerson	Unity, Ohio	July 1, 1844.
Bee-hives	Oliver Reynolds	Webster, N. Y	Dec. 4, 1844.
Bee-palaces	Lemon Hamlin	Kirkersville, Ohio	July 13, 1844.
Churns	George W. Cook	St. Louis, Mo	Feb 28, 1844.
Churns	Harmess Bentley	Ballston, N. Y	April 20, 1844.
Churns	J. B. Schermerhorn	New York, N. Y	June 5, 1844.
Churns	Thomas Ling	Portland, Me	Aug. 21, 1844.
Corn and cane-cutters	Jacob Peck	Oakland, Tenn	Aug. 28, 1844.
Corn fodder, cutting and crushing	Rudolph Miller	York, Penn	Oct 3, 1844.
Corn-shellers	William McAll	Talladega, Ala	April 13, 1844.
Cultivators	Robert Nelson	West Point, Ind	Jan. 15, 1844.
Cultivators	William Dyzert	Gettysburg, Penn	Aug. 16, 1844.
Cultivator-teeth	James Birdsell	Hamorton, Penn	Nov. 9, 1844.
Fruit-gatherers	Alexander McWilliams	Washington, D. C	Mar. 13, 1844.
Grain-cradles	William A. Wood and John C. Loveland	Hoosick Falls, N. Y	Nov. 13, 1844; antedated Nov. 9, 1844.
Grain, fanning-mill for cleaning	C. O. Guernsey	Russia, N. Y	Oct. 12, 1844.
Grain, separating, from straw	M. and C. B. Packard	Clarendon, N. Y	Nov. 18, 1844.
Grain-separators	J. V. A Wemple and George Westinghouse	Mohawk, N. Y	July 13, 1484.
Harrows, sward cutting	Dennis Rue	Rowe, Mass	May 17, 1844.
Harvesting-machines	George Easterly	Heart Prairie, Wis	Oct. 22, 1844.
Hemp-cradles	Griffin Reynolds, jr	Washington, Ky	May 30, 1844.
Hulling and pearling rice	Jacob Groat	Troy, N. Y	July 11, 1844.
Hulling clover machines	A. B. Crawford	Wooster, Ohio	Dec 31, 1844.
Plough	Bancroft Woodcock	Mount Pleasant, Penn	June 14, 1837.
Ploughs	John Thompson	Ripley, Ohio	April 17, 1844.
Ploughs	Aaron Smith	Bloomfield, Mich	May 6, 1844.
Ploughs	J. Mooers	Hazelton, Penn	July 1, 1844.
Ploughs	Anthony Taylor	New Garden, Ohio	Dec. 19, 1844.
Ploughs, adjusting	William K. Allen	Brownsboro', Ky	Jan. 31, 1844.
Ploughs, combined	Harvey Brown	Payson, Ill	Mar. 9, 1844.
Ploughs, double	Aaron Smith	Bloomfield, Mich	May 10, 1844.
Ploughs, for excavating ditches	James Herbert	Lagrange, Ind	April 13, 1844.
Ploughs, gathering weeds under the furrow slice of.	Dudley Hills	East Hartford, Conn	Oct. 7, 1844.
Ploughs, wheel	Israel Long	Bucyrus, Ohio	Mar 9, 1844.
Potato-diggers	Archibald C. Ketchum	Schenectady, N. Y	Feb. 20, 1844.
Rake, horse	David Dewey	Poultney, Vt	Nov. 23, 1837.
Rakes, grain	Benoni F. Partridge	Onondaga, N. Y	Mar. 13, 1844.
Ratoon and cane cutters	Norbert Laure	Plaquemines, La	Sept. 17, 1844.
Reaping-machines	William J. Ketchum	Buffalo, N. Y	Nov. 18, 1844.
Seeding; corn-planters	Thomas H. Hoskings	Crawfordsville, Ind	Jan. 20, 1844.
Seeding; planting-machines	Dierck Breuer	Petersburg, Tenn	April 4, 1844.
Seeding; seed-planters	Loca Pratt	Amherst, N. H	April 25, 1844.
Seeding; seed-planters	Richard J. Gatling	Murfreesborough, N. C	May 10, 1844.
Seeding; seed-planters	W. Kilburn and F. Haines	Lawrenceville, Penn and Marietta, Penn	Dec. 31, 1844.
Seeding; sowing-machines	Ezra Fisk	Fayette, Maine	Nov. 18, 1844.
Smut-machines	Meredith Mollory	Mount Morris, N. Y	Jan. 20, 1844.
Smut-machines	Jacob W. Brower	Mount Airy, N. C	Feb. 28, 1844.
Smut machines	James M. Clarke	Strasburg, Penn	Mar. 20, 1844.
Smut-machines	S. Scammon and R. Nason	Waterville, Me	April 10, 1844.
Smut-machines	Elisha S. Snyder	Charlestown, Va	April 30, 1844.
Smut-machines	Henry B. James	Mount Holly, N. J	May 17, 1844.
Smut-machines	Abraham Straub	Milton, Penn	May 17, 1844.
Smut-machines	Elisha W. Young and Thomas H. Wilson	Parkman, Ohio and Harrisburg, Penn	June 5, 1844.
Smut-machines	James W. Webster	Luray, Va	June 5, 1844.
Smut-machines	John Pagin	Michigan City, Ind	Aug. 14, 1844.
Smut-machines	Jacob Groat	Troy, N. Y	Nov. 9, 1844.
Straw-cutters	William Hovey	Worcester, Mass	Feb. 12, 1844.
Straw-cutters	Eliakim Taylor	Rochester, N. Y	Oct. 12, 1844.
Straw-cutters	Ezra Taylor	Rochester, N. Y	Nov. 6, 1844.
Threshing and cleaning grain	J. A. and H. A. Pitts	Winthrop, Me	Dec. 29, 1837; antedated June 29, 1837.

Expired patents for inventions—CLASS I.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Threshing-machines	L. and E. Whitman, jr	Winthrop, Me.	Mar. 20, 1844.
Threshing-machines	Charles W. Cathcart	New Durham, Ind.	April 25, 1844.
Threshing-machines	Frederick A. Stuart	Catharine, N. Y.	June 5, 1844.
Wheat-fans	David Watkins	Port Republic, Va.	Feb. 2, 1844.
Wheat-fans	William Stanley	Jamestown, N. C	Nov. 18, 1844.
Winnowing-machines	Thomas Cole and John Littlefield	Allensville, Ind.	Aug. 7, 1844.
Winnowing-machines	Thomas Chandler and Asa D. Reed	Illinois and Michigan	Dec. 7, 1844.

CLASS II.—METALLURGY, *and manufacture of metals and instruments therefor.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Anvils, machine for making	John Taylor	Shadegap, Penn	Jan. 31, 1844.
Bolt in door-fastenings, operating the	Albert Bingham	Boston, Mass	June 5, 1844.
Buckles	Julius W. Hatch	Manlius, N. Y.	Feb. 20, 1844.
Buckles	Isaac B. Verplank	Mentz, N. Y.	Mar. 9, 1844.
Buckles	Henry Laurence	Manlius, N. Y.	July 13, 1844.
Currycombs	Thomas Wilkinson	Cambridge, N. Y.	Aug. 16, 1844.
Cutlery, cleaning and polishing	William Vine	New York, N. Y	Feb. 28, 1844.
Drill or borer, governing the feed of	John R. Grout	Birmingham, Mich.	April 25, 1844.
Drilling-machines	Amos Morgan	Wooster, Ohio	May 30, 1844.
Forges, blacksmith's	Frederick A. Stuart	Catharine, N. Y.	July 1, 1844.
Furnace, reverberatory, for smelting or puddling iron.	S. Broadmeadow, assignor to William Green.	Woodbridge, N. J.	Jan. 20, 1844.
Furnaces for smelting iron	Leman Bradley	Sharon, Conn.	Nov. 18, 1844.
Hinges, butt-blank, machinery for trimming	Cyrus Kenney	Troy, N. Y.	July 26, 1844.
Hinges, butt, moulds for	Benjamin F. Harley and John D. Morris	Philadelphia, Penn.	Feb. 12, 1844.
Hinges, butt, of wrought iron, bending the knuckles.	Cyrus Kenney	Troy, N. Y.	Aug. 23, 1844.
Hinges, butt, of wrought iron, machinery for making.	Cyrus Kenney	Troy, N. Y.	Aug. 7, 1844.
Hinges, butt, planing and dressing the knuckles on their inner sides.	Gage Stickney	Blackwoodtown, N. J.	Dec. 19, 1844.
Hinges, flask for moulding	Thomas Loring	Gloucester, N. J.	Feb. 7, 1844.
Iron and copper, coating with tin and other metals.	Edmund P. Morewood	New York, N. Y.	Sept. 17, 1844.
Iron or other ores, process of reducing to the metallic state, by coating them with certain fluxes.	Jonas Tower	Madison, Ohio	Dec. 7, 1844.
Iron and steel, process of manufacturing, &c.	Thomas Southall and Charles Crudginton	Kidderminster, Eng	Sept. 14, 1844; antedated Feb. 1844.
Iron, wrought, mode of obtaining directly from the ore.	Simeon Broadmeadow	New York, N. Y.	May 30, 1844.
Labels for mail-bags	Oren S. North	New Britain, Conn.	Mar. 13, 1844.
Latch, mortise, for doors	William Wilson	Northampton, Mass	Nov 26, 1844.
Laths, metallic, for fire-proof ceilings of houses.	Palmer Sumner	New York, N. Y	April 25, 1844.
Lock, combination	Sabin Colton	Philadelphia, Penn.	Jan. 6, 1844.
Lock, combination, door	M. R. Stephenson and Oliver Edwards	Boston, Mass	April 17, 1844.
Lock, combination, for doors, safes, &c.	Robert Newell	New York, N. Y.	Sept. 17, 1844.
Lock, permutation, for vaults, safes, &c.	Darius W. Maples	Geneva, N. Y.	Dec. 4, 1844.
Locks for banks, safes, &c.	M. R. Stephenson and Oliver Edwards	Boston, Mass	July 9, 1844.
Locks for banks, safes, vaults, &c.	M. R. Stephenson and Oliver Edwards	Boston, Mass	April 17, 1844.
Locks, door	Linus Yale	Springfield, Mass	June 13, 1844.
Metal, method of making patterns for casting hollow ware and other articles of.	Ezra Ripley	Troy, N. Y	Aug. 31, 1844.
Nail-cutting machines, feeder for	Caleb Jobister	Alleghany, Penn	Dec. 31, 1844.
Pins, arranging and sticking in papers	De Grasse Fowler	North Bradford, Conn	Sept. 20, 1844.
Pipes, lead, machinery for the manufacture of	Charles and George E. Sellers	Cincinnati, Ohio.	Mar. 9, 1844.
Plates, door	J. H. Grout and F. M. Ray	New York, N. Y	Mar. 20, 1844.
Plates, door and signs of separate types, &c., method of making.	Edmund Morris	Philadelphia, Penn	April 25, 1844.
Rolling irregular figures to a pattern, machine for.	William Field	Pawtucket, R. I.	Aug. 7, 1844.
Spike-machine	Samuel G. Reynolds	Bristol, R. I.	July 26, 1844.
Steel and iron, manufacture of	Charles Low	England	May 28, 1846; antedated May 25, 1844.
Steel, manufacture of	Simeon Broadmeadow	New York, N. Y.	May 25, 1844.
Vessels of soft metal, method of making	John Rand	Citizen of U. S.	Aug. 7, 1844.

CLASS III.—MANUFACTURES OF FIBROUS AND TEXTILE SUBSTANCES, *including machines for preparing fibres of wool, cotton, silk, fur, paper, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Braid, Tuscan, &c., weaving	Elisha Fitzgerald	New York, N. Y	Nov. 13, 1844; antedated October 16, 1844.
Bonnet tips, apparatus for pressing	Thomas Kendall	New York, N. Y	Sept. 3, 1844.
Bonnets and hats, machine for pressing	Caleb Merritt	Baltimore, Md	Mar. 13, 1844.
Bonnets, portable	Thomas Hammond	New York, N. Y	Oct. 30, 1844.
Carding fibrous substances, self-stripping card for.	H. Barbour and J. Gleason	Lowell, Mass	Dec. 4, 1844.
Cloth, brushing and winding	Reuben C. Varnel	West Somers, N. Y	Mar. 13, 1844.
Cotton, wool, &c., burring and cleaning	Silas G. Mumford	North Providence, R. I	Mar. 28, 1844.
Gin, cotton, roller, &c	Richard Reynolds, jr	Beaufort, S. C	Feb. 2, 1844.
Ginning cotton, saw-gin for	Eleazer Carver	Bridgewater, Mass	April 4, 1844.
Ginning cotton, saw-gin for	John H. Sherard	Livingston, Ala	April 30, 1844.
Hats, manufacture of	John Maguire	Washington, D. C	Dec. 7, 1844.
Hemp breaker and cleaner	Constant B. Butler	Petersburg, Tenn	Jan. 6, 1844.
Hemp and flax break	Aaron F. Bruce	Marshall, Mo	June 24, 1844.
Hemp, &c., heckling and spinning	William Montgomery	Boston, Mass	Feb. 28, 1844.
Lace, power loom for weaving	Erastus B. Bigelow	West Boylston, Mass	April 20, 1837.
Loom, figure power	William Coompton	Taunton, Mass	Nov. 25, 1837.
Loom, fish nets	J. and William Carr and J. Shannon	Sunbury, Penn	Sept. 4, 1844.
Loom for regulating the delivery of the warp from the warp beam.	William H. Brayton	Warren, R. I	Jan. 6, 1844.
Loom, knitting	Richard Walker and Jefferson McIntire	Portsmouth, N. H	Feb. 12, 1844.
Loom, rotary temples for	Isaac C. Lane	Waltham, Mass	Mar. 26, 1844.
Looms for weaving piled fabrics without the figuring wires.	Seivier Robert W	Middlesex county, England	June 1, 1852; antedated September 5, 1844.
Looms, power	James Nield	Taunton, Mass	May 25, 1844.
Paper, sand, glass, or emery, making	Edmund Morris	Philadelphia, Penn	Sept. 14, 1844.
Ropes, machinery for laying and winding the same into coils.	S. and J. A. Bazin	Canton, Mass	Feb. 28, 1844.
Rotary press for woollen goods	Moses Bayley	Salisbury, Mass	July 5, 1837.
Roving in cans, mode of laying	J. Tatham and D. Cheetham	Rochdale, England	Nov. 18, 1845; antedated March 14, 1844.
Silk reels	James S. Harris	Poultney, Vt	July 30, 1844.
Spinning bobbins, method of operating the, in machinery, for spinning fibrous substances.	Francis McCully, jr	Patterson, N. J	Oct. 30, 1844.
Spinning, flier and dead spindle for	Phineas Stevens	Nashua, N. H	April 20, 1844.
Spinning, hook, spinner, and twister whirling, and rotary ring.	John Thorp	North Wrentham, Mass	Sept. 27, 1844.
Spinning woollen roving	Edgar M. Titcomb	Andover, Mass	July 29, 1837.
Wool, combing	Ezra Gould	Patterson, N. J	Oct. 9, 1844.

CLASS IV.—CHEMICAL PROCESSES, MANUFACTURE, AND COMPOUNDS, *including medicines, dyeing, color-making, distilling, soap and candle making, mortars, cements, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Cements, making	William H. Smith	Georgetown, D. C	June 10, 1844.
Coloring and hardening wood	Charles F. Spicker	New York, N. Y	June 24, 1844.
Composition for aqueduct pipes	Gideon Myers	Bridgewater, N. Y	Mar. 28, 1844.
Composition for dyeing the hair	Auguste Grandjean	New York, N. Y	Feb. 28, 1844.
Composition for glazing	Thomas and Ephraim Parker	Orangeville, Pa	Feb. 20, 1844.
Composition for making brick	Nathaniel J. Wyeth	Cambridge, Mass	Mar. 28, 1844.
Composition for leather, water-proof	William J. Roome	New York, N. Y	Jan. 6, 1844.
Compounds, disinfecting	Jean LeDoyen	Paris, France	Dec. 24, 1847; antedated Oct. 8, 1844.
Dyeing yarn, machinery for	William A. Burke, assignor to "Amoskeag Manufacturing Company."	Manchester, N. H	May 30, 1844.
Friction matches	Elisha Smith	Erving, Mass	Oct. 3, 1844.
Lamp-black, making	John G. Mini	Philadelphia, Pa	Nov. 13, 1844.
Lard, preparing	H. A. Amelung	Alton, Ill	Nov. 13, 1844.
Lard, rendering	Ebenezer Wilson	Cincinnati, Ohio	Oct. 9, 1844.
Mash tubs	Benjamin Roop	Pekin, Ohio	May 6, 1844.
Ointment, mercurial, machines for making	James W. W. Gordon	Baltimore, Md	June 5, 1844.
Ointment for piles	William W. Riley	Mansfield, Ohio	Jan. 31, 1844.

Expired patents for inventions—CLASS IV.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Paints, fire and water-proof	Joseph Weisman	Philadelphia, Pa	Jan. 31, 1844.
Saleratus, making	Edward Chamberlain	Boston, Mass	Sept. 7, 1844.
Salt, making	Isaac Noyes	Kanawha Salines, Va	April 25, 1844.
Sealing-wax, igniting	Joseph Fatman	Philadelphia, Pa	April 17, 1844.
Sugar-boilers	Abraham Hager	Donaldsonville, La	Mar. 9, 1844.
Sugar candy	H. and G. Garrison	Newburgh, N. Y	April 10, 1844.
Sugar, cleaning	Joseph Hurd	Stoneham, Mass	Oct. 3, 1844.
Tallow, &c., cutting	Zabina Ellis	Kensington, Pa	Oct. 12, 1844.
Tobacco, renovating	Enoch Huse	Newburyport, Mass	July 22, 1844.

CLASS V.—CALORIFICS, *comprising lamps, fire-places, stoves, grates, furnaces for heating buildings, cooking-apparatus, preparation of fuel, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Chimneys, building	Joseph Gilbert	Stark county, Ohio	Nov. 13, 1844.
Chimneys, caps for regulating the draught of	Joseph Hurd	Stoneham, Mass	Dec. 12, 1844.
Coal, breaking	Joseph Battin	Philadelphia, Penn	Feb. 12, 1844.
Fire, apparatus for extinguishing	William H. Phillips	Langton Place, England	April 9, 1850; antedated Dec. 4, 1844.
Fire-fenders	Morgan Morgan, jr	New York, N. Y	July 22, 1844.
Fire-places	Daniel Hemingway	Leesbury, Ky	Nov. 9, 1844.
Furnace grate bars	John Kymer	Caermarthen, South Wales	July 19, 1844.
Furnaces, air-heating	Jeptha Bradley	St. Albans, Vt	June 24, 1844.
Furnaces, portable	George E. Waring	Stanford, Conn	Mar. 16, 1844.
Furnaces for heating buildings	George Walker	New Haven, Conn	June 10, 1844.
Lamp-caps	Francis Draper	East Cambridge, Mass	Mar. 20, 1844.

Lamp-caps	R. H. Eddy, assignor to D. Jarvis and New England Glass Company.	Boston, Mass	May 10, 1844.
Lamps, lard	John Tobin	Bloomfield, N. J	Mar. 26, 1844.
Lamp-wicks, raising	Samuel Rust	New York, N. Y	Mar. 9, 1844; antedated Jan. 29.
Lamps	Henry B. Fernald	Boston, Mass	May 17, 1844.
Lamps, construction of	Christopher West	Baltimore, Md	Oct. 7, 1844.
Lamps, making glass	P. F. Slane and John Golding	East Cambridge, Mass	Jan. 23, 1845; antedated July 23, 1844.
Lamps, light-house	Winslow Lewis, sr., and	Boston, Mass	Aug. 7, 1844.
	Benjamin Hemmenway	Roxbury, Mass	
Lamps, self-supplying	Edwin B. Horn	Boston, Mass	Sept. 11, 1844.
Lamps, volatile ingredients for burning	Isaiah Jennings	New York, N. Y	Oct. 12, 1844.
Oil feeders	Joseph Benson	Boston, Mass	Feb. 28, 1844.
Ovens, bake	Grouvelle, P. L. N., and E. Mouchot, assignor to B. Rodriguez	Paris, France	March 20, 1847; antedated April 27, 1844.
		New Orleans, La	
Ranges, cooking	Herbert H. Stimson	Boston, Mass	May 17, 1844.
Ranges, kitchen	Ambrose W. Thompson	Philadelphia, Pa	March 20, 1844.
Ranges, kitchen	Julius Fink	Philadelphia, Pa	April 10, 1844.
Reflectors, metallic	Alonzo Farrar	Boston, Mass	April 4, 1844.
Stoves	James White	Milton, Pa	June 10, 1842.
Stoves	Loammi Bailey	Boston, Mass	March 26, 1844.
Stoves	John Smart	Philadelphia, Pa	March 28, 1844.
Stoves, air-heating and cooking	John Woolley	Springfield, Mass	March 16, 1844.
Stoves, air-tight	John Cline	Norwalk, Ohio	Jan. 6, 1844.
Stoves, air-tight, self-regulating	Saxton and Elliot, assignors to Harned and Elliott.	Philadelphia, Pa	Oct. 30, 1844.
Stoves, apparatus for regulating (the heat of)	Samuel D. Tillman	Seneca Falls, N. Y	April 17, 1844.
Stoves, cooking	John T. Davy	Troy, N. Y	Feb. 12, 1845; antedated Aug. 12, 1844.
Stoves, cooking	James Young and E. Parker	Philadelphia, Pa	Feb. 12, 1844.
Stoves, cooking	Simon Pettes	Schenectady, N. Y	Feb. 12, 1844.
Stoves, cooking	S. S. Jones	Philadelphia, Pa	Feb. 20, 1844.
Stoves, cooking	Ashley Hotchkin	New York	Feb. 20, 1844.
Stoves, cooking	Samuel Pentz	Boonsboro', Md	March 9, 1844.
Stoves, cooking	Roswell Bush	Rochester, N. Y	April 4, 1844.
Stoves, cooking	Abner Leland	Milton, Pa	April 4, 1844.
Stoves, cooking	Frederick Kesselmeier	Wooster, Ohio	April 13, 1844.
Stoves, cooking	Peter Mills	Binghampton, N. Y	April 30, 1844.

Expired patents for inventions—CLASS V.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Stoves, cooking	Isaac Straub	Cincinnati, Ohio	June 5, 1844.
Stoves, cooking	Thomas Bent, assignor to W. & R. P. Resor.	Cincinnati, Ohio	June 5, 1844.
Stoves, cooking	Calvin Fulton	Rochester, N. Y.	June 10, 1844.
Stoves, cooking	John C. Hermance	Schenectady, N. Y	June 13, 1844; antedated June 7, 1844.
Stoves, cooking	Henry W. Camp	Oswego, N. Y	June 24, 1844.
Stoves, cooking	James Wager	Troy, N. Y	July 9, 1844.
Stoves, cooking	James Lewis	Amsterdam, N. Y	Sept. 20, 1844.
Stoves, cooking	John W. Riggs	Fort Plain, N. Y	Oct. 30, 1844.
Stoves, cooking	James H. Lyon	Schenectady, N. Y	Nov. 18, 1844.
Stoves, cooking	Adam Ketler	Philadelphia, Pa	Dec. 7, 1844.
Stoves, cooking	Archibald Wieting	Middletown, Pa	Dec. 16, 1844.
Stoves, cooking	William L. Patter	Clifton Park, N. Y	Dec. 19, 1844.
Stoves, railway	J. B. Chollar and H. Parmlee, assignors to Chollar, Jones, and Low.	West Troy, N. Y	July 11, 1844.
Warming buildings, apparatus for	Benjamin Blaney	Boston, Mass	Sept. 7, 1844.

CLASS VI.—STEAM AND GAS ENGINES, *including boilers and furnaces therefor, and parts thereof.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Boilers, steam, &c., heater of	Zenas C. Robbins	St. Louis, Mo	Oct. 16, 1844.
Boilers, steam, &c., regulating the supply of water to.	John Cochrane	Newark, N. J	July 13, 1844.
Boilers, steam engine, regulating the supply of water to.	Daniel Barnum	Bridgeport, Conn	July 24, 1844.
Boiler, steam, removing incrustations of	Louis Antoine Ritterbandt	Poland	Sept. 11, 1845; antedated Dec. 2, 1844.
Furnaces of steam boilers	Leman Bradley	Sharon, Conn	Dec. 12, 1844.
Gas or vapor, engine to be operated by the explosive mixtures of inflammable.	Stuart Perry	Newport, N. Y	May 25, 1844.
Steam-engine, auxiliary, constructing and governing an, for the purpose of supplying a steam-boiler with water.	Henry R. Worthington	New York, N. Y	July 24, 1844.
Steam-engines, opening and closing the valves of.	Frederick E. Sickles	New York, N. Y	Oct. 19, 1844.
Steam-engine and other boilers, supplying air to consume the combustible gases, &c., that escape from the furnaces of.	Peter Robinson	Waterloo, N. Y	April 20, 1844.
Steam-engine, rotary	Abram Pease	Lyons, N. Y	Feb. 12, 1844.
Steam-engine, rotary, exhausting the case of a.	Edward Locke	Newport, England	Sept. 11, 1844.
Steam-engine, vibrating	Ebenezer A. Lester	Boston, Mass	Feb. 7, 1844.
Steam-engines, condenser and boilers of	Benjamin Crawford	Alleghany City, Penn	Sept. 7, 1844.
Steam-engines, conical balance valves of	Thomas McDonough	Middletown, Conn	Feb. 12, 1844.
Steam-engines, locomotive	Edwin F. Johnson	Middletown, Conn	Dec. 31, 1844.
Steam-generators	Gabriel H. Moreau	France	Jan. 26. 1844.
Steam-valves, conical seat	Sprague Barber	New York, N. Y	April 20, 1844.
Steam-valves, method of connecting the action of the cut-off and.	Barnabas H. Bartol	Coldspring, N. Y	Sept. 20, 1844; antedated Mar. 20, 1844.

CLASS VII.—NAVIGATION AND MARITIME IMPLEMENTS, *comprising all vessels for conveyance on water, their construction, rigging, and propulsion, diving-dresses, life-preservers, &c*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Harpoon	Albert Moor	Hampden, Me	Mar. 16, 1844.
Ice-breaker for boats and other vessels	Samuel Nicholson	Boston, Mass	July 16, 1844.
Life-preserver	Adoniram Chandler	New York, N. Y	Oct. 3, 1844.
Paddle wheels, horizontal	P. Lear and E. Buck. Buck assignor to Lear.	Boston, Mass	Feb. 20, 1844.
Propeller, rotary inclined, for vessels	Richard F. Loper	Philadelphia, Penn	Feb. 28, 1844.
Propellers, spiral	Bennet Woodcroft	Manchester, England	April 4, 1846; antedated Feb. 13, 1844.

Expired patents for inventions—Class VII.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Propellers, submerged	Peter Von Schmidt	Washington, D. C	May 30, 1844
Propellers, submerged, coupling the shafts of, for steamboats and other vessels.	Richard F. Loper	Philadelphia, Penn	Oct. 9, 1844.
Propelling boats and other vessels, oblique paddle propeller for.	Ralph Bulkley	New York, N. Y	Mar. 13, 1844.
Propelling canal and other boats	Henry R. Worthington	New York, N. Y.	Feb. 2, 1844.
Propelling ships	John Ericsson	New York, N. Y	Dec 31, 1844.
Propelling steam and other vessels	Gabriel H. Moreau	France	Jan. 26, 1844.
Ships and other vessels, strengthening the sails of.	Archibald Trail	Great Britain	Sept. 24, 1844; antedated Feb. 24, 1844.
Ships, cellars, &c, mode of caulking the seams of.	William Bennet	New York, N. Y	April 20, 1844.
Square-rigged vessels, forming and rigging the sails of.	Warren C. Choate	Washington, D. C	April 17, 1844.

Class VIII.—Mathematical, philosophical, and optical instruments, *including clocks, chronometers, &c.*

Inventions or discoveries	Patentees.	Residence.	Date of patent.
Barometers	Fontaine Moreau, P. A., de	London, England	Aug. 20, 1846; antedated April 27, 1844.
Chronometer escapements	Oramel W. Waste	Pittsford, N. Y	Sept. 24. 1844.
Clock-pendulums	Frederick Kesselmeier	Wooster, Ohio	April 10, 1844.
Interest, machine for calculating	Jehu Hatfield	Glenn's Falls, N. Y	May 6, 1844.
Rules or measures for boards, leather, &c	Charles Ross	Piqua, Ohio	May 17, 1844.

Class IX.—Civil engineering and architecture, *comprising works on rail and common roads, bridges, canals, wharves, docks, rivers, weirs, dams, and other internal improvements, buildings, roofs, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Dock, floating dry, basin to be used in connexion with.	R. Moody and S. D. Dakin	New York, N. Y.	Sept. 17, 1844.
Doors, sliding	William T. Forsyth	Philadelphia, Penn	Feb. 12, 1844.
Excavating, cutting trenches, and laying pipes	Ezra Cornell	Ithaca, N. Y	Feb. 28, 1844.
Excavating; ditching-machines	Edwin Owen	Laporte, Indiana	Sept. 21; antedated Mar. 24, 1844.
Excavating; excavator or drag for removing mud, &c., in beds of rivers.	Dennis Vermillion	Washington, D. C	Nov. 9, 1844.
Excavating; excavator, scoop or dredging-machine.	Joseph Smith	Mansfield, Ohio	Aug. 24, 1844.
Excavating; scrapers for repairing and making roads, &c.	Samuel G. Sutton	Yorkshire, N. Y	May 30, 1844.
Railroads, connecting cast-iron rail for	James M. Bay	Harrisburg, Penn	April 13, 1844.
Railroads, key for fastening the rails of, to their chairs.	Benjamin Butterfield	Kensington, Penn	Aug. 21, 1844.
Railroads, safety switch for	Gustavus A. Nicolls	Reading, Penn	Dec. 19, 1844.
Railroad truck-frames	Charles Davenport, assignor to Davenport and Bridges.	Cambridgeport, Mass	Aug. 10, 1844.
Roofs of houses, &c., manner of making	John Woolley	Springfield, Mass	Mar. 26; antedated March 16, 1844.
Roofs of houses, &c	Peter Naylor	New York, N. Y	April 25, 1844.
Streets, machine for sweeping	Alexander M. Wilson	Rossville, N. Y	Oct. 16, 1844.
Telegraphs, signal	Henry J. Rogers	Baltimore, Md	Sept. 27, 1844.

CLASS X.—LAND CONVEYANCE, *comprising carriages, cars, and other vehicles used on roads, and parts thereof.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Boxes, anti-friction, for axles, &c.	William Rowan, assignor to Thomas Murray Megget	Belfast, Ireland / New Orleans, La.	Oct. 9, 1855; antedated November 7, 1844.
Cars, railroad, and carriages, supporting the bodies of.	Richard Imlay	Philadelphia, Penn	Sept. 21, 1837.
Cars, railroad, for turning curves	John H. Quail	Philadelphia, Penn	Feb. 28, 1844.
Cars, railroad, locomotives, &c., coupling-bars for.	William D. Chesnut	Wilmington, Del	Feb. 20, 1844.
Cars, railroad, to prevent accidents from what are called "snake-heads."	Elisha Tolles	New York, N. Y	Feb. 20, 1844.
Carriage bodies, connecting with perch by means of springs.	George Nichols	Trumbull, Conn	April 10, 1844.
Carriage bodies, hanging	John Reynolds	Newberry, Penn	July 9, 1844.
Carriages, detaching horses from	John Madden	Warren, Ohio	July 9, 1844.
Carriages, disengaging horses from	James S. Shnell	Shiremanstown, Penn	April 13, 1844.
Carriages, spring-brace for	Erastus T. Sprout	Dimock, Penn	Sept. 7, 1844.
Carriages, wagons, &c., couplings for	George W. Hatch	Parkman, Ohio	June 13, 1844.
Carriages, wrought-iron wheels for	James McCollum	Wilsonville, Ala	May 10, 1744.
Railroads, atmospheric	James Pilbrow	Tottenham, England	July 26, 1845; antedated May 17, 1844.
Wheels, cast-iron railroad car, making	Ebenezer A. Lester	Boston, Mass	Mar. 9, 1844.
Wheels, carriage	Gershom L. Ackerman	Troy, N. Y	April 16, 1845; antedated October 16, 1844.
Wheel-hubs, lining metallic boxes for	Moses Palmer	Baltimore, Md	Mar. 9, 1844.

CLASS XI.—HYDRAULICS AND PNEUMATICS, *including water-wheels, wind-mills, and other implements operated on by air or water, or employed in the raising and delivery of fluids.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Engines, fire	Gardiner Barton, jr	Waterford, New York	Aug 16, 1844.
Hydro-pneumatic apparatus for raising beer, &c., from casks.	Richard Sealy	New York, N. Y	Aug. 31, 1844.
Pipes, supply, construction of, for aqueducts	John H. Thorndike	Boston, Massachusetts	July 1, 1844.
Pumps	T. Jefferson Wolfe	Baltimore, Maryland	April 10, 1844.
Water and animal power	John A. Wiszt	Philadelphia, Pennsylvania	May 10, 1844.
Water wheels	Hiram Ferguson	Richland, New York	Mar. 20, 1844.
Water-wheels	Nelson Johnson	Rathboneville, New York	Mar. 26, 1844.
Water-wheels	Albert Stimpson	Rockingham, Vermont	April 25, 1844.
Water-wheels	Daniel Weaver	McKeansburg, Pennsylvania	June 10, 1844.
Water-wheels	David Putney	Redbank, Pennsylvania	Aug. 12, 1844.
Water-wheels	Roswell Cook	Elkland, Pennsylvania	Sept. 4, 1844.
Water wheels	J. D. Robinson	Peoria, Illinois	Oct. 24, 1844.
Water-wheels	Samuel L. Valentine	Bangor, Maine	Dec. 12, 1844.
Water-wheels	Theodore R. Timby	Cato 4 corner, New York	Sept. 27, 1844.
Water wheels, combined	E. G. Covel	Glenn's Falls, New York	Feb. 20, 1844.
Water-wheels, current	John Carnegy	Tully, Missouri	April 10, 1844.
Wind-wheels, horizontal	Daniel Dennett	Centreville, Louisiana	Nov. 13, 1844.

CLASS XII.—LEVER, SCREW, AND OTHER MECHANICAL POWER, *as applied to pressing, weighing, raising, and moving weights.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Balances	George R. Moore	Brattleboro', Vermont	Jan. 6, 1844.
Balances, spring	J. H. and R. H. Bull	New York, N. Y	Sept 20, 1844.
Presses	Amos Jackson	Liberty, Illinois	June 24, 1844.
Presses, cheese, self-acting	John Martin, jr	Aztalan, Wisconsin	Nov 26, 1844.
Presses, cotton	Seth Lamb	New York, N. Y	Mar. 16, 1844.
Presses, cotton	Perry G. Gardiner	New York, N. Y	Mar. 20, 1844.
Presses, cotton	William Sewell, jr	Macon, Georgia	June 15, 1844.
Presses, cotton	George Peck	Fairfield, Connecticut	March 9, 1844.
Presses, cotton	William F. Provost	Barnwell District, South Carolina	Sept. 14, 1844.
Presses, cotton	Jedediah Prescott	Memphis, Tennessee	Nov. 9, 1844.
Presses, cotton	Peter M. Wright	New York, N. Y	Nov. 26, 1844.
Presses, cotton	Smith Cram	New York, N Y	March 9, 1844.
Pressing and raising weights, machines for	Robert Sanderson	Athens, Ohio	Feb. 20, 1844.
Pressing, lever power for	David Smith	South Hill, Virginia	Jan. 15, 1844.
Pressing, machines for preparing tobacco for	Moses Bayley	Salisbury, Massachusetts	July 5, 1837.
Rotary press for woollen goods			

CLASS XIII.—GRINDING-MILLS AND MILL-GEARING, *including grain-mills, mechanical movements, and horse-power.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Bark-mill for grinding tanners' bark	Mather Beecher	Remsen, N. Y	Sept 27, 1844.
Bolter, for bolting flour	Ryburn Buchanan	Sullivan county, Tenn	July 24, 1844.
Grinding corn and cobs, mill for	Samuel L. Herr	Mexico, Penn	April 4, 1844.
Grinding grain, cylindrical mill for	Jacob Groat	Troy, N. Y	July 11, 1844.
Grinding grain, mill for	E. B. Nichols and D. Marsh	Fairfield, Conn	Mar. 13, 1844.
Grinding grain, portable mills for	Erastus Arnold	Otego, N Y	Mar. 9, 1844.
Grinding-mills	George T. Walters	Nicholasville, Kentucky	Feb. 12, 1844.
Grist-mills	John Ansell and J. Gallery	Brooklyn, N. Y	Aug. 21, 1844.
Horse-power for driving machinery	A. D. Childs	Rochester, N. Y	May 6, 1844.
Horse-power for driving machinery	Samuel B. Haines	Greensburg, Penn	Dec. 31, 1844.
Journals, preventing from heating	Elisha Reid	Columbus, Ga	May 25, 1844.
Machinery, governor for regulating the movements of mill-wheels, steam-engine, and other	Henry Burt	Boston, Mass	Aug. 31, 1844.
Mill-bush	John Heck	Boonsboro', Md	Mar. 26, 1844.
Mill-bush	Robert M. Wade	Summit Point, Va	May 25, 1844.
Wheels, tide	John G. Ross	New York, N. Y	Nov. 9, 1844.

CLASS XIV.—LUMBER, *including machines and tools for preparing and manufacturing, such as sawing, planing, mortising, shingles and staves, carpenters' and coopers' implements.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Barrels, machinery for making	Horace Faker	McLean, N. Y	July 30, 1844.
Boring-machines, method of securing, to the article to be bored.	Peter Baylor	Salem, Ohio	July 1, 1844.
Boring timber, machine for	Thomas J. Russell	Franklin Square, Ohio	Oct. 3, 1844.
Boxes, machinery for preparing wood for making	John H. Stevens	New York, N. Y	Dec. 19, 1844.
Hoops, splitting	William Rose	Philadelphia, Penn	Sept. 3, 1844.
Lathe for turning boats' oars	B. and A. F. Potter	Hubbardston, Mass	Jan. 20, 1844.
Laths and clapboads, sawing	Eliphalet C. Gilman	Canaan, Conn	Aug. 23, 1844.
Logs, setting saw	Waterman B. Palmer	Brookfield, N. Y	July 24, 1844.
Match splints, cutting	Henry Law	Wilmington, N. C	Aug. 28, 1844.
Planes, bench, setting the bitt in	Levi Sanford	East Solon, N. Y	Nov. 26, 1844.
Saws, circular, for cutting off piles under water.	Erastus E. Cole	Boston, Mass	Sept. 14, 1844.
Saws, circular, for sawing lumber, &c., manner of applying	John K. Mayo	Orrington, Maine	Mar. 20, 1844.
Saws, machine for filing	Calvin B. Rogers	Saybrook, Conn	Dec. 7, 1844.
Saws of saw-mills without a gate, straining the	Calvin Stigleman and A. Seely	Alton, Ill	Dec. 16, 1844.
Saw-mill, setting logs on the carriage of a	John B. Squier	Liberty Township, Ohio	Oct. 9, 1844.

Expired patents for inventions.—CLASS XIV.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Saw-mills, tail-blocks of	John Miller	Williamsport, Ohio	Jan. 20, 1844.
Saw-mills, tail and head blocks of	Thomas C. Theaker	Bucyrus, Ohio	Jan. 20, 1844.
Saw-mills, tail and head blocks of, self-setting	J. J. Parker	Plymouth, Ohio	June 13, 1844.
Saw-mills, setting logs on the carriage of	F. M. Stetson and John Eaton	Sangerfield, N. Y. / Brookfield, N. Y.	July 15, 1844.
Saw-mills, setting saw logs and opening and shutting gates of.	Nathaniel P. Stearns	Linklaen, N. Y.	Oct. 30, 1844.
Saw-mill carriages, self-setting apparatus for setting logs on.	Benjamin Webb	Warren, N. Y.	May 6, 1844.
Saw-mill carriages, for steadying logs thereon.	Henry Stanton	Richfield, N. Y.	July 16, 1844.
Scythe-handles, &c., machinery for making	James Embree	Marshallton, Penn	Aug. 7, 1844.
Shingle-cutter	Jonathan P. Bartley	Flanders, N. Y.	May 25, 1844.
Shingles, cutting	William Wood	Westport, Conn.	Mar. 20, 1844.
Shingles, cutting, machine for	Tillot Cole	Kent, N. Y.	Nov. 26, 1844.
Shingles, sawing	Israel G. Johnson	Augusta, Me.	Aug. 12, 1844.
Shingles, shaving	Simeon Wood	Worcester, Mass.	Jan. 15, 1844.
Tenoning and mortising machines	Eldridge Lyman	Northfield, Mass.	May 25, 1844.
Tonguing and grooving machines	Charles W. Brown	Boston, Mass.	Aug. 14, 1844.
Turning irregular forms, machinery for	Edwin Tucker	Bucyrus, Ohio	Oct. 24, 1844.
Turning spools	Jonathan H. Cary	North New Salem, Mass.	Aug. 21, 1844.
Turning wood tapering	Wyllys Avery	Salisbury, N. Y.	June 5, 1844.
Vice, standing or bench	Lauren M. Peck	Philadelphia, Penn.	July 18, 1844.
Wood, shaving	William Rose	Philadelphia, Penn.	Sept. 3, 1844.

CLASS XV.—STONE AND CLAY MANUFACTURES, *including machines for pottery, glass-making, brick-making, dressing and preparing stone, cements, and other building materials.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Brick-moulding machines	John Booth and William H. Stevenson	Columbus, Miss.	Jan. 6, 1844.
Brick-presses	Mark Twitchell	Gray, Me	June 10, 1844.
Brick-presses	Jeffery Smedley	Columbia, Penn	Aug. 28, 1844.
Brick-presses	C. B. Baker and E. Gifford	Troy, N. Y.	Sept. 7, 1844.
Brick-presses	Nathan Sawyer	Baltimore, Md.	Sept. 27, 1844.
Brick-presses	Benjamin H Brown	Philadelphia, Penn.	Oct. 3, 1844.
Bricks, moulding	Wm. S. Peters, executor of Ithiel Town	New Haven, Conn	Sept 27, 1844.
Moulding and pressing bricks	Nathaniel Adams	Cornwall, N. Y.	Sept. 8, 1837.
Mill-stones, dressing	John Black	Helena, Ark	Aug. 10, 1844.
Stone-cutters	Jacob Jenks	Roscoe, Ill.	June 24, 1844.
Stone, dressing	Hammond Ward	Charlton, Mass	April 10, 1844.
Stone, sawing and dressing	D. Pfister, assignor to John Keller	Manedorf, Switzerland	April 10, 1845; antedated Dec. 3, 1844.

CLASS XVI.—LEATHER, *including tanning and dressing, manufacture of boots, shoes, saddlery, harness, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Boot-crimps	Pelatiah Stevens, jr	Canton, Mass	July 15, 1844.
Boot-shanks, elastic	Isaiah Gale	Natchez, Miss	July 11, 1844.
Boots, cork sole	William L. McCauley	Baltimore, Md	June 5, 1844.
Boots, cutting	Thomas Cranage	Warren, Ohio	Mar. 13, 1844.
Crimps for collar pads	Joseph S. Barkdull	Ballston, N Y	July 13, 1844.
Hames, horse	Nathan Past	Madrid, N. Y	June 15, 1844.
Hames, horse	Joseph K. Slater and Sylvanus G. Pratt	Boston, Mass	Sept. 20, 1844.
Harness, check hooks for	Abel B. Buell	Westmoreland, N. Y	Mar. 13, 1844.

Expired patents for inventions.—CLASS XVI.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Hats of leather, skins and other materials, machinery for forming	Randall Fish	New York, N. Y	Oct. 12, 1844.
Hides, raw, machine for cutting	W. Marshall and J. B. Thursby	Brooklyn, N. Y	Sept. 14, 1844.
Leather, making	Robert Downey	New Albany, Ind	June 15, 1844.
Saddles, construction of	Samuel Ringgold	Fort McHenry, Md	April 7, 1844.
Sewing with a running stitch, machine for	James Rodgers	New York, N. Y	July 22. 1844
Soles, cutting	Richard Richards	Lynn, Mass	Dec. 16, 1844.
Tanning	John Cox	Gorgie Mills, Edinburgh, Scotl'd.	June 5, 1844.
Tanning	Adam Kettering and A. Vogle	Hempfield, Penn	June 24, 1844.
Tanning	William Brown	Manchester, Md	Aug. 1, 1844.
Tanning	Alexander Turnbull	England	Aug. 28, 1847; antedated Sept. 26, 1844.

CLASS XVII.—HOUSEHOLD FURNITURE, *machines and implements for domestic purposes, including washing-machines, bread and cracker-machines, feather-dressing, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Bedsteads, bureau	Henry W. Kingman	New York, N. Y.	Oct. 12, 1844.
Bedsteads, cutting screws in the posts and on the rails of.	William F. Converse, R. H. Penny, and R. S. Hanniford.	Harrison, Ohio	Dec. 31, 1844.
Bedsteads, sacking bottoms for	Isaac Cooper	Johnstown, Penn	Oct. 7, 1844.
Bedsteads, sofa	G. Sickles, assignor to G. L. F. Griswold	Middletown, Conn	Dec. 4, 1844.
Bread, knife for cutting	Franklin Roys	Berlin, Conn	Oct 9, 1844.
Brooms, machine for making	Jacob H. Hinton	Lancaster, Pa	Mar. 13, 1844.
Brushes, scrubbing	George Carver	Chambersburg, Pa	Aug. 1, 1844.
Brushes, trimming the bristles of, &c	Samuel Taylor	East Cambridge, Mass	May 17, 1844.
Chairs, rocking	A. C. Stiles	South Bloomfield, Ohio	Sept. 27, 1844.
Coffee-pots	Daniel Rowland	Washington, D. C	Sept. 17, 1844.
Cracker-machine	J. Johnson and Otis Freeman, assignors to W. H. Tutte.	Boston, Mass	May 17, 1844.
Cutters, sausage meat	William Pettenger	Rome, Ohio	Mar. 26, 1844.
Cutters, sausage meat	Edwin Clark	Hartford, Conn	Aug. 31, 1844.
Exercise, machines for producing	Oliver Halsted	New York, N. Y	Mar. 13, 1844.
Fruit and vegetable preservers	Peter Kephart	Uniontown, Md	Sept. 24, 1844.
Potatoes, keeping sweet	Aaron H. Vestal	Cambridge City, Ind	Aug 16, 1844.
Refrigerator	David Evans	Philadelphia, Pa	Mar. 26, 1844.
Washing-machine	James B. Coffin	Big Prairie, Ohio	Feb. 2, 1844.
Washing-machines	Ephraim Lukens	Baltimore, Md	Mar. 9, 1844.
Washing-machines	Lewis Woodward	Med ord, N. J	April 4. 1844.
Washing-machines	William Newbrough	Wooster, Ohio	April 17, 1844.
Washing-machines	William Soule	Stafford, Conn	May 17, 1844.
Washing-machines	Oliver B. Wight	Sturbridge, Mass	July 9, 1844.
Washing-machines	William E. Arnold	Rochester, N. Y	July 13, 1844.
Washing-machines	David Kaufman	Mohecanville, Ohio	Aug. 21, 1844.
Washing-machines	Nathan Parrish	Rush, N. Y	Dec. 4, 1844.

CLASS XVIII.—ARTS POLITE, FINE, AND ORNAMENTAL, *including music, painting, sculpture, engraving, books, paper, printing, binding, jewelry, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Block-letters, making	Lewis Katen	New York, N. Y	Sept 20, 1844.
Inking-rollers	Richard M. Hoe	New York, N. Y	April 17, 1844.
Manifold letter-writers	Jesse K. Park	New York, N. Y	Nov. 13, 1844.
Marking and lettering packages, &c	William Francis and William Johnson	Waynesville, N. C	Oct. 3, 1844.
Piano-forte, tuning pins for	James Shaler Ives	Bristol, Conn	Jan 6, 1844.
Piano-fortes	Obed M. Coleman	Philadelphia, Pa	April 17, 1844.
Piano-fortes	Lovering Ricketts	Baltimore, Md	June 24, 1844.
Piano-fortes	O. Gori and P. Ernst	New York, N. Y	Mar 26, 1844.
Printing calico	Robert Ferguson and John Clark	Glasgow, Scotland	April 25, 1846; antedated September 14, 1844.

Expired patents for inventions.—CLASS XVIII.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Printing in colors, machines for	Thomas F. Adams	Philadelphia, Pa	Sept. 17, 1844.
Printing-press	Alonzo Gilman	Troy, N. Y	Aug. 23, 1844.
Printing-press	Richard M. Hoe	New York, N. Y	July 30, 1844.
Printing-presses	Richard M. Hoe	New York, N. Y	April 17, 1844.
Printing presses	Seth Adams	Boston, Mass	Sept. 27, 1844.
Stereotyping	Clement Davidson	Saratoga, N. Y	Nov. 26, 1844.

CLASS XIX.—FIRE-ARMS AND IMPLEMENTS OF WAR, AND PARTS THEREOF, *including the manufacture of shot and gunpowder.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Fire-arms	William W. Hubbell	Philadelphia, Pa	July 1, 1844.
Fire-arms	E. Savage and S. North	Middletown, Conn	July 30, 1844.
Guns, constructing large	Richard F. Loper	Philadelphia, Pa	July 30, 1844.

CLASS XX.—SURGICAL AND MEDICAL INSTRUMENTS, *including trusses, dental instruments, bathing apparatus, &c.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Baths, vapor, apparatus for	Alford C. Haines	Plattsburg, N. Y	Dec. 4, 1844.
Corslet for curved spines, &c	Alanson Abbé	Roxbury, Mass	Aug. 7, 1844.
Cupping instrument	Robert J. Dodd	Philadelphia, Pa	April 13, 1844.
Fracture apparatus	Lewis Post	Lodi, N. Y	Dec. 16, 1844.
Fractures, apparatus for	Livingston Roe	White Plains, N. Y	Nov. 6, 1844; antedated May 6, 1844.
Invalids, chairs for	James G. Holmes	Charleston, S. C	Sept. 24, 1844.
Nursing-bottle	Eugene Dupuy	New York, N. Y	Oct. 7, 1844.
Stays for supporting spine of the human body	Lyman Whiton	Troy, N. Y	Oct. 12, 1844.
Teeth, setting artificial	J. Smith Dodge	New York, N. Y	Mar. 13, 1844.
Trusses	David Sabins	Lancaster, Pa	Mar. 20, 1844.
Trusses	Epenetus A. Bennett	New York, N. Y	April 30, 1844.
Trusses	C. C. Reinhardt and V. Carter	Baltimore, Md	Sept. 24, 1844.
Trusses	Eliakim C. Darling	New Orleans, La	Nov. 6, 1844.
Trusses	Ca vin Cutter	Springfield, Mass	Dec. 16, 1844.
Uterine injections, instruments for	Dan Gale	Boston, Mass	Oct. 16, 1844.

CLASS XXI.—WEARING APPAREL, *articles for the toilet, &c., including instruments for manufacturing.*

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Fitting ladies' dresses	Samuel S. Richardson	Baldwin, Maine	April 4, 1844.
Hooks and eyes	Elisha C. Savage	Hartford, Conn	Mar. 26, 1844.
Suspender buckles	Henry Dubosq	Philadelphia, Penn	April 25, 1844.
Tailors' measures	Henry Isham	Montpelier, Vt	May 30, 1844.
Tailors' measures	John P. Combs	Trenton, N. J	Nov. 9, 1844.

CLASS XXII.—MISCELLANEOUS.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Awnings	John Sebo	Wilmington, Del	May 25, 1844.
India rubber, machine for cutting	Henry S. Tyler and John Helm	New Brunswick, N. J	Oct. 9, 1844.
India rubber fabrics	Charles Goodyear	New York, N. Y	Mar. 9, 1844.
India rubber fabrics	Charles Goodyear	New York, N. Y	Mar. 9, 1844.
India rubber goods, corrugated and shirred	Horace H. Day	Jersey City, N. J	Oct. 12, 1844; antedated June 19, 1844.
Trap for catching animals	Thomas Shailer	Haddam, Conn	May 10, 1844.

CLASSIFIED LIST OF PATENTS FOR DESIGNS THAT HAVE EXPIRED DURING THE YEAR 1858.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Bedsteads	P. M. Hutton	Troy, N. Y	May 20, 1851.
Bedsteads, cast iron	Pelatiah M. Hutton	Troy, N. Y	Sept. 2, 1851.
Bust of Jenny Lind	Thomas Ball	Boston, Mass	April 29, 1851.
Clock frame	Nathaniel A. Batchelor	New York, N. Y	May 13, 1851.
Combs for ladies	Aaron Cook	Newtown, Conn	Aug. 19, 1851.
Fences, cast-iron	John T. Davy	Troy, N. Y	Oct. 21, 1851.
Floor, oil-cloth	James Hutchinson, assignor to D., A. E., and N. Powers.	Troy, N. Y	May 13, 1851.
Floor, oil-cloth	James Hutchinson, assignor to Deborah, Albert E., and N. B. Powers.	Troy, N. Y	Sept. 2, 1851.
Furnace-registers	Gardner Chilson	Boston, Mass	Mar. 4, 1851.
Furnace-registers	Gardner Chilson	Boston, Mass	Mar. 4, 1851.
Furnace-registers	Gardner Chilson	Boston, Mass	Mar. 4, 1851.
Furnace-registers	Gardner Chilson	Boston, Mass	Mar. 4, 1851.
Gates, metallic	Ebenezer Weeman	Charlestown, Mass	Sept. 16, 1851.
Grates, parlor	Joseph Pratt	Boston, Mass	Mar 25, 1851.
Grates, parlor	Winslow Ames, assignor to Hartshorn and Ames	Nashua, N. H	April 1, 1851.
Hat-stand	Charles Muller	Tompkinsville, N. Y	Nov. 18, 1851.
Iron-railing	Frederick Fitzgerald, assignor to Silas C. Herring and John Ryer.	New York, N. Y	Nov. 18, 1851.
Pedestals and columns	W. and W. H. Lewis	New York, N. Y	Mar. 25, 1851.
Presses, mantle-pieces, &c., frames for	Edmund L. Freeman	Bellville, N Y	Dec. 23, 1851.
Shovel, stands for	Charles Zeuner, assignor to M. Greenwood & Co.	Cincinnati, Ohio	Sept. 9, 1851.
Stove	Ezra Ripley, assignor to Chollar, Sage, and Dunham.	Troy, N. Y	Oct. 28, 1851.
Stove, cook	William C. Davis	Cincinnati, Ohio	Jan. 1, 1851.
Stove doors and panels	M. C. Burleigh	Somersworth, N. H	May 13, 1851.
Stove-fronts	Ezra Ripley	Troy, N. Y	Sept. 30, 1851.
Stove or furnace, ventilating	E. P. Penniman, assignor to H. Ruttan	Rochester, N. Y	Sept. 16, 1851.
Stove, parlor	Ezra Ripley and N. S. Vedder, assignors to Low and Hicks.	Troy, N. Y	Nov. 25, 1851.
Stove-plates	Calvin Fulton	Rochester, N. Y	Sept. 2, 1851.
Stove-plates	Lyman S. Hapgood	Boston, Mass	June 3, 1851.
Stove-plates	Elijah P. Penniman	Rochester, N. Y	July 15, 1851.
Stove-plates	Elijah P. Penniman	Rochester, N. Y	July 15, 1851.
Stove-plates, parlor	Apollos Richmond, assignor to A. C. Barstow & Co.	Providence, R. I	Nov. 18, 1851.
Stove-registers	David Stuart and Jacob Beesly, assignors to William P. Cresson	Philadelphia, Pa	Dec. 2, 1851.
Stoves	R. J. Blanchard, assignor to Learned & Thatcher.	Albany, N. Y	July 29, 1851.
Stoves	R. J. Blanchard, assignor to Learned & Thatcher.	Albany, N. Y	July 29, 1851.
Stoves	R. J Blanchard, assignor to Learned & Thatcher.	Albany, N. Y	July 29, 1851.
Stoves	Silas Merchant	Cleveland, Ohio	Sept 2, 1851.
Stoves	Samuel H. Sailor, assignor to North, Harris, & Chase.	Philadelphia, Pa	Sept. 2, 1851.
Stoves	Anthony W. Jones, assignor to James McGregor, jr.	New York, N. Y	Sept. 2, 1851.
Stoves	Lyman Cobb	Ackron, Ohio	Oct. 14, 1851.
Stoves	Charles J. Woolson	Cleveland, Ohio	Oct. 14, 1851.
Stoves	William Savery	New York, N. Y	Oct. 21, 1851.
Stoves	S. W. Gibbs, assignor to North, Harrison, and Chase.	Albany, N. Y	Nov. 11, 1851.
Stoves	W. Ames, assignor to J. Hartshorn and W. Ames.	Nashua, N. H	Dec. 9, 1851.
Stoves	Jeremiah D. Green, assignor to Backus, Bacon, & Co.	Le Roy, N. Y	Dec. 9, 1851.
Stoves	Samuel W. Gibbs, assignor to Jagger, Treadwell, & Perry.	Albany, N. Y	Mar. 4, 1851.
Stoves	Samuel W. Gibbs, assignor to Jagger, Treadwell, & Perry.	Albany, N. Y	Mar. 4, 1851.
Stoves	Samuel W. Gibbs, assignor to Jagger, Treadwell, & Perry.	Albany, N. Y	Mar. 4, 1851.
Stoves	John S. Perry	Albany, N. Y	Mar. 4, 1851.
Stoves	J. Wager, D. Pratt, and V Richmond	Troy, N. Y	May 20, 1851.
Stoves	Ezra Ripley, assignor to D. Stafford & Co.	Troy, N. Y	May 27, 1851.
Stoves	N. P. Richardson	Portland, Me	May 27, 1851.
Stoves	William L. Hathaway	Dighton, Mass	May 27, 1851.

Expired patents for designs.

Inventions or discoveries.	Patentees.	Residence.	Date of patent.
Stoves	William L. Sanderson, assignor to R. R Finch.	Troy, N. Y	June 3, 1851.
Stoves	Samuel W. Gibbs, assignor to Jagger, Treadwell, & Perry.	Albany, N. Y	June 10, 1851.
Stoves	A. Cox, E. Johnson, and D. B. Cox	Troy, N. Y	June 10, 1851.
Stoves	A. Cox, E. Johnson, and D. B. Cox	Troy, N. Y	June 10, 1851.
Stoves	W. G. Hallman	Philadelphia, Pa	June 10, 1851.
Stoves	John F. Rathbone	Albany, N. Y	June 10, 1851.
Stoves	D. Stuart and J. Beesley, assignors to W. P. Cresson.	Philadelphia, Pa	June 10, 1851.
Stoves	Joseph G. Lamb	Cincinnati, Ohio	June 17, 1851.
Stoves	Joseph G. Lamb	Cincinnati, Ohio	June 17, 1851.
Stoves	Samuel A. House	Mechanicsville, N. Y	June 24, 1851.
Stoves	William C. Davis	Cincinnati, Ohio	July 8, 1851.
Stoves	N. S. Vedder, assignor to A. T. Durham & Co.	Troy, N. Y	July 29, 1851.
Stoves	Charles Gilbert and Mitchell G. Hallman, assignors to Charles Gilbert.	Philadelphia, Pa	Jan. 1, 1851.
Stoves	Elihu Smith	Albany, N. Y	Jan. 7, 1851.
Stoves	Joseph G. Lamb	Cincinnati, Ohio	Jan. 21, 1851.
Stoves	C. Harris and Paul W Zoiner	Cincinnati, Ohio	Jan. 28, 1851.
Stoves	Seth Williams, assignor to Williams, Bird, and Co.	Nashua, N. Y	April 8, 1851.
Stoves	Samuel W. Gibbs, assignor to Jagger, Treadwell, and Co.	Albany, N. Y	April 8, 1851.
Stoves	James V. Dewitt	Buffalo, N. Y	July 8, 1851.
Stoves, air-tight	N. P. Richardson	Portland, Me	April 1, 1851.
Stoves, air-tight	Frederick Schultz	Philadelphia, Pa	April 1, 1851.
Stoves, cooking	S W. Gibbs, assignor to North, Harrison, and Chase.	Albany, N. Y	July 8, 1851.
Stoves, cooking	John F. Rathbone	Albany, N. Y	July 8, 1851.
Stoves, cooking	Samuel W. Gibbs, assignor to Jagger, Treadwell, and Perry.	Albany, N. Y	Jan. 21, 1851.
Stoves, cooking	Samuel A. House	Mechanicsville, N. Y	Feb. 4, 1851.
Stoves, cooking	S. H. Sailor, assignor to Warnick, Liebrant, and Co.	Philadelphia, Pa	Feb. 25, 1851.
Stoves, cooking	Dutee Arnold	Providence, R. I	April 15, 1851.
Stoves, cooking	John Abendroth	Port Chester, N. Y	April 15, 1851.
Stoves, parlor	Joseph Pratt	Boston, Mass	July 8, 1851.
Stoves, parlor, plates of	Apollos Richmond, assignor to A. C Barstow & Co.	Providence, R. I	July 15, 1851.
Stoves, plates of Franklin	John F. Rathbone	Albany, N. Y	July 8, 1851.
Table	Nathan Chapin	Syracuse, N. Y	Sept. 30, 1851.
Tomb, cast-iron	H. K. Flinchbaugh	Conestoga, Pa	June 22, 1851.
Umbrella-stands	Edward J. Delany, assignor to Heins & Adamson.	Philadelphia, Pa	Feb. 18, 1851.
Water-coolers	William Burnett	Cincinnati, Ohio	July 8, 1851.

ALPHABETICAL LIST OF PERSONS TO WHOM PATENTS FOR INVENTIONS OR DISCOVERIES, AND FOR DESIGNS, HAVE BEEN GRANTED DURING THE YEAR 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Abbott & Lawrence. (See Smith & Brown, assignors.)			
	Abbott, S. R., *et al.* (See G. D. Sargent, assignor.)			
1044	Abendroth, William P.	Stove, cook's	Aug. 31, 1858	Design
20770	Abernethy, R P., assignor to Union Cork Manufacturing Company.	Corks, machine for cutting	July 6, 1858	XXII.
20771	Abernethy, R. P., and M. M. Wombaugh	Corks, machine for cutting	July 6, 1858	XXII.
19116	Absterdam, John	Telegraphic cables, construction of	Jan. 19, 1858	VIII.
20534	Absterdam, John	Gas, apparatus for manufacturing	June 15, 1858	IV.
21543	Ackerman, C	Lock	Sept. 21, 1858	II.
19822	Adair, J. V	Harvester, corn	April 6, 1858	I.
21594	Adams, A	Corn-sheller	Sept. 28, 1858	I.
21174	Adams, Calvin	Corn-sheller	Aug. 17, 1858	I.
22223	Adams, F. C., and J. Peckover	Stove, cooking	Dec. 7, 1858	V.
546	Adams, Isaac	Printing-press	April 20, 1858	Reissue.
	Adams, James. (See Watson, James F., assignor.)			
22053	Adams, John	Wash-boards	Nov. 16, 1858	XVII.
21238	Adams, Newton	Rope, machinery for making	Aug. 24, 1858	III.
22272	Adams, R. A	Stencils	Dec. 14, 1858	XVIII.
21866	Adams, Sanford	Wire-riddles, tools for manufacturing	Oct. 26, 1858	II.
20314	Adams, Seth	Cock-valve	May 25, 1858	XI.
	Adams, Seth. (See Burnett, William, assignor.)			
	Adams, S. W., and B. B. Hill. (See Hill & Adams.)			
21055	Adams, W	Cultivator	Aug. 3, 1858	I.
	Aeby, A. E, and F. L. Kidder. (See Kidder & Aeby.)			
22337	Ager, W	Rice, mode of cleaning	Dec. 21, 1858	XIII.
21305	Agnew, John	Bale-hoops, coupling for	Aug. 31, 1858	XII.
22404	Ahl, Frederick	Boot-jack	Dec. 28, 1858	XXII.
19901	Aiken, Herrick	Awls and tools	April 12, 1858	II.
1001	Aiken, Herrick	Tool-box	May 11, 1858	Design.
20854	Aiken, N. P.	Knitting-machine	July 13, 1858	III.
22004	Aiken, W	Knitting-machine	Nov. 9, 1858	III.
20398	Akers, Thomas P	Boilers, steam, telephonic indicator for	June 1, 1858	VI.
21306	Akins, Henry S	Plough, hillside	Aug. 31, 1858	I.
20397	Akins, John D	Musical instruments	June 1, 1858	XVIII.
22152	Alberger, J. L	Oils, kettle for trying	Nov. 30, 1858	III.
19178	Albertson, John R	Planter, potato	Jan. 26, 1858	I.
20755	Albrecht, Joseph, assignor to Charles J. Rulh	Acid, sulphurous, obtaining pure	June 29, 1858	IV.
	Albro, Henry. (See Vrooman, H. S., assignor.)			
20611	Albro, Henry	Wharf, floating, revolving	June 22, 1858	IX.
21644	Alcorn, James, jr	Furnaces, steam-boiler	Oct. 5, 1858	V.
19402	Alcott, A. N	Apple-corer	Feb. 23, 1858	XVII.
21307	Alden, John B, and Edwin L. Gates	Hose, &c., machine for cleaning	Aug. 31, 1858	XI.
20315	Alexander, C. W	Rifles, breech-loading	May 25, 1858	XIX.
19536	Alexander, Thomas J	Sawing-machine	Mar. 9, 1858	XIV.
21175	Allen David	Washing-machine	Aug. 17, 1858	XVII.
20316	Allen, A. J., and W. S. Hudson	Furnace-grates	May 25, 1858	V.
21400	Allen, Ethan	Fire arm, revolving	Sept. 7, 1858	XIX.
22005	Allen, Ethan	Fire-arms, revolving	Nov. 9, 1858	XIX.
633	Allen, Ethan	Pistols and other fire-arms	Dec. 14, 1858	Reissue.
20612	Allen, F	Brick-machine	June 22, 1858	XV.
20927	Allen, H	Condenser, tube-joints for	July 20, 1858	VI.
21308	Allen, Horatio P	Planter, cotton-seed	Aug. 31, 1858	I.
21476	Allen, John	Washing-machine	Sept. 14, 1858	XVII.
20768	Allen, John F	Valve-gearing for steam-engines	June 29, 1858	VI.
20928	Allen, K. H	Railroad rails, connecting the ends of	July 20, 1858	IX.
19975	Allen, N. E	Rake, horse hay	April 20, 1858	I.
21401	Allen, R. L	Harvester	Sept. 7, 1858	I.
19741	Allen, R. N	Car axle-boxes, railroad	Mar. 23, 1858	X.
19331	Allen, T. F	Cars, railway, mode of connecting the trucks of	Feb. 16, 1858	X.
19284	Allenden, John	Shoes, bags, &c., implement for holding open	Feb. 9, 1858	XVI.
21645	Allington, Silas	Gate	Oct 5, 1858	IX.
22006	Allis, Horace B	Flour-cooler	Nov. 9, 1858	XIII.
	Allstatter, R., and P. Black. (See J. M. Long, assignor.)			
	Allyn, Y., and A. Hager. (See Hager & Allyn.)			
	Alston, William J., *et al.* (See Lytle, Alston, & True.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20026	Alter, David, and Samuel A. Hill	Distilling coal, &c., revolving retorts for	April 27, 1858	IV.
21309	Alter, Jacob A	Locomotive-engines, scraper for removing sparks from the smoke-stack of.	Aug. 31, 1858	VI.
20463	Ambler, F. P., jr., assignor to F. P. Ambler & Sons.	Harness-saddles, construction of wooden sadd'e-trees for.	June 1, 1858	XVI.
20613	Ambrose, George	Engine, reciprocating rotary	June 22, 1858	VI.
20687	Ames, H. O	Evaporating vessels, arrangement of steam-coils in.	June 29, 1858	IV.
	Ames, Nathan, Samuel Green, *et al.* (See Donald McLean, assignor.)			
	American Book and Paper Folding Company. (See North, John, assignor.)			
19332	Ammen, Daniel	Lantern, signal	Feb. 16, 1858	VII.
21056	Anderson, A	Steam-engines, governor for	Aug. 3, 1858	VI.
	Anderson & Chadwick. (See Chadwick & Anderson.)			
19902	Anderson, Charles F	Seeding-machine	April 13, 1858	I.
	Anderson, John, William Toby, *et al.* (See Benjamin Pitcher, assignor).			
22054	Andrews, A. T. and J. H	Bomb-lance	Nov. 16, 1858	XIX.
	Andrews, J. K., and L. Matthews. (See Levi Matthews, assignor.)			
21239	Andrews, Solomon	Lamp burner, vapor	Aug. 24, 1858	V.
21310	Andrews, Solomon	Sewing-machine	Aug. 31, 1858	III.
21057	Angel, W. H., and M. Coffin	Wheat-separator	Aug. 3, 1858	I.
19285	Angell, Benjamin J	Sewing-machine	Feb. 9, 1858	III.
22055	Annan, Alexander	Knife-sharpener	Nov. 16, 1858	XVII.
	Anthony, Alfred, and G. F. Wilson, *et al.* (See James M. Whiting, assignor.)			
21176	Appleton, James S	Churn	Aug. 17, 1858	I.
	Area, H. A., *et al.* (See V. N. Mitchell, assignor.)			
	Arkerson & Kendrick. (See Kendrick & Arkerson.)			

21058	Armstrong, John J. and A. T.	Knife-sharpener	Aug. 3, 1858	XVII.
21077	Armstrong, John T	Sawing-machine, cross-cut	Aug. 17, 1858	XIV.
	Armstrong, R. H., and W. Straw. (See Straw & Armstrong.)			
21477	Armstrong, W. T	Washing-machine	Sept. 14, 1858	XVII.
21867	Armstrong, W. T	Washing-machine	Oct. 26, 1858	XVII.
21718	Arnall, William M., assignor to himself, O. P. Smith, and A. C. Jordan.	Barrels, machine for crozing, chamfering, and bevelling.	Oct. 5, 1858	XIV.
19475	Arndt, Jacob	Bellows	Mar. 2, 1858	XI.
20535	Arnett, W. D	Car axle-boxes, from pedestals, disconnecting	June 15, 1858	X.
19537	Arnold, Alfred	Engines, rotary steam	Mar. 9, 1858	VI.
19228	Arnold, Francis	Hair in curl, ladies' clamp for holding	Feb. 2, 1858	XXI.
20981	Arnold, H. L	Stone-sawing machine	July 27, 1858	XV.
22338	Arnold, Horace L	Car seats and couches	Dec. 21, 1858	X.
22405	Arnold, James G	Envelope, letter	Dec. 29, 1858	XVIII.
	Arnold, S. C. (See Isaac Rich, assignor.)			
	Ashcroft, E. H., *et al.* (See J. Jackman, jr., assignor.)			
	Ashcroft, Edward H. (See Franz Burckle.)			
	Ashmead, J. H., *et al.* (See Leroy White, assignor.)			
	Atkinson, S., and L. Crossman. (See Crossman & Atkinson.)			
20186	Atkins, George W	Measurer, grain, self-regulating	May 11, 1858	VIII.
21402	Atwater, B	Sewing-machine	Sept. 7, 1858	III.
21646	Atwater, Bryan	Trap, fly	Oct. 5, 1858	XXII.
19671	Atwater, James B	Pump	Mar. 23, 1858	XI.
	Atwood, Anson. (See Bosworth, George S., assignor.)			
21806	Atwood, E. G	Skirts, skeleton	Oct. 19, 1858	XXI.
19903	Atwood, J. E. and J. C. and O	Sewing-machine	April 13, 1858	III.
22273	Atwood, James E	Sewing-machine	Dec. 14, 1858	III.
21805	Atwood, L	Oils, &c., extraction of volatile, from coal	Oct. 19, 1858	IV.
22406	Atwood, L	Oils, pyrogenic, manufacture of	Dec. 28, 1858	IV.
22407	Atwood, Luther	Distillation, destructive, apparatus for	Dec. 28, 1858	IV.
22408	Atwood, Luther	Distillation of wood, &c., destructive, apparatus for	Dec. 28, 1858	IV.
	Aukney, P. J., and J. H. Grimsley. (See Grimsley & Ankney.)			
	Aultman, C., & Co. (See Lewis Miller, assignor.)			
	Austin, T. K., *et al.* (See Raymond & Robitaille, assignors.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21730	Austin, Thomas K	Fire-arm, revolving	Oct. 12, 1858	XIX.
21589	Austin, William, assignor to himself and William Obdyke.	Teapots	Sept. 21, 1858	XVII.
19729	Averill, Damon R., assignor to himself and James F Davis.	Varnishes, composition for	Mar. 22, 1858	IV.
19064	Averill, L B	Stave machine	Jan. 12, 1858	XIV.
19976	Avery, Cyrus	Horse-power, gearing for	April 20, 1858	XIII.
22007	Avery, O. & Z. W	Sewing-machine	Nov. 9, 1858	III.
	Avery, S., and C. D. Van Allen. (See Van Allen & Avery.)			
22396	Ayling, George C., assignor to himself and H. A. Ayling.)	Altitude, &c., instrument for measuring	Dec. 21, 1858	VIII.
	Aylsworth, T. D., and E. L Hagar. (See Hagar & Aylsworth.)			
21403	Ayres, David C	Harrows	Sept. 7, 1858	I.
21404	Babcock, A G	Planter, corn	Sept. 7, 1858	I.
21807	Babcock, A G	Seeding-machine	Oct 19, 1858	I.
21110	Babcock, D	Straw-cutter	Aug. 10, 1858	I.
19339	Babcock, J. K	Railroad snow-ploughs	Feb. 16, 1858	IX.
21731	Babcock, Joseph M	Stove, cook, hot-air	Oct. 12, 1858	V.
	Babcock, Nathan, and C. B. Cottrell. (See Cottrell, C. B., assignor.)			
	Babcock, S., *et al.* (See Cooley & Cooke, assignors.)			
21732	Babcock, W H	Window-blinds, method of adjusting	Oct. 12, 1858	IX.
	Batchelder, John, *et al.* (See Kennedy & Plummer, assignors.)			
617	Batchelder, John, assignor to Isaac M. Singer and Edward Clark.	Sewing-machine	Nov. 2, 1858	Reissue.
	Backus, Isaac, *et al.* (See Bates, R. H. N., assignor.)			
	Bacon, F. M., and Joseph Fowler. (See Fowler & Bacon.)			
	Bacon, S T. (See J. North, assignor.)			
22224	Bader, Adolphus	Table, extension	Dec. 7, 1858	XVII.
22339	Badger, John	Seeding-machine	Dec. 21, 1858	I.
20027	Baier, L	Lock	April 27, 1858	II.
	Bailey, F., and Josee Johnson. (See Johnson & Bailey.)			
19336	Bailey, J. B	Window shades, rollers for	Feb 16, 1858	XVII.
543	Bailey, J. B	Window shades, rollers for	April 13, 1858	Reissue.
19963	Bailey, John A., assignor to James Horner and James Ludlum.	Rolling-mills	April 13, 1858	II.
20615	Bailey, L	Plane-irons, device for adjusting	June 22, 1858	XIV.
20855	Bailey, L	Spoke-shave	July 13, 1858	XIV.
21311	Bailey, L	Planes, bench, method of securing plane irons to the stocks of.	Aug. 31, 1858	XIV.
20134	Bailey, L., and R. Thayer	Lamps	May 4, 1858	V.
	Bailey, S A., and R. Wheeler. (See Wheeler & Bailey.)			
22340	Bailey, Thomas D	Pegging jacks	Dec. 21, 1858	XVI.
21733	Bailey, Yarnal	Gas-burner	Oct. 12, 1858	V.
21178	Baird, James M	Car-seats, railroad	Aug. 17, 1858	X.
19229	Baker, Artemus	Baskets, splint, tool for manufacturing	Feb. 2, 1858	XXII.
22274	Baker, Daniel S	Wristband-fastener	Dec. 14, 1858	XXI.
	Baker & Grover, assignors. (See Grover & Baker.)			
19334	Baker, H. D	Churn	Feb. 16, 1858	I.
19010	Baker, Henry F	Planter, seed	Jan. 5, 1858	I.
	Baker, H. N., and H. M. Collier. (See Collier & Baker.)			
20539	Baker, John G	Glazier's pins, machine for cutting	June 15, 1858	XXII.
19476	Baker, Joseph	Cherries, machine for stoning	Mar. 2, 1858	XVII.
	Baker, Potter, & Grover. (See Blodgett, S. C., assignor, through N. Hunt.)			
19122	Baker, Samuel	Planter, seed	Jan. 19, 1858	I.
	Baker, W. R., and J. B. McCormick. (See McCormick & Baker.)			
	Baldwin & Bliss. (See Watson, John F., assignor.)			
	Baldwin & Co. (See Bliss, E., assignor.)			
	Baldwin & Co. (See Watson, John F.)			
21240	Baldwin, Frederick	Lathe for turning beaded work	Aug. 24, 1858	XIV.

No.	Name of patentee.	Invention or discovery	Date.	Class.
20403	Baldwin, M. W	Watches, attachment for, to ascertain the time without looking at the watch.	June 1, 1858	VIII.
19011	Baldwin, S	Spinning oakum	Jan. 5, 1858	III.
22397	Baldwin, Samuel, assignor to Baldwin & Co	Watch-faces	Dec. 21, 1858	VIII.
22153	Baldwin, Thomas C	Curtain-fixtures	Dec. 1, 1858	XVII.
	Ball, Edward O, *et al.* (See Heneaze, Robert, assignor.)			
19808	Ball, George S., assignor to Benjamin Kuhns	Drills, seed	Mar. 30, 1858	I.
21933	Ball, J	Swords, method of hanging	Nov. 2, 1858	XXII.
20246	Ball, Joseph E	Hame-tugs, fastening for	May 18, 1858	XVI.
19977	Ball, L	Life-boat	April 20, 1858	VII.
20614	Ball, L	Cars from running off the track, preventing	June 22, 1858	X.
19675	Ball, Leverett	Railroad rails	Mar. 23, 1858	IX.
1060	Ball, T, assignor to George W. Nichols	Statues of Henry Clay	Nov. 9, 1858	Design.
19614	Ball, Thomas C, assignor to A. S. Davis and H. C. Handerson	Latch for doors	Mar. 23, 1858	II.
22049	Ball, Thomas C, assignor to hims lf and L. Bisco, A. S Davis, K. Crossfield, Edward Edwards, and Sarah Green.	Car-wheels, railroad	Nov. 9, 1858	X.
22056	Ball, Thomas C	Cradle, infants'	Nov. 16, 1858	XVII.
20135	Balla, James	Saws, band, device for sheltering from dust the lower carrying pulley of.	May 4, 1858	XIV.
19335	Ballard, Charles	Filtering apparatus	Feb. 16, 1858	XI.
19118	Baltzby, John W., and W. Hobson	Reapers, hand	Jan. 19, 1858	I.
20536	Bancker, G	Brick-machine	June 15, 1858	XV.
21934	Bancker, Gerard, and A Campbell	Motion, rotary, mechanism for transmitting	Nov. 2, 1858	XIII.
21106	Bancroft, N. W, assignor to himself and H. M. Proctor.	Butter-worker	Aug. 3, 1858	XVII.
19179	Banks, Joseph	Plough	Jan. 26, 1858	I.
19742	Banks, Joseph	Cultivator	Mar. 30, 1858	I.
20929	Banta, Jacob J	Knife-cleaner	July 20, 1858	XVII.
20616	Bantz, Gideon	Furnaces for heating steam-boilers, &c	June 22, 1858	V.
	Bantz, Gideon, and Adrian V. B. Orr. (See Orr & Bantz.)			
19120	Bapterosses, Jean Felix	Buttons	Jan. 19, 1858	XXI.
19180	Barden, John S	Pumps, rotary	Jan. 26, 1858	XI.
19464	Barden, John S., assignor to himself and Aaron W. Rockwood.	Engine, steam oscillating	Feb. 23, 1858	VI.
	Bargis, T. J., and J. E Underwood. (See Underwood & Bargis.)			
20399	Barker, P	Grain, machine for elevating, measuring, registering, and bagging.	June 1, 1858	XIII.
20474	Baker, Peleg	Threshing-machine, machine for measuring, registering and receiving grain direct from.	June 8, 1858	I.
19539	Barlow, Charles E	Plane, floor	Mar. 9, 1858	XIV.
21808	Barlow, Nelson	Pots, coffee	Oct. 19, 1858	XVII.
21935	Barlow, Nelson	Saw gummer	Nov. 2, 1858	II.
19337	Barnard, H	Ore-washer	Feb 16, 1858	II.
19538	Barnard, Heman A	Wood of unequal lengths at once, mode of bending several pieces of.	Mar. 9, 1858	XIV.
19338	Barnard, Henry	Gold-washer	Feb. 16, 1858	II.
22154	Barnard, William B	Block, tackle	Dec. 1, 1858	VII.
21179	Barnes, Charles L	Augers, method of securing the centre of the spindles of.	Aug. 17, 1858	XIV.
189	Barnes, Charles R	Mill-stone dress for hulling rice	Jan. 26, 1858	Add'l imp't.
20464	Barnes, E, assignor to E. Crane	Railroad chairs	June 1, 1858	IX.
20930	Barnes, E. F	Telegraphing magnet easy of adjustment, combination of electro and permanent magnets to render.	July 20, 1858	VIII.
20982	Barnes, E. F	Telegraphic-machine, self-adjusting and embossing	July 27, 1858	VIII.
20617	Barnes, E. R	Railroad chair	June 22, 1858	IX.
19121	Barnes, Henry	Guns, lock of double barrelled	Jan. 19, 1858	XIX.
22216	Barnes, Henry, assignor to himself and N. G. Macrum.	Press, hay and cotton	Dec. 7, 1858	XII.
19477	Barnes, Jethro W	Wagons, manure	Mar. 2, 1858	X.
21464	Barnes, Stephen, assignor to himself, Henry S. Parsons, and Samuel Rowland.	Brushes, manufacture of	Sept. 7, 1858	XVII.
	Barnes, T. H., *et al.* (See Lane, Jas. C., assignor.)			
	Barnes, W. T, and J. S. Buell, assignors. (See Buell & Barnes.)			
206	Barnes, W. T	Sewing-machines	June 29, 1858	III.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20318	Barnett, G. W	Wheels, driving, for portable steam-engines and agricultural implements, &c.	May 25, 1858	XIII.
20319	Barnett, George W	Boilers, steam	May 25, 1858	VI.
21868	Barnett, Samuel M	Scrubbing-machine	Oct. 26, 1858	XVII.
21809	Barney, John K	Gauge for contents of casks, &c	Oct. 19, 1858	XI.
	Barnum, Burr, Condit, Swift, and Carr. (See Frost & Monroe, assignors.)			
20136	Barnum, Daniel	Engines, steam	May 4, 1858	VI.
	Barnum, Daniel, *et al.* (See Low, Joshua, assignor.)			
	Barnum, J. W., *et al.* (See Tyler, S. G., assignor.)			
22088	Barr, Daniel W	Hoisting-machine	Nov. 9, 1858	XII.
	Barry, Thomas, and E. A. Tuttle. (See Tuttle & Barry.)			
19119	Barrett, E. D	Valves and passages in the cylinders of steam engines, arrangement of.	Jan. 19, 1858	VI.
	Barrett, O. D., and W. De Witt. (See De Witt & Barrett.)			
	Barrett, O. W. and E. E., *et al.* (See Morse & Hughes, assignors.)			
20473	Barrett, S. M., R. S. Lee, and J. M. Waters	Washboard	June 8, 1858	XVII.
22341	Barrington, J. A	Harvesters	Dec. 2 1858	I.
20475	Barrington, John A	Harvesters raking attachment to	June 8, 1858	I.
20689	Barrowman, Moses	Plough, drain	June 29, 1858	I.
19678	Barrows, E., jr	Furnaces, hot-air, self-adjusting damper for	Mar. 23, 1858	V.
	Barry, Thomas, and E. A. Tuttle. (See Tuttle & Barry.)			
986	Barstow, A. C	Stoves	Jan. 19, 1858	Design.
1023	Barstow, A. C	Range fronts	July 6, 1858	Design.
1063	Barstow, A. C	Stoves, cooks'	Nov. 16, 1858	Design.
	Barstow, J. P., *et al.* (See Bates, R. H. N., assignor.)			
	Barstow, Samuel, *et al.* (See Chichester, Lewis J., assignor.)			
19823	Bartholf, A.	Sewing-machine	April 6, 1858	III.
21734	Bartholomew, Frederick H	Closet, water	Oct. 12, 1858	IX.
20540	Bartholomew, J.	Mills, grist, machine for gathering the toll in	June 15, 1858	XIII.
558	Bartle, Warren S	Fertilizers, machine for sowing	May 18, 1858	Reissue
22104	Bartlett, Abel H	Refrigerator	Nov. 23, 1858	XXII.
	Bartlett, Joseph W. (See Jackson, T. D., assignor.)			
	Bartlett, Lewis L. (See Charles Hartwell, assignor.)			
21405	Bartlett, Louis D	Sifters, coal or ashes	Sept. 7, 1858	V.
	Bartlett, N., and J. Wharton. (See Wharton and Bartlett.)			
19333	Barton, Chester	Seeding machine	Feb. 16, 1858	I.
20535	Barton, J.	House-bell	June 15, 1858	XVII.
22155	Barton, James	Tool for cutting key-seats in wheels and pulleys	Dec. 1, 1858	II.
20187	Bartoo, J.	Water-wheel	May 11, 1858	XI.
20678	Baschnagel, Francis, assignor to himself and the Beverly Rubber Company.	Rubber, restoring waste vulcanized	June 22, 1858	IV.
	Bastian, G. (See Benton, Behn, and Bastian.)			
	Batchelder, *et al.* (See Watson, John F.)			
19170	Batchelder, Asahel G., assignor to Hiram E. Pearson and Alden M. Butterfield.	Blind-fixtures, window	Jan. 19, 1858	IX.
	Batchelder, J. M., and M. G. Farmer. (See Farmer and Batchelder.)			
26028	Batchelder, John M	Inkstands	April 27, 1858	XVIII.
20604	Batchelder, W. W., assignor to William T. Townsend.	Gas-burners, argand	June 22, 1858	V.
22409	Batchelder, William W.	Lamp	Dec. 28, 1858	V.
19540	Batcheller, H. F.	Planters, hand corn	Mar. 9, 1858	I.
19978	Batchelor, Job	Saws, dressing	April 20, 1858	XIV.
20856	Bate, John J	Kettles for rendering lard	July 13, 1858	V.
20386	Bateman, Horatio, assignor to William F. Bateman.	Lamp, vapor	May 25, 1858	V.
	Bates, Hardy, and Parkinson. (See Hardy and Parkinson, assignors.)			

Patentees of inventions and designs, 1858.

No.	Invention or discovery.	Invention or discovery.	Date.	Class.
1013	Bates, R. H. N., assignor to himself, Isaac Backus, and J. P. Barstow.	Stove-doors	June 8, 1858	Design.
	Battle, John A. M. (See Troost, Lewis, assignor.)			
19117	Bauder, Michael L.	Churn	Jan. 19, 1858	I.
	Bauman. (See Hersh, *et al.*)			
19277	Bayley, O. W., assignor to the Boston Locomotive Works.	Furnaces for locomotives	Feb. 2, 1858	V.
22057	Bayly, Obadiah J.	Lock, safe	Nov. 16, 1858	II.
20690	Bazin, J. A.	Cordage, machinery for braiding	June 29, 1858	III.
20691	Bazin, J. A.	Cordage, webbing and manufacturing braided	June 29, 1858	III.
19904	Beach, Charles	Reaping and mowing machines	April 13, 1858	I.
19615	Beach, Henry H.	Winnower, grain	Mar. 16, 1858	I.
19906	Beadle, John L.	Sawing-machine	April 13, 1858	XIV.
22009	Beach, Moses S.	Paper, wetting, apparatus for	Nov. 9, 1858	XVIII.
22010	Beach, Moses S.	Printing-presses	Nov. 9, 1858	XVIII.
22011	Beach, Moses S.	Printing-presses, feeding out paper from	Nov. 9, 1858	XVIII.
19478	Beach, Wa'dren	Carriage-wheels, metallic	Mar. 2, 1858	X.
	Beadle, John L., and J. Stevens. (See Stevens Judd assignor.)			
21478	Beals, Fordyce	Fire-arm, revolving	Sept. 14, 1858	XIX.
20692	Beardsly, B. A.	Mills, grinding	June 29, 1858	XIII.
21810	Beardsly, James H.	Paints, composition for	Oct. 19, 1858	IV.
20247	Beattie, William F. C.	Gates, farm, method of opening and closing	May 18, 1858	IX.
19341	Beauche, Louis	Cigars, machinery for making	Sept. 16, 1858	XXII.
20541	Beaumont, William	Gas, apparatus for manufacturing	June 15, 1858	IV.
21479	Beverdy, Samuel	Skirts, ladies' hoop	Sept 14, 1858	XXI.
	Becker, N. J., and J. M. Harvey. (See Harvey and Becker.)			
21111	Becker, N. J., and J. M. Harvey	Threshing and separating grain, machine for	Aug. 10, 1858	I.
21312	Beck, James	Looms for weaving skirt-fringe	Aug. 31, 1858	III.
22156	Beckwith, J. F., and A. G. Gage	Planters, seed	Dec. 1, 1858	I.
19674	Beckwith, Robert R.	Gun, walking stick	Mar. 23, 1858	XIX.

21180	Bedgood, Thomas M.	Planters, corn	Aug. 17, 1858	I.
19616	Beebe, James W.	Hats, ventilating	Mar. 16, 1858	III.
20248	Beers, S. A.	Rails, railroad, fastening	May 18, 1858	IX.
21241	Beers, S. A.	Railroad rails	Aug. 24, 1858	IX.
1005	Beesley, J., assignor to John S. Clark and Washington Harris.	Stove-doors	May 11, 1858	Design.
	Behn, Bastian, and Benton (See Benton, J. B., J. F. Behn, and G. Bastian.)			
20975	Behrens, H. J., assignor to C. F. Pomeroy	Soldering-iron	July 20, 1858	II.
	Beidelman, George and Samuel, and J. Orange. (See Orange and Beidelman.)			
19905	Belchamber, Alfred	Winnowing-machines, chaff, screws for	April 13, 1858	I.
19907	Bellamy, E.	Pumps, double-acting force	April 13, 1858	XI.
20029	Bellinger, Franklin	Mill-stone dress	April 27, 1858	XIII.
20465	Bellingrath, Leonard J., assignor to T. and W. McLaurin and James W. Strange.	Distilling turpentine, apparatus for	June 1, 1858	IV.
22342	Belson, R. W.	Stoves	Dec. 21, 1858	V.
19405	Belter, John H.	Furniture, method of manufacturing	Feb. 23, 1858	XVII.
19340	Bement, William B.	Shafting, hangers for	Feb. 16, 1858	XIII.
	Bender, Edwin. (See Shedaker, Benjamin H., assignor.)			
	Benedict & Burnham Manufacturing Company. (See Jordan, E., assignor.)			
21406	Benedict, E. U.	Railroad tracks, joints for	Sept. 7, 1858	IX.
21480	Benedict, E. U.	Rails, T, joints for	Sept. 14, 1858	IX.
19065	Benedict, Newton	Carriage tops	Jan. 12, 1858	X.
	Benedict *et al.* (See DeWitt, John C., assignor.)			
19181	Bennett, Nicholas, assignor to David Parker	Washing-machine	Jan. 26, 1858	XVII.
20693	Bennett, W.	Tool handles, socket for	June 29, 1858	XIV.
1056	Bennett, William	Shovels, cast iron fire	Oct. 12, 1858	Design.
20931	Bennett, W. R., and C. Stover	Twine box	July 20, 1858	XXII.
20772	Benton, J. B., J. F. Behn, and G. Bastian.	Hay, machine for raking and loading	July 6, 1858	I.
21112	Berdan, A.	Planters, seed	Aug. 10, 1858	I.
21113	Berdan, A.	Harrows	Aug. 10, 1858	I.
19809	Bergen, Peter, assignor to Jane Ann Bergen.	Corn-shellers	March 30, 1858	I.
	Berrian, John M. and Cornelius A. (See Hiler Solah, assignor.)			
22112	Berry, H. S.	Tuyere, blacksmith's	Nov. 9, 1858	II.
20773	Berry, R. M.	Sewing-machines	July 6, 1858	III.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22225	Berry, Robert M	Sewing machines	Dec. 7, 1858	III.
20618	Berry, Thomas	Harvester, hemp	June 22, 1858	I.
19743	Bertrand, C E	Sugar-mould carriage	March 30, 1858	IV.
	Bess, Redden, and H Sloan, *et al.* (See Turner, Alexander, assignor.)			
	Bess, Turner, and Sloan. (See Turner, Bess, & Sloan.)			
	Best, John, and J. B. Clow. (See McMurtry, John, assignor.)			
22105	Bestwick, John, jr	Fastener, sash	Nov. 23, 1858	II.
20400	Bettley, A	Fence, lattice, iron	June 1, 1858	IX.
21735	Bettinger, Matthias, and A. Boos	Hinge	Oct. 12, 1858	II.
	Bevan, L. L., and Daniel Zuern. (See Zuern & Bevan.)			
19066	Bevard, William	Barrel-head machinery, circular-cutting, method of connecting the bevelling knives in.	Jan. 12, 1858	XIV.
	Beverly Rubber Company. (See Baschnagel, Francis, assignor.)			
	Beverly Rubber Company. (See Hall, Hiram L., assignor.)			
21647	Biddle, Moses H	Traps, animal, construction of	Oct. 5 1858	XXII.
21544	Bidwell, S., assignor to New York Car and Steamboat Gas Company.	Gas-regulator	Sept. 21, 1858	IX.
21648	Bidwell, S. W	Window-blind, rolling	Oct. 5. 1858	IX.
20857	Bickford, D	Window-sashes, spring-pulley for	July 13, 1858	IX.
19479	Bickford, Dana	Pendulum, compound	March 2, 1858	VIII.
19744	Bickford, Dana	Time-keepers, regulator for	March 30, 1858	VIII.
21181	Bickford, L	Sowing fertilizers, machine for	Aug. 17, 1858	I.
	Bigelow & Bradley. (See Bradley & Bigelow.)			
	Bigelow Brothers, *et al.* (See Watson, John F.)			
19824	Bigelow, E	Casters, syrup	April 6, 1858	XVII.
547	Bigelow, E	Casters, syrup	May 4, 1858	Reissue.
19673	Bigelow, George C	Door-sill, self-adjusting	March 23, 1858	IX.
20858	Bigelow, M. B	Paper, machines for cutting	July 13, 1858	XVIII.

19406	Billings, G. W	Dovetailing tool	Feb. 23, 1858	XIV.
19672	Bills, Henry A., and Stephen W. Wood	Printing press	March 23, 1858	XVIII.
21736	Binkley, Samuel	Drills, grain	Oct 12, 1858	I.
	Bird, John, David Challiner, *et al.* (See Reighard, Jacob, assignor.)	Hulling and threshing clover, machines for	May 18, 1858	I.
20249	Birdsell, John C			
	Birmingham Iron Foundry Company. (See Clemons, Andrew B.)			
	Bisco, L., *et al.* See Ball, Thomas C., assignor.)	Dredging-machine	April 13, 1858	IX.
19908	Bishop, E. B	Cars, railroad, coupling for	July 28, 1858	X.
20983	Bishop, George S	Car-couplings	Oct. 12, 1858	X.
21787	Bishop, George S	Stones, machinery for gathering	July 6, 1858	I.
20774	Bishop, G. W	Veneers, machine for cutting	Sept. 21, 1858	XIV.
21590	Bishop, Gilbert, assignor to Edward White	Sewing-machine	Dec. 7, 1858	III
22226	Bishop, Robert H	Railroad chair	Jan. 19 1858	IX.
19124	Bishop, James	Timekeepers, escapement for	Oct. 12, 1858	VIII.
21738	Bishop, Josiah	Locomotive engines, trucks for	Nov. 2, 1858	VI.
21936	Bissell, Levi			
	Bissell, Lounsberry, & Co. (See Butler, Thomas B., assignor.)	Hullers, rice	April 27, 1858	I.
20030	Black, H. N	Harvesting-machines, grain discharging attachment to.	Dec. 26, 1858	I.
21869	Black, J. F	Steam, method of generating, in combination with atmospheric air as a motive power.	March 9, 1858	VI
19604	Black, James, assignor to Scott, Todd, & Co	Lath-machine	Nov. 16, 1858	XIV.
22058	Black, Josiah			
	Black, P. and Allstatter. (See Long, J. M., assignor.)	Plough	Aug. 17, 1858	I.
21182	Black, William			
	Blackman, S. G., and E. J. Manville. (See Manville & Blackman.)	Hulling and cleaning clover seed, machinery for	March 30, 1858	I.
19745	Blackwell, J V			
	Blackwell, S. M., *et al.* (See Culver, E., jr., assignor.)	Stones, machine for crushing	June 15, 1858	XV.
20542	Blake, Eli W	Furniture casters	April 27, 1858	XVII.
20031	Blake, Henry D	Nails, trunk, machinery for covering the heads of	Jan. 19, 1858	II.
19123	Blake, James P	Sewing-machines	July 6, 1858	III.
20775	Blake, L R			
	Blake, Robert, and L Button. (See Button & Blake.)			

Patentees of inventions and designs, 1858.

No	Name of patentee.	Invention or discovery.	Date.	Class.
1008	Blanchard, A. L.	Aquaria	June 1, 1858	Design.
21407	Blanchard, George	Closet, water	Sept. 7, 1858	IX.
19480	Blanchard, Thomas	Bending of shovel handles	Mar. 2, 1858	XIV.
19541	Blanchard, Thomas	Mills for reducing substances	Mar. 9, 1858	XIII.
19746	Blanchard, Thomas	Cigars	Mar. 30, 1858	XXII.
20137	Blanchard, Thomas	Wood, machine for bending	May 4, 1858	XIV.
21059	Blandy, H. and F. J. L.	Engines, steam	Aug. 3, 1858	VI.
19230	Blau, Hermann	Carpet-stretcher	Feb 2, 1858	XVII.
	Bliss & Baldwin. (See Watson, John F., assignor.)			
19966	Bliss, E., assignor to Baldwin & Co	Watch-cases	April 13, 1858	VIII.
628	Bliss, Elihu, assignor to Baldwin & Co	Watch-cases	Nov 23, 1858	Reissue
20859	Bliss, J. W	Door-plates	July 13, 1858	XXII.
	Bliss, J. W. (See Harkness, J. W., assignor.)			
20984	Bliven, S. R.	Plough	July 27, 1858	I.
21465	Blodgett, S. C., assignor to G. B. Sloat & Co	Sewing-machines	Sept 7, 1858	III.
613	Blodgett, Sherburne C., assignor (through N Hunt) to O. B. Potter, W. O. Grover, and W. E. Baker.	Sewing-machines	Oct. 12, 1858	Reissue.
21870	Blondyn, A. C.	Car-seats	Oct. 26, 1858	X.
22059	Blood, Asa, jr	Bee-hives	Nov. 16, 1858	I.
19401	Bloodworth, Elijah H	Plough	Feb. 16, 1858	I.
19747	Boardman, Byron	Staples for blind-slats	Mar. 30, 1858	II.
	Boardman, Harris, *et al.* (See Spencer, Seth P., assignor.)			
19232	Bocage, Joseph W	Presses, jack-screw	Feb. 2, 1858	XII.
	Bodley & Lane. (See Smith & Lane, assignors.)			
1030	Bodine, John F., assignor to himself and William H. and J. Alfred Bodine.	Can-covers	Aug. 3, 1858	Design.
	Bodine & Potter. (See Borden, J., assignor to David Potter and Francis B. Bodine.)			
21313	Boernicke, C.	Umbrellas	Aug. 31, 1858	XXI.

	Bogert, Horatio. (See Bradford, Hezekiah, assignor.)			
	Bogert, Horatio. (See Perry & Fitzgerald, assignors.)			
21811	Boggs, W. T.	Gates, farm, mode of opening and closing	Oct. 19, 1858	IX.
20401	Bollens, A. D	Photographic cameras, plate-holders for	June 1, 1858	XVIII.
19481	Bolton, Aquila	Coal, machine for breaking	Mar. 2, 1858	V.
20619	Bond, Oliver	Screw-drivers, handle for	June 22, 1858	II.
	Bonn, John H. (See Schleier, Charles S., assignor.)			
21183	Bonney, J. S., and C. W. Willard	Steam trip-hammers, operating	Aug. 17, 1858	VI.
	Boos, A., and M. Bettinger. (See Bettinger & Boos.)			
20250	Booth, A.	Shot, making	May 18, 1858	XIX.
21545	Booth, John	Brick-machine	Sept. 21, 1858	XV.
	Booth, R. W. (See Knight, Judson, assignor.)			
19964	Borden, J., assignor to David Potter and Francis B. Bodine.	Jars, preserving	April 13, 1858	XVII.
20032	Boorman, W.	Eggs, beating, churning, and the like processes, apparatus for	April 27, 1858	XVII.
19125	Borum, Samuel R., and William M. McClean	Ploughs	Jan 19, 1858	I.
20860	Bossard, J. S.	Hulling rice, machine for	July 13, 1858	I.
	Boston Locomotive Works. (See Bayley, O. W., assignor.)			
20694	Bostrom, E. T.	Planters, cotton-seed	June 29, 1858	I.
19979	Bosworth, C. F.	Sewing-machine	April 20, 1858	III.
21863	Bosworth, George S., assignor to Anson Atwood	Iron, cast, manufacturing car-wheels of	Oct. 19, 1858	III.
522	Bosworth, Zephaniah, assignor to James M. McKinlay	Stoves, air-tight	Jan. 19, 1858	Reissue.
21314	Bottoms, Thomas J	Seeding machines	Aug. 31, 1858	I.
	Bottoms, Thomas J., and James A. Bullock. (See Bullock & Bottoms.)			
201	Bottum, J. M.	Watchmakers' lathes, polishing apparatus for	June 8, 1858	Add'l Imp't.
22227	Bowen, Jesse	Washing-machine	Dec. 7, 1858	XVII.
	Bower, Oliver P., *et al.* (See Hamilton, G. W.)			
	Bowers, W., and J. G. Goshon. (See Goshon & Bowers.)			
20387	Bowes, M., assignor to himself and George B. Waterhouse.	Pipe, machine for cutting	May 25, 1858	II.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19231	Bowker, Sewall H	Bonnet-frames, machine for forming	Feb 2, 1858	III.
20033	Boyce, John A	Vehicles, attaching shafts to	April 27, 1858	X.
22275	Boyd, A. H	Sewing-machines	Dec 14, 1858	III.,
19171	Boyd, Amos H, assignor to Oliver D Boyd	Sewing-machines	Jan. 19, 1858	III.
19730	Boyd, Amos H, assignor to Samuel F. Chase	Shoe-peg machine	Mar. 23, 1858	XVI.
20016	Boyd, Amos H, assignor to Samuel F. Chase	Wooden dowel-pins, machine for making	April 20, 1858	XIV.
19233	Boyd, David M	Shingle-machine	Feb 2, 1858	XIV.
20695	Boyd, John T	Cloth, machines for turning selvages in	June 29, 1858	III
19067	Boyd, Joseph F	Sails, reefing	Jan. 12, 1858	VII.
	Boyd, S. (See Knight, Judson, assignor.)			
20402	Boyd, W	Signals, semaphoric mechanism for operating	June 1, 1858	VIII.
20320	Boyden, O S, and M. C Frederick	Composition for varnishing leather	May 25, 1858	IV.
19286	Byers, William	Pumps	Feb. 9, 1858	XI.
19825	Brabyn, John L	Traps for animals	April 6, 1858	XXII.
20476	Braden, J A	Lock	June 8, 1858	II.
21546	Braden, Joseph A	Shears	Sept. 21, 1858	II.
638	Braden, Joseph A	Shears	Dec. 28, 1858	Reissue.
612	Bradfield, Edward	Bolting flour	Oct 12, 1858	Reissue.
20756	Bradford, Hezekiah, assignor to Horatio Bogert	Ore-separator	June 29, 1858	II.
	Bradford, L. H, and James A. Cutting. (See Cutting & Bradford.)			
	Bradley, W. L & N. L, *et al.* (See Hubbard, G. W., assignor.)			
20190	Bradley, William	Warps, dressing and sizing	May 11, 1858	III.
213	Bradley, William	Warps, dressing and sizing, machinery for	Dec. 21, 1858	Add'l imp't.
22410	Bradley, William A., and Jacob Pigelow	Fuel, artificial, manufacture of	Dec. 28, 1858	V.
19407	Brady, Elijah	Stone-dressing machine	Feb. 23, 1858	XV.
	Brady, George H (See Lyon & Brady.)			
21184	Brady, J P	Mill-pick holders	Aug. 17, 1858	XIII.
	Bragg, Isaac W. (See Cope & Bragg.)			
19012	Branch, John L, Isaac, and Daniel W	Car-brake, railroad	Jan. 5, 1858	X.
	Brandebury, Louis. (See Brauer, Louis, assignor.)			

	Brastow, George O, *et al.* (See Gray, Joshua, assignor.)			
20986	Brauer, Louis	Omnibus-register	July 27, 1858	X.
19278	Brauer, Louis, assignor to himself and L G. Brandebury and Joseph B. Stewart.	Telegraphic cables, apparatus for paying out	Feb. 2, 1858	VIII.
21060	Brazelton, E	Removing submarine deposits, method of	Aug. 3, 1858	IX.
19342	Breckenridge, J. H	Powder-flask	Feb. 16, 1858	XIX.
21812	Breden, Otis	Nails, wrought manufacture of	Oct. 19, 1858	II.
21481	Bredt, Ernest	Skirting materials, manufacture of	Sept. 14, 1858	III.
19826	Breinig, David E	Mills, grinding	April 6, 1858	XIII.
19343	Breisach, L. R	Chair, rotating, blast producing	Feb 16, 1858	XVII.
199	Breisach, L R	Chair, rotary, blast producing	June 1, 1858	Add'l imp't.
22343	Bremmer, C A	Roofing, composition for	Dec. 21, 1858	IX.
20757	Brey, E., assignor to himself and J. S. Swartley	Gun-lock, double acting	June 29, 1858	XIX.
21242	Brickill, J H	Spinning-mules	Aug. 24, 1858	III.
19403	Bridge, William H	Cable-stoppers	Feb. 23, 1858	VII.
21937	Bridger, James	Leather straps, tool for chamfering	Nov. 2, 1858	XVI.
20321	Bridwell, Richard F	Sounding-apparatus	May 25, 1858	VII.
	Briggs, Hoover, Sloan, and Smith. (See Sloan, Smith, Hoover, & Briggs.)			
19344	Briggs, Albert D	Harvesters	Feb. 16, 1858	I.
20987	Briggs, Albert D	Bridges, truss, bearing-blocks of	July 27, 1858	IX.
22106	Briggs, John C	Bridges, truss	Nov. 23, 1858	IX.
	Briggs, Joseph H. (See Denham & Briggs.)			
1053	Briggs, Martin	Fences, cast-iron	Oct. 5, 1858	Design.
20034	Brigham, Dennis	Evaporating brine, apparatus for	April 27, 1858	IV.
22060	Brinkerhoff, John P	Spoons, machine for making	Nov. 16, 1858	II.
19909	Brinley, Thomas E C	Ploughs	April 13, 1858	I.
21547	Brinley, Thomas E C	Ploughs, press and drill	Sept. 21, 1858	I.
20238	Brocksieper & J. B Sargent, assignor to Joseph B. Sargent.	Fastener, sash	May 11, 1858	II.
	Broderick, William. (See Burnett & Broderick.)			
20477	Brodie, George	Boilers, steam, apparatus for supplying water to	June 8, 1858	VI.
	Brokaw, Child, & Warder. (See Harding, Thomas, assignor.)			
20017	Brokaw, J. W., assignor to Warder, Brokaw, & Child.	Reaping-machines	April 20, 1858	I.
20251	Brokaw, J. W, assignor to Warder, Brokaw, & Child.	Reaping and mowing machines	May 18, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21533	Brokaw, J. W., assignor to Warder, Brokaw, & Child.	Harvesters, guard fingers for	Sept. 14, 1858	I.
	Bromwell, William. (See Holzer, Charles F., assignor.)			
559	Bronson, Austin	Stoves, cooking	May 18, 1858	Reissue
21061	Brooks, Aaron	Crank, substitute for the	Aug. 3, 1858	XIII.
20776	Brooks, E., and G. Walker	Fire-arm, breech-loading	July 6, 1858	XIX.
22336	Brooks, Olive Ann, administratrix of Lebbius Brooks, deceased.	Straw cutter	Dec. 14, 1858	I.
22344	Broughton, John	Engines, steam, cut-off gear for	Dec. 21, 1858	VI.
20985	Brower, A	Cement, water-proof	July 27, 1858	IV.
20322	Brower, W. G	Ice, machine for hoisting	May 25, 1858	XXII.
	Brown & Smith, assignors to North, Chase, & North (See Smith & Brown, assignors.)			
	Brown & Smith, assignors to McDowell & Co. (See Smith & Brown.)			
19127	Brown, A. D	Furniture, construction of	Jan. 19, 1858	XVII.
	Brown, A., and L. Higgins. (See Higgins & Brown.)			
20543	Brown, Alanson	Quilting frame	June 15, 1858	XVII.
22061	Brown, Azro	Shoe-peg machine	Nov. 16, 1858	XVI.
	Brown, B. F. (See Brown E. L., assignor to B. F. Brown.)			
19617	Brown, C. B	Drills, seed	Mar. 16, 1858	I.
20191	Brown, C. B	Harvesters	May 11, 1858	I.
	Brown, C. B., and D. J. Lake. (See Granger, W. J., assignor.)			
	Brown, C. W	Tonguing and grooving machine	July 28, 1858	Extension.
22262	Brown, Cyriel E., assignor to himself, John Tenney, and John Rhodes.	Spindles for throstle spinning	Dec. 7, 1858	III.
20679	Brown, E. L., assignor to B. F. Brown	Vault covers, safety	June 22, 1858	IX.
19182	Brown, Edmund	Pepper boxes, air-tight	Jan. 26, 1858	XVII.

526	Brown, George W	Planters, seed	Feb. 16, 1858	Reissue.
	Brown, H. (See Smith, Brown, & Sailor, assignors.)			
	Brown, H. (See Smith & Brown, assignors to Abbott & Lawrence.)			
19828	Brown, Harvey	Churn	April 6, 1858	I.
20696	Brown, Harvey	Sawing-machine, rotary	June 29, 1858	XIV.
21482	Brown, Harvey	Sawing-machine, endless, sectional	Sept. 14, 1858	XIV.
	Brown, Henry H., *et al.* (See Farson, Enoch S., assignor.)			
19679	Brown, Hiram W	Gins, cotton	Mar. 23, 1858	III.
19965	Brown, J. S., assignor to himself and Joseph Kent.	Ovens	April 13, 1858	XVII.
20466	Brown, J. S., assignor to himself and Joseph Kent.	Stoves	June 1, 1858	V.
22157	Brown, James R	Pipe tongs	Dec. 1, 1858	II.
22411	Brown, Job	Measure, grain	Dec. 28, 1858	VIII.
19126	Brown, John A	Planters, seed	Jan. 19, 1858	I.
21062	Brown, R. J	Mills, flouring	Aug. 3, 1858	XIII.
19827	Brown, Robert	Coffee, apparatus for roasting	April 6, 1858	XVII.
21315	Brown, Robert J	Fence, portable	Aug. 31, 1858	IX.
20544	Brown, S. R	Sash-holder	June 15, 1858	II.
	Brown, Samuel, jr. (See Farrington & Brown, jr., assignors.)			
19677	Brown, Timothy	Metallic cheese-hoops, casting	Mar. 23, 1858	II.
	Brown, Thomas W. (See Reynolds, Edward, assignor.)			
20189	Brown, W	Churn	May 11, 1858	I.
	Brown, Wightman, and John F. Smith. (See Smith & Brown.)			
20932	Brown, William	Washing-machine	July 20, 1858	XVII.
	Brown, William G. (See Sawyer, Robert, assignor.)			
	Browne, Albert G., *et al.* (See Gray, William H., assignor.)			
19542	Browne, John H	Skins, artificial, manufactory of	March 9, 1858	XVI.
	Bruce, David, jr	Type-casting machines	June 30, 1858	Extension.
985	Bruce, George	Types	Jan. 19, 1858	Design.
1006	Bruce, George	Types, set of printing	May 25, 1858	Design.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
1014	Bruce, George	Types, printers'	June 15, 1858	Design.
1033	Bruce, George	Types, printers'	Aug. 10, 1858	Design.
1054	Bruff, Richard P., and Charles and G. A. Seaver	Marks, trade	Oct. 5, 1858	Design.
21316	Brumfield, O. H. S	Drills, seed	Aug. 31, 1858	I.
19676	Bruns, Adolphus	Carriages, &c., securing the wheels of	March 23, 1858	X.
20515	Brush, A. G	Churns, operating	June 15, 1858	I.
22158	Bryant, Henry, and R. D. O. Smith	Photographic plate shield	Dec. 1, 1858	XVIII.
601	Bryant, Joel	Ship-board, hoisting winches for	Sept. 21, 1858	Reissue.
22159	Bryant, Joel	Scissors	Dec. 1, 1858	XXI.
21018	Bryden, E. O	Drills, wheat	July 27, 1858	I.
20620	Bryent, assignor to Daniel D. Badger	Railroad track and cast-iron pavement combined	June 22, 1858	IX.
1063	Bryson, R	Harvesters, grain and grass	Aug. 3, 1848	I.
19482	Buchanan, Andrew	Paddle-wheels	March 2, 1858	VII.
21938	Buchanan, J. H	Stoves	Nov. 2, 1858	V.
20546	Buchannan, C. S	Boilers, rotary, mode of heating	June 15, 1858	V.
19234	Bucklin, Moses	Cultivator teeth	Feb. 2, 1858	I.
527	Buckman, Ira	Gun walking-stick	Feb. 16, 1858	Reissue.
21230	Buel, J. S., and W. T. Barnes, assignors to J. Forsyth, R. D. Rockwell, V. M. Rice, and W. T. Barnes.	Sewing-machines	Aug. 17, 1858	III.
19810	Bulkley, H. C., assignor to James M. Ross	Car wheels, railroad	Mar. 30, 1858	X.
21185	Bulkley, H. G	Heating apparatus, steam	Aug. 17, 1858	V.
	Bullard, Charles H. (See Gordon, Thos., assignor.)			
19980	Bullard, Silas	Sleds, runners of	April 20, 1858	X.
22345	Bullock, Chester	Harvesters	Dec 21, 1858	I.
21317	Bullock, James A., and Thomas J. Bottoms	Presses, cotton	Aug. 31, 1858	XII.
21591	Bullock, William, assignor to Geo. W. Taylor	Printing presses, automatic paper-feeder for	Sept. 21, 1858	XVIII.
20861	Bumgarner, J. R., and L. White	Hides and leather, machine for dressing	July 13, 1858	XVI.
	Bumgarner & White. (See White, L. and J. T. Bumgarner.)			
21871	Bump, James H	Churns	Oct. 26, 1858	I.
21813	Bunce, Benjamin	Valves, cut-off, for steam engines	Oct. 19, 1858	VI.
20323	Bunce, J. T	Lathes	May 25, 1858	XIV.
21872	Bunce, William	Splints, extension	Oct. 26, 1858	XX.
21595	Bunsen, George C., and Cyrus Roberts	Seeding-machines	Sept. 28, 1858	I.
20862	Burbank, A	Propeller for canal boats	July 13, 1858	VII.
	Burbank, John A., and Thomas Dugdale. (See Dugdale, Thomas A., assignor.)			
19731	Burckle, Franz, assignor to Edward H. Ashcroft	Gauges, steam	Mar. 23, 1858	VI.
193	Burdge, Jonathan	Mills, cutting flour	Mar. 9, 1858	Add'l imp't.
	Burdick, Hatfield, & Cloud. (See Cloud, Hatfield, & Burdick.)			
20138	Burdick, F. & L	Hulling rice, machines for	May 4, 1858	I.
20933	Burdine, A. H	Saws, gin, machinery for sharpening	July 20, 1858	II.
21483	Burdine, A. H	Saw filer	Sept. 14, 1858	II.
19068	Burghart, William	Guns, needle	Jan. 12, 1858	XIX.
21114	Burk, N	Leather into bales, machines for rolling	Aug. 10, 1858	XVI.
	Burke, Edmund, *et al.* (See Turner, Josiah, assignor.)			
22013	Burke, John M	Ploughs	Nov. 9, 1858	I.
20478	Burket, George	Bedstead fastenings	June 8, 1858	XVII.
19618	Burling, Benjamin	Life preserving buoy	Mar. 16, 1858	VII.
21862	Burlingame, Stephen S., assignor to himself and William Taylor.	Lock, bank	Oct. 19, 1858	II.
21318	Burnell, Levi	Pump, rotary	Aug. 31, 1858	XI.
211	Burnell, Levi	Pump, rotary	Dec. 14, 1858	Add'l imp't.
22160	Burnet, Serrington S., and William Broderick	Sewing-machines	Dec. 1, 1858	III.
21649	Burnett, William	Pencil sharpener, slate	Oct. 5, 1858	XVIII.
19400	Burnett, William, assignor to Seth Adams	Gauge, steam pressure	Feb. 16, 1858	VI.
20841	Burnham, A., assignor to himself and Jas. M. Cook	Railway bridge signalizer	July 6, 1858	IX.
21939	Burnham, C. E	Hinge, gate	Nov. 2, 1858	II.
	Burnham, Charles, and William W. Wade. (See Wade & Burnham.)			
	Burns, D. H., and A. Lapham. (See Lapham & Burns.)			
21243	Burns, J	Addometer	Aug. 24, 1858	VIII.
20547	Burnside, S	Seeding-machines	June 15, 1858	I.
	Burr, Condit, Swift, Barnum, & Carr. (See Frost & Monroe, assignors.)			
	Burr, Samuel J., and H. F. Read. (See Read, H. F., assignor.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20035	Burrall, Thomas D	Mowing-machines	April 27, 1858	I.
20139	Burridge and Post	Car couplings, railroad	May 4, 1858	X.
21940	Burson, W. W	Harvester, raking attachment to	Nov. 2, 1858	I.
19408	Burt, George E., and George F. Wright	Horse powers, &c., wheel and axle attachment of	Feb. 23, 1858	XIII.
22161	Burt, Henry	Eggs, apparatus for assorting	Dec. 1, 1858	XVII.
	Burton, Charles E., *et al.* (See Reed, Henry G., assignor.)			
19069	Burton, J. D	Bureau and washstands, construction of	Jan. 12, 1858	XVII.
20621	Burton, J. D	Refrigerator	June 22, 1858	XVII.
20988	Burtis, P. T	Gasometers, method of counterpoising	July 27, 1858	IV.
21064	Bush, W	Fence, metallic	Aug. 3, 1858	IX.
20605	Bussell, E. T., assignor to Wambaugh, Brothers, & Co.	Cultivators, rotary	June 15, 1858	I.
19183	Bussell, Erastus T	Power, machinery for obtaining and preserving, from trains while passing railway stations.	Jan. 26, 1858	XIII.
21814	Bussell, Erastus T., and Joseph Smith	Gauge, liquid	Oct. 19, 1858	XI.
20697	Butcher, W. A	Coating metallic surfaces	June 29, 1858	IV.
19345	Butler, Derwin, E	Musical instruments, device for cutting key-boards for.	Feb. 16, 1858	XVIII.
22107	Butler, Derwin E	Sawing machines, felloe, devices for clamping and feeding the bolt in.	Nov. 23, 1858	XIV.
21115	Butler, F. M	Chimneys, wind-guard for	Aug. 10, 1858	V.
22151	Butler, J. M	Wells, apparatus for boring	Nov. 23, 1858	IX.
19235	Butler, Thomas B	Cloth, felt, mode of forming the bat for making.	Feb. 2, 1858	III.
21116	Butler, Thomas B	Wool, &c., operating the teeth of cylinders for burring.	Aug. 10, 1858	III.
21164	Butler, Thomas B., assignor to Lounsbury, Bissell, & Co.	Felting, machinery for forming bats for	Aug. 10, 1858	III.
	Butler, W. H., and Valentine. (See Gale, W. S., assignor.)			
21319	Butler, W. S	Shears, manufacturing	Aug. 31, 1858	II.
20479	Butter, John	Mowing-machine	June 8, 1858	I.
	Butterfield & Pearson. (See Batchelder, Asahel, assignor.)			
19483	Butterfield, J. S	Harvester	Mar. 2, 1858	I.
22162	Button, Lysander, and Robert Blake	Fire-engine	Dec. 1, 1858	V.
19404	Butts, L. A	Planters, seed	Feb. 23, 1858	I.
19910	Buzzell, David	Car seats, railroad	April 13, 1858	X.
21320	Buzzell, David	Chair, recumbent	Aug. 31, 1858	XVII.
21794	Byam, E. G. and B. E. P., assignors to E. and E. G. Byam, and S. A. Carlton.	Match cards, rack for holding	Oct. 12, 1858	XXII.
21650	Byrne, Oliver, and J. G. Elliot	Propeller, screw	Oct. 5, 1858	VII.
20989	Cady, J. L., assignor to J. B. and W. W. Cornell & Co.	Safes, plates for burglar proof	July 27, 1858	V.
554	Cahoon, C. W., assignor to J. B. Cahoon and D. H. Furbish.	Seeding-machine	May 11, 1858	Reissue.
21321	Calhoun, Alexander	Printers' composing-sticks	Aug. 31, 1858	XVIII.
20549	Calkins, G. W., and H. White	Kilns, lime	June 15, 1858	XV.
	Calvert, Francis A., and Charles G. Sargent. (See Sargent & Calvert.)			
	Cameron, George L. (See Moore & Cameron.)			
22014	Cameron, William	Pressing tobacco, machinery for	Nov. 9, 1858	XII.
	Campbell, A., and Gerard Bancker. (See Bancker & Campbell.)			
21548	Campbell, C	Truss-pads	Sept. 21, 1858	XX.
20760	Campbell, Ethan, assignor to Henry Thayer	Rectifying, apparatus for	June 29, 1858	IV.
21244	Campbell, J., V. B. Lighthizer, and P. Shannon	Cars, railroad, coupling for	Aug. 24, 1858	X.
21173	Campbell, J. W	Gilding, machine for preparing frames for	Aug. 10, 1858	XVIII.
21484	Campbell, James A	Printing-presses	Sept. 14, 1858	XVIII.
22062	Campbell, R. A	Hay fed to stock, device for saving the seed from	Nov. 16, 1858	I.
	Campbell, William, John M. Smith, *et al.* (See Weatherhead & Henry, assignors.)			
20548	Came, J. E., and L. Haven	Billiard-tables, pocket-supporters for	June 15, 1858	XXII.
22263	Came, John E., assignor to himself and James E. Came.	Billiard-table cushion	Dec. 7, 1858	XXII.
19346	Camp, Herman	Boats, propelling canal	Feb. 16, 1858	VII.
22346	Camp, M. M	Propeller for life-boats	Dec. 21, 1858	VII.
20018	Cannon, Francis A., assignor to John Phillips	Smoothing and polishing irons	April 20, 1858	XVII.
21409	Cannon, John R	Chairs, cane-seats for	Sept. 9, 1858	XVII.
20467	Carey, A. C., assignor to himself and A. B. Ely	Planters, corn	June 1, 1858	I.
21815	Carey, Augustus C	Carpet-sweepers	Oct. 19, 1858	XVII.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21485	Carey, Joseph C	Lantern attachment to caps	Sept. 14, 1858	V.
19491	Carhart, Peter S	Fence, field	Mar. 2, 1858	IX.
21549	Carhart, Peter S	Fence, portable field	Sept. 21, 1858	IX.
20759	Carhart, S., & W. Moore, assignors to themselves and J. H McWilliams.	Fastener, sash	June 29, 1858	II.
19484	Carley, Benjamin	Valves, steam, eccentric for operating	Mar. 2, 1858	VI.
19619	Carlisle, Charles, and Leonard Worcester	Planing blind slats, machine for	Mar. 16, 1858	XIV.
	Carlton, S. A , *et al.* (See Byam & Parkhurst, assignors.			
19236	Carnell, Charles	Brick-machines	Feb. 2, 1858	XV.
	Carpenter, C., jr., and E. Shaw. (See Shaw & Carpenter, assignors.)			
20824	Carpenter, Daniel H	Lamp burners, vapor	May 25, 1858	V.
21651	Carpenter, J. D. C	Saws, circular, deflecting plates of	Oct. 5, 1858	XIV.
20990	Carpenter, L	Sewing-machines	July 27, 1858	III.
	Carpenter, Luman, & D. Wheeler. (See Wheeler & Carpenter.)			
19132	Carpenter, S. D	Electro-magnetic batteries to car-brakes, application of.	Jan. 19, 1858	VIII.
20252	Carpenter, Samuel	Time-keepers, escapement for	May 18, 1858	VIII.
20141	Carpenter, T	Nails, horse-shoe, machine for making	May 4, 1858	II.
20480	Carpenter, W. B	Ornaments to the car, mode of attaching	June 8, 1858	XVIII.
	Carr, Condit, Swift, Barnum, & Burr. (See Frost & Monroe, assignors)			
19013	Carr, William S	Cocks, supply	Jan. 5, 1858	XI.
20142	Carr, William S	Closet, water	May 4, 1858	IX.
20550	Carr, William S	Basins, water-closet, attachment of pipes to	June 15, 1858	XVII.
	Carrier, C. (See Crozier & Carrier)			
20863	Carrier, J. P	Chair, rocking	July 13, 1858	XVII.
21739	Carrington, C. H. & S. E	Cultivator	Oct. 12, 1858	I.
19485	Carter, Henry	Bolt-machine	March 2, 1858	II.
	Carver, Eleazor	Gins, cotton	Dec. 27, 1858	Extension.
	Carver, Phelps, & Lown. (See Richmond & Pittock, assignors.)			
623	Case, Jarvis	Planter, seed	Nov. 16, 1858	Reissue.
22228	Case, Jarvis, assignor to himself and William Baldwin.	Planters, seed	Dec, 7, 1858	I.
	Case, Philip. (See Whitney, Chauncy B., assignor.)			
20622	Case, S. C	Car-seats and berths, railroad	June 22, 1858	X.
19911	Cassell, Henry	Washing-machine	April 13, 1858	XVII.
20698	Casselli, Giovani	Telepraph, pantographic	June 29, 1858	VIII.
551	Castle, O L	Arithmometer for adding	May 11, 1858	Reissue.
21941	Castle, O. L	Arithmometer for addition	Nov. 2, 1858	VIII.
19070	Castle, S. P	Stump-extractors	Jan. 12, 1858	IX.
19128	Cavett, Edwin P	Sawing lumber, device for adjusting two circular saws to the same plane in.	Jan. 19, 1858	XIV.
20253	Cawthra, Joseph	Corn husker	May 18, 1858	I.
20404	Chadwick, W. P	Mantle-bar	June 1, 1858	V.
21942	Chadwick, William, and S. J. B. Anderson	Railroad ditching-machine	Nov. 2, 1858	IX.
20325	Chafee, V. M	Harrow	May 25, 1858	I.
19347	Chaffee, Edwin M	Mat, door, India rubber	Feb. 16, 1858	XVII.
21793	Chaffee, S. B., for himself and as administrator of S. M. Chaffee.	Looms for weaving hair-cloth	Oct. 12, 1858	III.
	Challiner, David. (See Reighard, Jacob H., assignor.)			
	Chalmers, Gates, & Fraser. (See Gates, Fraser, & Chalmers.)			
19543	Chamberlin, C. A	Mining coal, &c., machine for	March 9, 1858	IX.
21817	Chandler, J	Iron, sheet, manufacture of	Oct. 19, 1858	II.
19620	Chandler, T. A	Plane, joiners' bevelling	March 16, 1858	XIV.
20036	Chapin, P	Screws, machine for cutting	April 27, 1858	II.
22108	Chapman, H. E	Leather, machine for splitting	Nov. 23, 1858	XVI.
22229	Chapman, Henry E	Car-brakes, railroad	Dec. 7, 1858	X.
21065	Chapman, J	Motion, converting reciprocating into rotary	Aug. 3, 1858	XIII.
	Chapman, J. E. (See Reed & Chapman.)			
22470	Chapman, Joseph L , assignor to himself and George Chapman.	Buckle, turn, for window blinds	Dec. 28, 1858	II.
19238	Chapman, M	Bread-cutter	Feb. 2, 1858	XVII.
19071	Chapman, Nathan	Press, cotton	Jan. 12, 1858	XII.
	Chapman, R. (See Huggins & Chapman.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19748	Chapman, W. Z. W	Paper-files	March 30, 1858	XVIII.
20143	Charlton, James	Planters, seed	May 4, 1858	I.
20405	Charter, O	Fastener, sash	June 1, 1858	II.
	Chase & Fuller. (See Willis, N. J., assignor.)			
	Chase, North, & North. (See North, Gibson, assignor.)			
	Chase, North, & North. (See Smith & Brown, assignors.)			
	Chase, Samuel F. (See Boyd, Amos H., assignor.)			
22015	Chase, Thomas G	Paper and other fabrics incorrodible, rendering	Nov. 9, 1858	IV.
21596	Cheever, John H	Belting-machine	Sept. 28, 1858	XIII.
19749	Chenoweth, George E	Harvesters	March 30, 1858	I.
	Chepey, Charles. (See Demeure, Pierre.)			
20057	Chesbro, Gilbert H	Cloth, elastic, device for turning down the edges of.	April 27, 1858	III.
19681	Chesley, P. H	Meat-choppers	March 23, 1858	XVII.
20917	Chester, J. H., assignor to M. A. Chester	Heating buildings, &c., by combustion of gas or alcohol radiator for.	July 13, 1858	V.
21818	Chestnut, Benjamin	Clothes lines, post for	Oct. 19, 1858	XVI.
	Cheviron, Auguste. (See Malbert & Cheviron.)			
19324	Chichester, Lewis J., assignor to Henry G. Evans, Samuel Barstow, and David L. Wintringham.	Cotton gin	Feb. 9, 1858	III.
21795	Chichester, Lewis, assignor to Henry G. Evans	Gins, cotton	Oct. 12, 1858	III.
19981	Chichester, Samuel	Pump and gasometer, compound air	April 20, 1858	XI.
21719	Chilcott, J., and James Scrimgeour, assignors to themselves and George F. Taylor.	Aquaria, construction of	Oct. 5, 1858	XXII.
	Child, Brokaw, & Warder. (See Brokaw, John W., assignor.)			
	Child, Brokaw, & Warder. (See Harding, Thomas, assignor.			
19683	Child, John	Furnace, hot-air	March 23, 1858	V.
19486	Childs, Willis L	Harvester	March 2, 1858	I.

22347	Chorman, E. G	Ellipsograph	Dec. 21, 1858	VIII.
21408	Christian, T	Window-blinds, operating	Sept. 7, 1858	IX.
19488	Christian, Theodore	Window-blinds, operating	Mar. 2, 1858	IX.
20623	Christman, T. F	Raising marl, dirt, &c., machine for	June 22, 1858	XII.
19014	Church, A. C	Paint vehicles	Jan. 5, 1858	IV.
22109	Churchman, W. H	Heating and ventilating buildings, apparatus for	Nov. 23, 1858	V.
21816	Clampitt, Elias	Lubricator	Oct. 19, 1858	XII.
21550	Clapp, M. R	Pump, rotary	Sept. 21, 1858	XI.
19912	Clapp, Perez C	Boot-tops, circular, machine for trimming the edges of.	April 13, 1858	XVI.
19829	Clare, N., and J. Quigley	Augers, &c., method of attaching expansible cutting-lips to.	April 6, 1858	XIV.
	Clark, Lindsey, & Moore. (See Moore, Clark, & Lindsey.)			
	Clark, Shaw, & Giveen. (See Shaw, Clark, & Giveen.)			
	Clark & Singer (See Morey & Johnsons, assignors.)			
19621	Clark, Abner	Boilers, steam	Mar. 16, 1858	VI.
	Clark, Alvan, & Sons. (See Vander Woerd, Chas., assignor.)			
20326	Clark, C. L	Hygrometers, device for actuating the index in	May 25, 1858	VIII.
19622	Clark, Charles B	Vise	Mar. 16, 1858	II.
21245	Clark, Charles D	Grain, cooling and ventilating, apparatus for	Aug. 24, 1858	V.
19015	Clark, D. W	Sewing-machines	Jan. 5, 1858	III.
19072	Clark, D. W	Sewing-machines	Jan. 12, 1858	III.
19529	Clark, D. W	Sewing-machines	Jan. 19, 1858	III.
19409	Clark, D. W	Sewing-machines	Feb. 23, 1858	III.
20481	Clark, D. W	Sewing-machines	June 8, 1858	III.
21322	Clark, D. W	Sewing-machines	Aug. 31, 1858	III.
19732	Clark, D. W., assignor to H. L. Clark	Sewing-machines	Mar. 23, 1858	III.
19016	Clark, Edwin	Mills, flouring	Jan. 5, 1858	XIII.
20329	Clark, Edwin	Mill, flouring	May 25, 1858	XIII.
21796	Clark, Edward, assignor to W. H. Dolson	Cans for preserving paint, &c	Oct. 12, 1858	II.
1058	Clark, Ezra, assignor to Seth Clark	Tablets, cast metal	Oct. 26, 1858	Design.
19623	Clark, Gardner G	Rolls, calender	Mar. 16, 1858	III.
	Clark, James. (See Shaw & Clark.)			
	Clark, James J. (See Francis, Jerome B., assignor.)			
22063	Clark, James J	Forceps, tooth, mode of connecting electro-magnetic apparatus with.	Nov. 16, 1858	XX.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20327	Clark, James M	Mills, flouring	May 25, 1858	XIII.
21819	Clark, John L	Water-coolers, arrangement of means for making tight joints around the faucets of.	Oct. 19, 1858	XVII.
22276	Clark, John S	Stoves	Dec. 14, 1858	V.
	Clark, John S., and Washington Harris. (See Beesley, J., assignor.)			
22277	Clark, John S., and Washington Harris	Stoves	Dec. 14, 1858	V.
21820	Clark, Josiah P	Hammers	Oct. 19, 1858	II.
20328	Clark, P. C	Paddle, reciprocating	May 25, 1858	VII.
	Clark, W. A. (See Heaton & Clark.)			
20192	Clark, W. A	Bits, expansive, method of securing the movable cutter in.	May 11, 1858	XIV.
21597	Clark, W. A	Bit, expansive	Sept. 28, 1858	XIV.
19544	Clark, William	Bedstead-fastening	Mar. 9, 1858	XVII.
20039	Clarkson, W. W	Printing-press, card	April 27, 1858	XVIII.
	Clary, William C., and William Hawkins. (See Hawkins & Clary.)			
22348	Claude, E	Fire-arm, breech-loading revolving	Dec. 21, 1858	XIX.
22349	Clawson, Henry T	Cruet, pepper	Dec. 21, 1858	XVII.
20624	Clay, George E	Lever power, mode of applying	June 22, 1858	XII.
22350	Clay, Henry T	Shingles	Dec. 21, 1858	XIV.
20193	Clay, R. J	Planters, corn	May 11, 1858	I.
994	Clayton, Charles H	Press stand, copying	Mar. 23, 1858	Design.
20482	Clement, E. B	Washing-machine	June 8, 1858	XVII.
22100	Clemons, Andrew B., assignor to Birmingham Iron Foundry Company.	Braiding-machine	Nov. 16, 1858	III.
20330	Clemson, W	Saws, machinery for grinding	May 25, 1858	II.
19017	Cleveland, O	Knives, plated table, bolster for	Jan. 5, 1858	II.
19893	Clime, J. C., assignor to himself and S. Rhodes	Saws, reciprocating scroll, method of grinding	April 6, 1858	XIV.
20038	Clinger, P. S., and C. Cremer	Straw and stalk cutters	April 27, 1858	I.
21466	Clinton, Miles L., assignor to H. F. Hibbard	Sewing-machines	Sept. 7, 1858	III.
19751	Clokey, John E	Blinds, outside, opening and closing	Mar. 30, 1858	II.
	Clothier, C. F. (See Heidrick, F., assignor.)			
19830	Cloud, W. H., A. L. Hatfield, and C. H. Burdick	Bags, clasp for fastening	April 6, 1858	XII.
19750	Clough, William	Lubricator for railroad axles	Mar. 30, 1858	XII.
	Clow, James B., and John Best. (See McMurtry, John, assignor.)			
22163	Clute, Nicholas	Harvesters	Dec. 1, 1858	I.
19684	Coates, Fayette S	Sewing-machines	Mar. 23, 1858	III.
19686	Coates, S	Gas-generators, method of cleansing	Mar. 23, 1858	IV.
	Cobb, E. G., and S. E. Pettee. (See Pettee & Cobb.)			
20777	Cobb, Z	Railroad-car seats and berths	July 6, 1858	X.
19685	Cochran, John W	Tunnels, metallic, mode of connecting the sections of.	Mar. 23, 1858	IX.
20331	Cochran, John W	Lubricating car-axles	May 25, 1858	XII.
20406	Cochran, John W	Lubricating car-axles	June 1, 1858	XII.
21652	Cochran, J. W	Axles, car, lubricating	Oct. 5, 1858	X.
21943	Cochran, John W	Axle-boxes, car	Nov. 2, 1858	X.
22412	Cochran, John W	Fire-arm, revolving	Dec. 28, 1858	XIX.
22103	Cochrane, John	Rails for railroads	Nov. 16, 1858	IX.
19831	Cockburn, John	Pen and pencil cases	April 6, 1858	XVIII.
21598	Cockley, D	Ploughs	Sept. 28, 1858	I.
19489	Coe, Orman	Harrows	Mar. 2, 1858	I.
20407	Coes, A. J	Pipe-tong	June 1, 1858	II.
	Coffeen, M. (See Angel & Coffeen.)			
	Coffin, Hay, & Wilmarth. (See Wilmarth, Hay, & Coffin.)			
* 537	Coffin, Isaac N	Lamps, lard	Mar. 16, 1858	Reissue.
22413	Coffinbury, Wright L	Clocks, compensating pendulum for	Dec. 29, 1858	VIII.
20194	Cogswell, Henry	Buttons, sleeve, fastening for	May 11, 1858	XXI.
19018	Cohen, Emil	Husking and shelling glove	Jan. 5, 1858	I.
19110	Colburn, George S., assignor to Cyrus Wakefield	Ratan machines, device for retaining in proper position the splitting-knife in.	Jan. 12, 1858	XIV.
21740	Colby, George J	Willow, machine for peeling Husking and shelling-glove	Oct. 12, 1858	XXII.
19624	Cole, Almira M	Lenses, fluid, mounting	Mar. 16, 1858	XXIII.
	Cole, E. E	Saws, circular, method of applying, for cutting off piles under water.	Sept. 6, 1858	Extension.
19752	Cole, R. H	Screw-cutting-machine	Mar. 30, 1858	II.
20043	Cole, R. H	Washers, machine for making	April 27, 1858	II.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20145	Cole, R. H.	Nut-machine	May 4, 1858	II.
21551	Cole, R. H.	Nut-machine	Sept. 21, 1858	II.
21599	Cole, R. H.	Nut-blanks, making	Sept. 28, 1858	II.
21653	Cole, Samuel W.	Washing-machine	Oct. 5, 1858	XVII.
22164	Coleman, J. M.	Valves of steam-engines, cut-off	Dec. 1, 1858	VI.
	Coleman, John (See Musser & Coleman.)			
19074	Collen ler, H. W.	Billiard-tables, cushions for	Jan. 12, 1858	XXII.
22064	Collender, H. W.	Billiard-table	Nov. 16, 1858	XXII.
	Collender, H. W. (See Phelan, Michael, assignor.)			
185	Coller, Isaac H.	File-cutting machine	Jan. 12, 1858	Add'l imp't.
20255	Collier, H. M., and H. N. Baker	Lamp, electric	Mar 18, 1858	V.
20769	Collier, Henry M.	Car-brakes, railroad	June 29, 1858	X.
	Collins, Charles, *et al.* (See Wyllys, Newell, assignor.)			
19605	Collins, D., assignor to himself and W. L. Hanford.	Mills, hulling, dress of stone for	Mar. 9, 1858	XIII.
21165	Collins, J. J. G., assignor to Collins, Rhodes, & Drake.	Engines, steam	Aug. 10, 1858	VI.
19192	Collins, O. K.	Moulding for sash, machine for cutting	Mar. 2, 1858	XIV.
20144	Colt, Samuel	Fire-arm, revolving	May 4, 1858	XIX.
20332	Colton, A.	Propeller-valve	May 25, 1858	VII.
20935	Colton, G. D.	Ploughs	July 20, 1858	I.
19073	Colvin, Stephen O.	Looms, power, let-off motion of	Jan. 12, 1858	III.
19019	Comfort, Samuel, jr.	Harvesters, rakes for	Jan. 5, 1858	I.
20699	Comfort, Samuel, jr.	Sewing-machine	June 29, 1858	III.
22050	Comfort, Samuel, jr., assignor to himself and Francis Jackson.	Sewing-machine	Nov. 9, 1858	III.
	Comstock, Higbie, & Link. (See King, John, assignor.)			
22016	Comstock, George R.	Propellers	Nov. 9, 1858	VII.
21654	Conant, W. C.	Carpet-stretcher	Oct. 5, 1858	XVII.
	Condit, Carr, Swift, Barnum, & Burr. (See Frost & Monroe, assignors.)			
20195	Conkey, J. C.	Harrows	May 11, 1858	I.
20354	Conklin, I. H.	Harvesters	May 25, 1858	I.
19020	Conklin, Isaac H.	Seeding-machines	Jan. 5, 1858	I.
20408	Conklin, J. L., sr., and J. Froust	Washing-machine	June 1, 1858	XVII.
21323	Conklin, S., and G. Newton	Seeding-machines	Aug. 31, 1858	I.
21534	Conkling, Gurdon, assignor to W. T. Conkling	Vessels, mode of launching	Sept. 14, 1858	VII.
19670	Conkling, Nathaniel	Ore, machine for crushing	Mar 16, 1858	II.
	Connel, J. M., *et al.* (See Lawrence, H., assignor.)			
19021	Connel, James M.	Car-coupling, railroad	Jan. 5, 1858	X.
19075	Connel, James M. and John	Blacking boots, shoes, &c., machine for	Jan. 12, 1858	XVII.
20040	Conner, Eli T.	Railroad crossings, frogs for	April 27, 1858	IX.
1009	Conner, James	Types, a font of	June 1, 1858	Design.
1020	Conner, James	Types	July 6, 1858	Design.
1021	Conner, James	Types, printers'	July 6, 1858	Design.
1022	Conner, James	Types, printers'	July 6, 1858	Design.
1064	Conner, James	Types, script	Nov. 16, 1858	Design.
19982	Conroy, Edward	Cutters, rotary, sharpening, device for	April 20, 1858	XIV.
21944	Conroy, Edward	Corks, machine for cutting	Nov. 2, 1858	XXII.
20631	Cook, D. M.	Evaporating cane-juice, pans for	June 22, 1858	IV.
19490	Cook, Frederick	Bales, cotton, metallic ties for	Mar. 2, 1858	XII.
	Cooke, Benjamin F., *et al.* (See Mayall, Thomas, assignor.)			
21166	Cooke, James C.	Hose-coupling	Dec. 1, 1858	XI.
	Cooke, James C., and L. B. Cooley. (See Cooley & Cooke.)			
22165	Cooley, Asahel	Pumps	Nov. 30, 1858	XI.
19625	Cooley, L. B., and James C. Cooke	Hose, textile, manufacture of	Mar. 16, 1858	III.
595	Cooley, L. B., and James C. Cooke, assignors to L. B. Cooley, S. Babcock, and James C. Cooke.	Hose, textile, manufacture of	Aug. 31, 1858	Reissue.
	Coontz, Charles W., and William H. May. (See May & Coontz.)			
20700	Cooper, G. W.	Tire, upsetting	June 29, 1858	II.
22167	Cooper, George	Turning hubs, arrangement of cutters for	Dec. 1, 1858	XIV.
21741	Cooper, George E.	Harvesters	Oct. 12, 1858	I.
20625	Cooper, John H.	Gas-regulators	June 22, 1858	IV.
21742	Cooper, William	Stone, machine for dressing	Oct. 12, 1858	XV.
19410	Coover, Jacob.	Bed-bottoms, spring	Feb. 23, 1858	XVII.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21873	Cope, Ezra	Engines, steam-pumping	Oct. 26, 1858	VI.
19680	Cope, Ezra, and Isaac W. Bragg	Pumps, oscillating	Mar. 23, 1858	XI.
	Copeland, Charles W. (See How & Copeland.)			
	Copeland, Josiah, assignor to J. M. Reed, assignor to Josiah Copeland.	Boot-crimps	Jan. 11, 1858	Extension.
19833	Coppin, D. G	Planters, hand corn	April 6, 1858	I.
21923	Corbelli, Luigi Ferrari, and Vincent Riatti, assignors to C. F. Corbelli.	Aluminum, or calomel, manufacture of	Oct. 26, 1858	IV.
21922	Corbelli, Luigi Ferrari, and Vincent Riatti, assignors to C. F. Corbelli.	Aluminum, preparation of	Oct. 26, 1858	IV.
	Corbin, Lewis A., and Cyrus White. (See Puffer, Milton G., assignor.)			
20628	Corbin, R. B., and James Morris	Harvesters, corn	June 22, 1858	I.
	Cordis, Francis T., and William W. Wade. (See Wade & Cordis.)			
20333	Corey, A	Alarm-locks, burglars'	May 25, 1858	XXII.
21488	Corey, Alfred B	Warp dressing-guides	Sept. 14, 1858	III.
21487	Corey, Alfred B	Warp dresser-guides of glass or other plastic anti-corrosive material, moulds for making.	Sept. 14, 1858	III.
21486	Corey, J. W	Car-couplings, railroad	Sept. 14, 1858	X.
20626	Cornelius, R	Gas-burner	June 22, 1858	V.
19487	Cornell, Birdsall	Lathing, continuous metallic	July 2, 1858	IX.
	Cornell, J. B & W. W., & Co. (See Cady, J. L., assignor.)			
19076	Cornell, John B	Hinge-eye for shutters	Jan. 12, 1858	II.
19348	Cornell, John B	Window-shutters, metallic	Feb. 16, 1858	IX.
19682	Cornell, John B	Ceiling, fire-proof	Mar. 23, 1858	IX.
20484	Cornell, John B	Steps, &c., admitting light and air through	June 8, 1858	IX.
20629	Cornell, John B	Lath, metallic	June 22, 1858	IX.
576	Cornell, John B	Lathing surface, continuous sheet metal	Aug. 3, 1858	Reissue.
21119	Cornell, John B	Safe-doors, safety-guard for	Aug. 10, 1858	V.
21118	Cornell, John B	Lath surface, metallic	Aug. 10, 1858	IX.
596	Cornell, John B	Pavement, side-walk	Sept. 7, 1858	Reissue.
20630	Cornell, W. W	Shutters, metallic rolling	June 22, 1858	IX.
19983	Cosby, R. M	Sawing-machine, cross-cut	April 20, 1858	XIV.
20627	Cotter, C. B	Car-couplings	June 22, 1858	X.
22351	Cotton, P. H	Cans, preserve	Dec. 21, 1858	XVII.
22414	Cotton, S. R	Printing-press	Dec. 28, 1858	XVIII.
21720	Cottrell, C. B., assignor to himself and Nathan Babcock.	Planing wood, machine for	Oct. 5, 1858	XIV.
20409	Cottrill, James	Sewing-needles	June 1, 1858	III.
19133	Coutie, William	Rope-machine	Jan. 19, 1858	III.
	Covell, E. H. (See Marsh, A., assignor.)			
21655	Covert, Henry W	Locks, cam for throwing bolt in	Oct. 5, 1858	II.
19753	Cowley, Asahel	Rake, horse hay	Mar. 30, 1858	I.
20041	Cox, C	Fire-arm, breech-loading	April 27, 1858	XIX.
19545	Cox, Hamilton J	Mills, sugar and cider	Mar. 9, 1858	XIII.
19832	Cox, O	Pocket-book, &c., method of securing	April 6, 1858	XXII.
20042	Cox, W. H	Trap, rat	April 27, 1858	XXII.
21945	Cox, William R	Grain-separators	Nov. 2, 1858	I.
22327	Cradit, Nathaniel, assignor to Chester G. Robinson	Lamps	Dec. 14, 1858	V.
19349	Craine, George	Shingle-machine	Feb. 16, 1858	XIV.
20239	Cram, S. B., and C. Weed, assignors to S. B. Cram.	Steering-apparatus	May 11, 1858	VII.
19351	Crane, A. D	Clock, public	Feb. 16, 1858	VIII.
21743	Crane, Amazi	Streets, machine for sweeping	Oct. 12, 1858	XXII.
	Crane, E. (See Barnes, E., assignor.)			
19131	Crane, John E	Chain cable stoppers	Jan. 19, 1858	VII.
19130	Crane, S. G	Plane, crozing	Jan. 19, 1858	XIV.
604	Crary, James	Shingle-machine	Sept. 28, 1858	Reissue
21186	Crary, J. W	Brick machines	Aug. 17, 1858	XV.
20146	Crary, John W	Brick-kilns	May. 4, 1858	XV.
19077	Cravath, M. A	Ploughs, gang	Jan. 12, 1858	I.
19754	Crawford, D	Soap, manufacture of	Mar. 30, 1858	IX.
212	Crawford, Dalrymple	Soap, manufacture of	Dec. 14, 1858	Add'l imp't.
21552	Crawford, Peter S	Harvesters, raking-attachment for	Sept. 21, 1858	I.
20936	Crawshaw, J	Boots and shoes, machine for cutting out the soles of.	July 20, 1858	XVI.
22065	Crawshaw, John	Looms, power	Nov. 16, 1858	III.
21744	Creager, Jonathan	Shingle-machine, circular sawing	Oct. 12, 1858	XIV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19111	Cremer, John B, assignor to himself and S. Dwight Humphrey.	Safe, match	Jan. 12, 1858	V.
	Cremer, C. (See Clinger & Cremer.)			
20254	Creighton, J. B	Cars, railroad, for day and night service	May 18, 1858	X.
602	Creighton, J. B	Cars, railroad, for day and night service	Sept. 21, 1858	Reissue.
21600	Creighton, J. B	Cars, railroad, couches for	Sept. 28, 1858	X.
	Cresson, Stuart, & Peterson. (See Delany & Martino, assignors.)			
	Cridge, Wadsworth, & Co. (See Mackintosh & Wadsworth, assignors.)			
1059	Cridge, E J	Stoves	Nov. 2, 1858	Design.
610	Croll, Alexander Angus	Gas-metres	Oct. 5, 1858	Reissue.
19546	Croley, Charles	Billiard-table tops or beds	Mar. 9, 1858	XXII.
19755	Croley, Charles	Billiard-table, folding	Mar. 30, 1858	XXII.
20044	Crompton, George	Looms	April 27, 1858	III.
639	Crompton, George	Looms for weaving figured fabrics	Dec. 28, 1858	Reissue.
	Cronk, James E, and James A. Disbrow. (See Disbrow and Cronk.			
20778	Cronk, M. C	Bottles, stoppers for	July 6, 1858	XXII.
548	Crook, Charles	Harvesters	May 4, 1858	Reissue.
19913	Crook, William	Mowing-machines	April 13, 1858	I.
19134	Crosby, Addison	Engines, steam, variable cut-off for	Jan. 19, 1858	VI.
21745	Crosby, Chauncy O	Sewing-machines	Oct. 12, 1858	III.
19287	Crosby, Robert R	Lamps, hydro-carbon vapor	Feb. 9, 1858	V.
533	Crossett, Isaac	Barrels and other casks, machinery for making	Mar. 2, 1858	Reissue.
	Crossett, Isaac	Barrels and other casks, machinery for making	June 29, 1858	Extension.
	Crossfield, K., *et al.* (See Ball, Thomas C., assignor.)			
19350	Crossman, C. P., and E. M. Quimby	Life-preserving mattress	Feb. 16, 1858	VII.
20937	Crossman, L., and S. Atkinson	Locomotive engines, fire boxes for	July 20, 1858	VI.
20864	Crozier, A. H	Barrel-heads, machinery for cutting	July 13, 1858	XIV.
21117	Crozier, A. H., and C. Carrier	Barrels, machinery for chamfering and crozing	Aug. 10, 1858	XIV.

21821	Cuckler, C. K	Collars, horse	Oct. 19, 1858	XVI.
21231	Culver, E., jr., assignor to himself and S. M. Blackwell.	Clothes-horse	Aug. 17, 1858	XVII.
	Culver, L. (See Herrick, H. H., assignor.)			
22278	Culver, Stephen	Pots, tea and coffee	Dec. 14, 1858	XVII.
22352	Cumberland, John, and James R. McClintock	Buckles	Dec. 21, 1858	XVI.
20991	Cumming, D.	Axle boxes, &c	July 27, 1858	X.
21044	Cumming, D., jr., assignor to D. Cumming, sr.	Mangles	July 27, 1858	XVII.
20045	Cumming, David	Blowing apparatus	April 27, 1858	XI.
	Cummings, A. (See Storm, W. Mt., assignor.)			
20256	Cummings, Allan	Ballot-boxes	May 18, 1858	XXII.
20046	Cummings, G. N	Spectacle frames, joint for	April 27, 1858	VIII.
20468	Cummings, G. W., assignor to D. K. Jackman and Joseph Hanna.	Car-brakes, railroad	June 1, 1858	X.
20551	Cummings, L. L	Presses, hay and cotton	June 15, 1858	XII.
20938	Cuppers, Gustavus	Rubber goods, hard, manufacture of	July 20, 1858	IV.
588	Cuppers, Gustavus	Rubber goods, hard, manufacture of	Aug. 24, 1858	Reissue.
	Currie, Steffie, & Horton, assignors. (See Steffie, Horton, & Currie.)			
20632	Currier, Charles	Button holes, implement for cutting	June 22, 1858	XXI.
19352	Currier, Thomas W	Chairs, rocking	Feb. 16, 1858	XVII.
19411	Curtis, George S	Harvester	Feb. 23, 1858	I.
22279	Curtis, S. S	Excavator	Dec. 14, 1858	IX.
21553	Cushing, G. W	Roofing cement	Sept. 21, 1858	IX.
21656	Custer, J. D	Signal-machine, fog	Oct. 5, 1858	VIII.
20335	Custer, John	Water-wheel	May 25, 1858	XI.
20017	Cutts, J. S	Pen, fountain	Nov. 9, 1858	XVIII.
19626	Cutting, James A., and L. H. Bradford	Photolithography	Mar. 16, 1858	XVIII.
21120	Dabol, C. L	Brakes to hand trucks, applying	Aug. 10, 1858	IX.
20865	Daggett, H. N	Bustles and skirts	July 13, 1858	XXI.
20469	Daggett, W., assignor to A. B. Davis and W. H Tolhurst.	Drill for gas-pipe	June 1, 1858	II.
19914	Dailey, Wm. F	Truss pads	April 13, 1858	XX.
19691	Dake, F. E, and J. W. Teal	Mills, hominy	Mar. 23, 1858	XIII.
20124	Dake, Frederick E., assignor to himself and Thomas E. Hunt.	Mill, sugar	April 27, 1858	XIII.
22066	Dalbey, Reuben M	Jars, sealing preserve	Nov. 16, 1858	XVII.
	Damon, E., sr., and Alonzo Warren. (See Warren & Damon.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Dana, Edward A., *et al.* (See Schenke, John P., assignor.)			
20701	Daniel, P., deceased, John F. Dunnington, administrator.	Motive power, mode of obtaining	June 29, 1858	XIII.
19756	Daniels, Clinton	Composition for tanning leather	Mar. 30, 1858	IV.
21864	Daniels, G. W., assignor to himself and A. Fuller	Screws from wire, lathe for cutting	Oct. 19, 1858	II.
22353	Dannoy, Felix	Furnaces, bagasse	Dec. 21, 1858	V.
21121	Danowsky, W. F	Gas, apparatus for purifying	Aug 10, 1858	IV.
21489	Danvers, P.	Steam-hammer	Sept. 14, 1858	VI.
19239	Darby, George	Furnaces, hot-air	Feb. 2, 1858	V.
19136	Darby, George, and J. E Young	Shingle-machine	Jan. 19, 1858	XIV.
20842	Darker, William J., assignor to J. B. Thompson	Metre, water	July 6, 1858	XI.
20147	Darling, J	Sawing cross-cut, feeding device for	May 4, 1858	XIV.
20257	Darling, J	Horse-power	May 18, 1858	XIII.
21554	Darling, Samuel	Inkstand	Sept. 21, 1858	XVIII.
	Daul, Anton, and Leopold Lankan. (See Henn, J., assignor)			
19547	Davenport, Abner B	Meat-cutter	Mar. 9, 1858	XVII.
21657	David, Henry R	Paper bags, &c., knives to cut	Oct. 5, 1858	XVIII.
22018	Davidson, C. H	Lacteal instruments	Nov. 9, 1858	XX.
20866	Davies, George	Tool for cutting cylindrical or tapering sticks	July 13, 1858	XIV.
	Davis & Henderson. (See Ball, Thomas, assignor.)			
	Davis, Sackett, & Co. (See Lancelott, J., assignor.)			
	Davis, A. S., *et al.* (See Ball, Thomas C., assignor.)			
21246	Davis, Abram	Roofing-compositions	Aug. 24, 1858	IX.
19915	Davis, A. B	Corn-sheller	April 13, 1858	I.
	Davis, A. B, and W. H. Tolhurst. (See Daggett, W., assignor.)			
19325	Davis, Abbot R., assignor to himself and B. D. Moody.	Corn-husker	Feb. 9, 1858	I.
21324	Davis, Anthony G	Sun-shades	Aug. 31, 1858	XXI.
	Davis, Edward M. (See Mason & Davis.)			
22019	Davis, Elijah D	Aquarium	Nov. 9, 1858	XXII.
	Davis, G. N., *et al.* (See Mayal, Thomas J., assignor.)			
	Davis, G., and P. Mihan. (See Mihan, P., assignor.)			
19758	Davis, G. W	Printing-press	Mar. 30, 1858	XVIII.
	Davis, Gilman, *et al.* (See Mihan, Patrick, assignor.)			
	Davis, James F., *et al.* (See, Averill, Damon R., assignor.)			
20410	Davis, John S	Harrow	June 1, 1858	I.
21187	Davis, John S	Planter, corn	Aug. 17, 1858	I.
22003	Davis, Joseph H	Mechanical movement	Nov. 2, 1858	XIII.
	Davis, L. H., and D. W. Entrikin. (See Entrikin & Davis.)			
	Davis, Lewis H., and Thomas W. McFarlan. (See McFarlan & Davis.)			
	Davis, Solon M., *et al.* (See Jones, Amos, assignor.)			
21822	Davis, T. J., and J. B. Warner	Lifting heavy weights, machinery for	Oct. 19, 1858	XII.
	Davis, Thomas W., *et al.* (See Rohr, D. E., assignor.)			
19757	Davis, William M	Steam-trap, balance	Mar. 30, 1858	VI.
19240	Dawes, Rufus	Stove	Feb. 2, 1858	V.
21823	Dawes, Rufus	Hammer-heads	Oct. 19, 1858	II.
21490	Day, A	Shingle-machine	Sept. 14, 1858	XIV.
21122	Day, A. G	Caoutchouc, treatment of	Aug. 10, 1858	IV.
620	Day, Austin G	Caoutchouc, treatment of	Nov. 9, 1858	Reissue.
	Day, Horace H. (See Solis, Richard, assignor.)			
20485	Dayton, H. G	Cans, preserve	June 8, 1858	XVII.
22354	De Charms, Richard	Carpet-fastener	Dec. 21, 1858	XVII.
19022	De Charms, Richard	Hydrant	Jan 5, 1858	XI.
22020	Decker, Levi	Billiard-table, cushion for	Nov. 9, 1858	XXII.
21555	Decrow, A. W	Alarm, burglar's	Sept. 21, 1858	XXII.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19548	Dederick, Levi	Journal boxes of connecting rods or pitmen, mode of lightning or securing the keys of.	Mar. 9, 1858	X.
21491	Defenbaugh, A	Plough, mole	Sept. 14, 1858	IX.
	Degener, F. O. (See Gordon and Degener.)			
19627	De Golyer, William T	Roofing cement	Mar. 16, 1858	IX.
20148	De Hart, A. M	Car-springs, railroad	May 4, 1858	X.
20048	Deiss, Edouard	Process for extracting fatty matters	April 27, 1858	IV.
20047	Deiss, Edouard	Carbon, sulphuret of, apparatus for manufacturing	April 27, 1858	IV.
21045	Delahanty, J. P., assignor to himself and E. S. Ells, and E. S. Ells assignor to Clark Tompkins.	Knitting-machine	July 27, 1858	III.
22021	Delano, T. A	Life-preserving vests	Nov. 9, 1858	VII.
987	Delany, E. J., and John Martino, assignors to Cresson, Steuart, and Peterson.	Stove plates	Feb. 16, 1858	Design.
1010	Delany, E. J., and J. Martino, assignors to W. P. Cresson, D Steuart, and R Peterson.	Stoves, cook's	June 1, 1858	Design.
1025	Delany, E. J., assignor to H. E. March and J. Johnson.	Stoves, cook's	July 13, 1858	Design.
19184	Delany, Matthew	Dyeing yarns in the skein, apparatus for	Jan. 26, 1858	IV.
20019	Demeure, Pierre, assignor to Charles Chepy	Meat cutters	April 20, 1858	XVII.
	Deming, James H. (See De Mirimonde, Leon Joseph Pomme, assignor to James H. Deming.)			
19237	De Mirimonde, L. J. P.	Journals of axles on railways, reducing the friction of.	Feb. 2, 1858	IX.
627	De Mirimonde, Leon Joseph Pomme, assignor to James H Deming.	Journals of axles on railways, reducing the friction of.	Nov. 23, 1858	Reissue.
19078	Dempsey, Thomas	Harness-trees	Jan. 12, 1858	XVI.
19495	Denham, Thomas, and Joseph W. Briggs	Alarm, sash-balance	Mar. 2, 1858	XXII.
	Denio, Aaron, and Norman S. White. (See White and Denio.)			
21066	Denley, J., and T. H. Heberling	Coffee, apparatus for making	Aug. 3, 1858	XVII.
19079	Denman, Jacob S	Car-seats, railroad	Jan. 12, 1858	X.

	Denn, Charles S., and Powell Griscom. (See Griscom and Denn.)			
21601	Denney, Samuel L	Mills, sugar	Sept. 28, 1858	XIII.
19628	Denney, William	Lock	Mar. 16, 1858	II.
19412	Dennis, Paul	Plough-shovel	Feb. 23, 1858	I.
19496	Dennis, Samuel, jr.	Plough, hill-side	Mar. 2, 1858	I.
19493	Dennison, John N., and Thomas Sealy	Boilers, apparatus for supplying water to	Mar. 2, 1858	VI.
20867	Dennison, John N.	Fire-engines, force-pump for	July 13, 1858	V.
22067	Deppen, G. B., and E. Levengood	Furnace for burning coal-dust	Nov. 16, 1858	V.
21947	Derby, Lyman	Lock, bank	Nov. 2, 1858	II.
19690	Dermond, Daniel	Yarn, roving or regulators for	Mar. 23, 1858	III.
20336	Derrick, William H	Wind-wheels	May 25, 1858	XI.
20196	De Rush, John	Grain-cleaning machine	May 11, 1858	I.
22168	Detmold, Christian E	Railway-bars, mode of securing the ends of	Dec. 1, 1858	IX.
19984	Deuchfield, John	Meal, cooling and drying	April 20, 1858	XIII.
	Devereux, G. H. and A. F., *et al.* (See Morse and Hughes, assignors.)			
19666	De Veuve, Henry	Boats, arrangement of devices for lowering and detaching.	Mar. 16, 1858	VII.
20149	Devin, George W	Bolt, ring	May 4, 1858	II.
19185	Devlan, P. S	Gas-heating apparatus	Jan. 26, 1858	V.
21247	Devoye, Justin	Carpenter's work-bench	Aug. 24, 1858	XIV.
21325	Dewey, M., and J. Phillips	Carpet-fastener	Aug. 31, 1858	XVII.
21326	De Witt, John C	Car-seats, railroad	Aug. 31, 1858	X.
21394	De Witt, John C., assignor to himself and T. Benedict.	Trace-fastening	Aug. 31, 1858	XVI.
	De Witt, Richard V., jr. (See Newbury, F. D., assignor.)			
19494	De Witt, W., and O. D. Barrett	Harrow	Mar. 2, 1858	I.
20411	De Wolf, D. O.	Harvester, raking attachment to	June 1, 1858	I.
190	De Zeng, Henry L.	Bullet-mould	Feb. 16, 1858	Add'l Imp't.
21067	Dick, James M	Railroad-frogs	Aug. 3, 1858	IX.
20992	Dick, John	Boot-fronts, method of cutting	July 27, 1858	XVI.
20552	Dickenhof, P	Hulling rice, machine for	June 15, 1858	I.
19288	Dickerman, C. S.	Cards for currying cattle	Feb. 9, 1858	I.
20939	Dickerman, Chauncey A	Heater, steam	July 20, 1858	V.
19688	Dickey, C.	Grinding, machine for cutting the leaves from the sugar-cane preparatory to.	Mar. 23, 1858	XIII.
19498	Dickey, Julius C.	Metals, shaping and punching	Mar. 2, 1858	II.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19497	Dickinson, C. W.	Jewelry, loop-chains for	Mar. 2, 1858	XVIII.
	Dickinson, William P. (See Francisco and Dickinson.)			
20663	Dickson, A.	Plough	June 22, 1858	I.
20412	Dickson, George L.	Carriage-brake	June 1, 1858	X.
21824	Dickson, John	Ploughs	Oct 19, 1858	I.
19916	Dieffenbach, George	Teeth, bases for artificial	April 13, 1858	XX.
19499	Dietz, Andrew	Gate, farm	Mar. 2, 1858	IX.
19551	Diller, William	Lubricating the axle-boxes of carriage-wheels	Mar. 9, 1858	XII.
22110	Dillon, Jonathan	Time-keepers, method of regulating the winding of.	Nov. 23, 1858	VIII.
21556	Dimock, Ira	Silk or other thread, according to its size, machine for sorting.	Sept. 21, 1858	III.
20413	Dimock, Martial	Sewing-machines	June 1, 1858	III.
19135	Dimock, Martial, and Nathan Rixford	Sewing-machine	Jan. 19, 1858	III.
19241	Dimpfel, F. P.	Railroad track, mode of laying	Feb. 2, 1858	IX.
594	Dimpfel, F. P.	Boiler, steam	Aug. 31, 1858	Reissue.
22169	Dimpfel, F. P.	Boilers, steam, furnace for	Dec. 1, 1858	VI.
19689	Dinsmoor, O. R.	Hay-cock protector	March 23, 1858	I.
20868	Dinsmoor, O. R.	Clothes, drying apparatus	July 13, 1858	XVII.
19279	Disbrow, James A., and James E. Cronk, assignors to J. A. Disbrow.	Presses, cotton	Feb. 2, 1858	XII.
22068	Diss, L.	Lock, safe	Nov. 16, 1858	II.
	Disston, H. (See Smith, H., assignor.)			
20337	Disston, H., and T. L. Morse	Saws, hand, bevelling device attached to	May 25, 1858	XIV.
	Disston, H., & Co. (See Johnson, Josea.)			
22111	Dixon, Benjamin E.	Tuyere, blacksmiths'	Nov. 23, 1858	II.
21948	Dixon, Joseph	Steel, manufacturing	Nov. 2, 1858	II.
	Doane, A. S., *et al.* (See Hill, Sam. L., assignor.)			
20995	Doane, W. H., and C. Mason	Sawing-machine	July 27, 1858	XIV.
21658	Dodge, Charles C.	Switch, railroad	Oct. 5, 1858	IX.
21327	Dodge, E. J.	Tire, upsetting carriage	Aug. 31, 1858	II.
21746	Dodge, James	Knives, grinding and polishing	Oct. 12, 1858	XVII.
20940	Doen, E.	Bolt, spring	July 20, 1858	II.
20338	Doen, Edward	Spring, window	May 25, 1858	II.
20258	Dole, L. A.	Meat-choppers	May 18, 1858	XVII.
20779	Dole, L. A.	Boring-machine	July 6, 1858	XIV.
	Dolson, W. H. (See Clark, Edward, assignor.)			
22069	Donaldson, C.	Vault-light	Nov. 16, 1858	IX.
19629	Donehoo, Daniel M.	Separator and smut-machine	March 16, 1858	XIII.
20994	Donovan, Cornelius	Sewing-machines	July 27, 1858	III.
20049	Donovan, J. T., and W. J. Fowler	Planters, cotton seed	April 27, 1858	I.
21248	Doolittle, A. J.	Quartz-crusher	Aug. 24, 1858	II.
19186	Doolittle, George W.	Car-coupling, railroad	Jan. 26, 1858	X.
20780	Doolittle, Zina	Axles, carriage, machine for upsetting	July 6, 1858	II.
21638	Dorman, James A., and Joseph E. Stearns, assignors to James A. Dorman.	Blind operator	Sept. 28, 1858	II.
19917	Dorsch, Gideon	Car-brake, railroad	April 13, 1858	X.
21046	Dorsch, M. P., assignor to Peter Dorsch	Stove for burning soft coal	July 27, 1858	V.
19550	Dorsey, Edward L.	Wagon-tires, machine for fitting	March 9, 1858	X.
20993	D'Orsey, J. S.	Paints	July 27, 1858	IV.
19549	Doss, William C.	Planters, seed	March 9, 1858	I.
	Dougherty, H. F., *et al.* (See Ingersoll, P. C., assignor.)			
19080	Douglas, Alexander	Sewing-machines	Jan. 12, 1858	III.
21659	Douglas, Alexander	Folding guides	Oct. 5, 1858	III.
22355	Douglas, A., and S. S. Sherwood	Skirt hoops, slide and fastening for	Dec. 21, 1858	XXI.
21747	Douglas, Alexander, and Samuel S. Sherwood	Skirt hoops, fastenings for	Oct. 12, 1858	XXI.
22112	Douglas, Charles	Chimney caps	Nov. 23, 1858	V.
22170	Douglas, Frank	Steam trap	Dec. 1, 1858	VI.
19834	Douglas, W. and B.	Pump, portable	April 6, 1858	XI.
	Downing, H. (See Sutton, J. L., assignor.)			
19759	Doyle, George	Galvanic batteries, device for preventing corrosion of the binding screws in.	March 30, 1858	VIII.
21949	Doyle, George	Harpoon	Nov. 2, 1858	VII.
	Drake, Rhodes, and Collins. (See Collins, J. J. G., assignor.)			
20553	Drake, E.	Shingle-machine, device in feed motion of	June 15, 1858	XIV.
19242	Drake, N.	Planter, corn	Feb. 2, 1858	I.
205	Drake, Nathaniel	Planters, corn	Sept. 28, 1858	Add. imp't.
634	Drake, Nathaniel	Planters, corn	Dec. 14, 1858	Reissue.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Draper, E. D. & G., *et al.* (See Houghton, A., assignor.)			
	Draper, F. (See Jenks & Draper.)			
	Drew, Henry Z. (See Forman, S. F., assignor.)			
21748	Dreyspring, Adolphe	Boxes, portable	Oct. 12, 1858	XVIII.
19081	Driggs, Spencer B	Piano-fortes	Jan. 12, 1858	XVIII.
19353	Drown, John	Fence, field	Feb. 16, 1858	IX.
20781	Drummond, W	Planter, corn	July 6, 1858	I.
22171	Drummond, Warren	Seeding-machine	Dec. 1, 1858	I.
20051	Du Bois, John	Gins, cotton	April 27, 1858	III.
19082	Du Bois, N. G	Bell-hanging	Jan. 12, 1858	XVII.
19413	Duchamp, Eugene	Presses, cotton	Feb. 23, 1858	XII.
	Dudley, J. Q. (See Marsh, A., assignor.)			
20259	Dudley, Joseph	Trunks, card-plates for	May 18, 1858	XVI.
20761	Dugdale, Thomas A., assignor to himself and John A. Burbank.	Sewing-machine	June 29, 1858	III.
22471	Dulaney, George L., assignor to himself and Solomon K. Moore.	Car-seats, railroad	Dec. 28, 1858	X.
	Dunklee, H., *et al.*. (See Kelsea, H., assignor.)			
20634	Dunning, W. B	Shafting, coupling-box for	June 22, 1858	XIII.
19760	Dunning, William B	Staves, rotary, reciprocating knives for smoothing	March 30, 1858	XIV.
	Dunning, William B., E. E. Lewis, and C. Wheat. (See Lewis, Dunning, & Wheat.)			
	Dunnington, John F., administrator. (See Daniel, P., deceased.			
19354	Dunworth, J. A. & F	Reins, horse, device for holding	Feb. 16, 1858	XVI.
20554	Durand, J. M	Watch-cases	June 15, 1858	VIII.
20414	Durden, Thomas	Bridges	June 1, 1858	IX.
	Durgin, C. A. (See Lapham & Burns, assignors.)			
567	Durgin, C. A	Sewing-machine	June 15, 1858	Reissue.
	Durgin, Silas C	Cloth, machinery for folding and measuring	March 4, 1858	Extension.
21558	Durell, Henry	Cigar-wrappers	Sept. 21, 1858	XXII.
	Durfee, Edwin C., *et al* (See Fairbank, John B., deceased)			
19289	Duryea, H. V	Mill, grinding	Feb. 9, 1858	XIII.
20050	Dutton, R	Harvester	April 27, 1858	I.
	Dyer, Owens, and Lane (See Owens, Lane, & Dyer.)			
22230	Dyott, M. B	Lamp, burner for	Dec. 7, 1858	V.
22415	Eagle, Francis M	Stump-extractor	Dec. 29, 1858	IX.
	Eagle Screw Company. (See Sloan, Thomas J., assignor.)			
22472	Eakins, Samuel, assignor to himself and M. S. Wickersham.	Blasting or removing submarine bodies, method of	Dec. 29, 1858	IX.
20197	Eames, L	Hub-machine	May 11, 1858	X.
19985	Earle, Charles H	Scales, platform	April 20, 1858	XII.
19058	Earle, John E., assignor to himself and Samuel Shepherd.	Dividers, mathematical	Jan. 5, 1858	VIII.
20033	Easterly, James	Stoves, cooking, ovens for	April 27, 1858	V.
21410	Easterly, James	Stoves, coal, grates for	Sept. 7, 1858	V.
21467	Easterly, James, assignor to himself and Dennis G. Littlefield.	Stoves, cooking, flues of elevated oven	Sept. 7, 1858	V.
19918	Eaton, James	Cop-tubes	April 13, 1858	II.
21068	Eaton, James	Shuttles, cop-tubes for	Aug. 3, 1858	III.
21825	Eaton, John	Propeller, marine	Oct. 19, 1858	VII.
	Eaton, Joseph, administrator. (See Paine, Chas. F., deceased.)			
	Eddy, George W. (See Vedder, N. S., assignor.)			
21294	Edelman, Isaac, assignor to G. W. Edelman, jr	Water-closet	Aug. 24, 1858	IX.
22280	Edge, William	Brake, railroad	Dec. 14, 1858	IX.
21660	Edson, Jacob	Carpet-sweeper	Oct. 5, 1858	XVII.
20869	Edson, N. T	Carriage-wheels, metallic hub for	July 13, 1858	X.
19243	Edson, Nathaniel T	Wheelwrights' machine	Feb. 2, 1858	XIV.
	Edwards, Edward, *et al.* (See Ball, Thomas C., assignor.)			
20702	Edwards, G	Rolling railway bars	June 29, 1858	II.
	Edwards, John S. (See Holly, B., assignor.)			
22416	Edwards, Nelson	Stoves	Dec. 29, 1858	V.
	Egnor, Joel, and H. Van Steenbergh. (See Van Steenbergh & Egnor.)			
21826	Ehrhart, H	Paddle-wheel	Oct. 19, 1858	VII.
21874	Eiberweiser, John	Mill, cider	Oct. 26, 1858	XIII.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19187	Eisenbrandt, C. H	Musical wind instrument	Jan. 26, 1858	XVIII.
20339	Eisenbrandt, C. H	Car-brake, railroad	May 25, 1858	X.
21875	Eiswald, T. G	Washing-machine	Oct. 26, 1858	XVII.
	Eldred, David, *et al.* (See Markham & Eldred.)			
20198	Eliaers, A	Chair, reclining	May 11, 1858	XVII.
20976	Ellig, L., assignor to Andrew Garrett	Straw-shaker	July 20, 1858	I.
	Elliot & Moore. (See Moore, T. W., assignor.)			
21123	Elliot, W. H	Bed-bottom	Aug. 10, 1858	XVII.
21188	Elliot, W. H	Fire-arm, revolving	Aug. 17, 1858	XIX.
21124	Elliot, William H	Hinges	Aug. 10, 1858	II.
	Elliott, J. G. (See Byrne & Elliott.)			
19986	Elliott, J. F	Locomotive engine, driving wheels of	April 20, 1858	VI.
	Ells, E. S. (See Delehanty, J. P., assignor.)			
	Ells, J. A. (See Pratt, George, assignor.)			
544	Ells, W. M. & J. M	Boilers, steam	April 13, 1858	Reissue.
21125	Ellsworth, M. E	Harvester	Aug. 10, 1858	I.
22113	Ellithorpe, A. C., and Ives, Scoville	Stones for ballasting railroads and turnpikes, machine for breaking.	Nov. 23, 1858	XV.
19245	Elmendorf, Joseph	Galvanic batteries, mode of attaching the electrodes to the poles of.	Feb. 2, 1858	VIII.
19244	Elmer, Hosea O	Saws, gumming and jointing	Feb. 2, 1858	II.
21189	Elmer, William	Pessaries	Aug. 17, 1858	XX.
	Elton, C. M., *et al.* (See Kendall & Keyes, assignors.)			
	Ely, Alfred B. (See Whipple, Milton D.)			
	Ely, Alfred B., *et al.* (See Cary, A. B., assignor.)			
	Ely, Charles. (See Harvey, Thomas W., assignor.)			
20703	Emeigh, A	Eels, apparatus for skinning	June 29, 1858	XXII.
	Emery, Francis F. (See Johnson, Albert F.)			
19137	Emmery, Ezra	Harvester	Jan. 19, 1858	I.
	Emrich, P., *et al.* (See Murrill, J., assignor.)			

	Ende, Julius. (See Schimmelfennig & Ende.)			
20260	Endsley, John, and E. Fletcher	Cultivator	May 18, 1858	I.
21126	England, Lewis C	Tanning hides, apparatus for	Aug. 10, 1858	XVI.
20052	English, N. F	Hatchet	April 27, 1858	II.
	Engmann, P. (See Featherstone, H., and P. Engmann.)			
19919	Entrikin, D. W., and L. H. Davis	Harvester	April 13, 1858	I.
19920	Entrikin, D. W., and L. H. Davis	Harvester, cutting device for	April 13, 1858	I.
20782	Ericsson, J	Engines, steam	July 6, 1858	VI.
22281	Ericsson, John	Air-engine	Dec. 14, 1858	XI.
20941	Erksou, G	Mill, grinding	July 20, 1858	XIII.
19835	Ernsberger, M	Saw-gummer	April 6, 1858	II.
1034	Erwin, Cornelius B	Door-lock plates	Aug. 10, 1858	Design.
1035	Erwin, Cornelius B	Door-lock plates.	Aug. 10, 1858	Design.
19761	Eshleman, J. J	Horse and cattle tie, self-loosening	Mar. 30, 1858	XXII.
22070	Essig, Bartholomew	Vegetable-cutter and coffee-mill combined	Nov. 16, 1858	XVII.
22114	Estes, Samuel	Looms, picker-staffs for	Nov. 23, 1858	III.
	Eustice, Thomas, and Joseph Jordan, jr. (See Jordan & Eustice.)			
19188	Evans, E. L	Curry-combs	Jan. 26, 1858	II.
	Evans, Henry G. (See Chichester, Lewis J., assignor.)			
	Evans, Henry G. (See Chichester, Lewis S., assignor.)			
20199	Evans, James W	Tobacco, pipes and cigar-holders or mouth-pieces for smoking	May 11, 1858	XXII.
21661	Evans, James W	Plough, steam	Oct. 5, 1858	I
21559	Evans, Joseph P	Coal, machine for washing	Sept. 21, 1858	V.
19692	Evarts, Harry H	Sawing staves, machine for	Mar. 23, 1858	XIV.
20843	Ewing, J., assignor to F. V. Rushton	Bottles, stopper for	July 6, 1858	XXII.
19552	Fagan, Joseph and James L	Corn-husker	Mar. 9, 1858	I.
20415	Fagan, M. G	Stove, wood-burning	June 1, 1858	V.
19762	Fahnestock, W. B	Axle-boxes	Mar. 30, 1858	X.
19763	Fahnestock, William B	Car-wheels	Mar. 30, 1858	X.
19060	Fahrney, Ezra, assignor to John Donaldson	Mill, hominy	Jan. 5, 1858	XIII.
19329	Fairbank, John B., dec'd, Joshua Fairbank and Edwin C. Durfee, administrators.	Planter, hand corn	Feb. 9, 1858	I.
21127	Fairchild, H. C	Planter, seed	Aug. 10, 1858	I.
20200	Fairchild, J. H	Water-wheel	May 11, 1858	XI.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22282	Fairchild, John H	Water-wheel	Dec. 14, 1858	XI.
22356	Fairclough, John	Mill-stones, balancing	Dec. 21, 1858	XIII.
22283	Fairfield, G. W	Car-seats and couches	Dec. 14, 1858	X.
19553	Faivre, A. C	Fire-arm, repeating	Mar. 9, 1858	XIX.
21328	Falconer, Ralph J	Fastener, sash	Aug. 31, 1858	II.
20635	Falkenbury, S	Cast-iron cylinders, repairing	June 22, 1858	II.
	Falls, Thomas J., jr. (See Lyon & Brady, assignors.)			
19414	Farris, William M	Metre, water	Feb. 23, 1858	XI.
19836	Farmer, George G	Iron and steel, hardening	April 6, 1858	II.
21329	Farmer, Moses G	Telegraph wire, method of sending and receiving messages simultaneously over the same.	Aug. 31, 1858	VIII.
22071	Farmer, Moses G	Electro-magnetic fire-alarm apparatus	Nov. 16, 1858	VIII.
21492	Farmer, Moses G, and John M. Batchelder	Telegraph insulators	Sept. 14, 1858	VIII.
20783	Farnam, Gilbert B	Pump	July 6, 1858	XI.
20240	Farrington, George K., and Samuel Brown, jr., assignors to themselves and David B Tiffany.	Candy-machine	May 11, 1858	XXII.
21637	Farrington, George K, assignor to D. B. Tiffany	Churn	Sept 28, 1858	I.
19733	Farson, Enoch S., assignor to himself and Henry H. Brown.	Freezer, cream	March 23, 1858	XVII.
19921	Fasig, John	Hay-knives	April 13, 1858	I.
20844	Faust, John F., assignor to himself and Richard M Ross.	Rake, horse hay	July 6, 1858	I.
19987	Favor, Zebulon C	Bedsteads, portable, invalid	April 20, 1858	XVII.
19189	Fawkes, Joseph W	Ploughing, machine for	Jan. 26, 1858	I.
20201	Fay, Henry C	Time-keeper	May 11, 1858	VIII.
21749	Fay, L	Metal, sheet, machine for cross-seaming	Oct. 12, 1858	II.
22172	Fay, L. N., and William Mason	Blind operator	Nov. 30, 1858	II.
20784	Fearington, J. J	Mills for cutting, crushing, and expressing the juice from sugar-cane.	July 6, 1858	XIII.
20870	Featherstone, H., and P. Engmann	Sawing-machine	July 13, 1858	XIV.
19764	Fee, William R	Springs, pneumatic	March 30, 1858	X.

19734	Feger, Daniel H., assignor to himself and Mahlon M. Wombaugh.	Car-brake, railroad	March 23, 1858	X.
19554	Feickert, Charles	Cord, plaited, machinery for manufacturing	March 9, 1858	III.
19023	Fell, H. R	Kiln, lime	Jan. 5, 1858	XV.
19138	Fenn, William A	Hats, felts, machinery for forming brims of	Jan. 19, 1858	III.
20997	Fenaw, John H	Harness tug buckle	July 27, 1858	XVI.
20996	Ferber, A	Window-blinds, operating	July 27, 1858	IX.
21295	Ferguson, James, assignor to himself and Lazell, Perkins, & Co.	Valve gear of steam engines	Aug. 24, 1858	VI.
22173	Fergusson, John R	Furnaces, hot-air	Dec. 1, 1858	V.
611	Fernald, James	Chairs	Oct. 12, 1858	Reissue.
21950	Ferrier, John	Tackle-block	Nov. 2, 1858	XII.
19837	Ferris, W. P. Garrett, and J. Megratten	Refrigerator	April 6, 1858	XVII.
542	Ferry, William M., jr	Sawing-mill	April 6, 1858	Reissue.
20150	Ferry, William M., jr	Sawing-machines, circular device for governing lateral motion of carriage in gigging back in.	May 4, 1858	XIV.
22417	Fesel, H E	Propeller, steering	Dec. 29, 1858	VII.
19059	Fetter, George, assignor to himself and Edward Jones.	Sewing-machines	Jan. 5, 1858	III.
	Field, David C. (See Hicks, Lucien, assignor.)			
20942	Field, Edwin	Watch-cases, making	July 20, 1858	VIII.
20340	Field, H T	Knife-polisher	May 25, 1858	XVII.
19838	Field, William	Presses, cotton	April 6, 1858	XII.
21190	Field, William	Bales, metallic bands for binding	Aug. 17, 1858	XII.
20998	Fields, John J	Car-springs, railroad	July 27, 1858	X.
21249	Fiester, John U	Desk, writing	Aug. 24, 1858	XXII.
20341	Filkins, W	Carpet-fastener	May 25, 1858	XVII.
20053	Finch, George W	Tuyere	April 27, 1858	II.
19355	Fink, Earl D	Traps for catching rats and other animals	Feb. 16, 1858	XXII.
	Finkham, H. G. (See Gibson, E. G., assignor.)			
20151	Finley, David	Casting car wheels	May 4, 1858	II.
19356	Finn, John A	Surveyor's protractor	Feb. 16, 1858	VIII.
	Firman, Joseph. (See Hoofstater, Charles, assignor.)			
20054	Fischer, A	Cabbage-cutter	April 27, 1858	XVII.
22264	First, John, assignor to himself and James Frost.	Sewing-machine	Dec. 7, 1858	III.
	Fish, John, *et al.* (See Goodfellow, S., assignor.)			
19083	Fisher, Henry	Mowing-machines	Jan. 12, 1858	I.
19246	Fisher, Joseph H	Amalgamator, gold	Feb. 2, 1858	II.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19555	Fisher, M.	Railroad-rails splice	March 9, 1858	IX.
20152	Fisher, R. H.	Harvester	May 4, 1858	I.
21827	Fisher, Rosewell H.	Harvester	Oct. 19, 1858	II.
21662	Fisher, W. T.	Graincleaning-machine	Oct. 5, 1858	I.
21663	Fisk, J. E.	Gas-metre	Oct. 5, 1858	IV.
20055	Fisler, Thomas	Ruler	April 27, 1858	XVIII.
20261	Fitch, Benjamin	Barrelhead-machine	May 18, 1858	XIV.
22174	Fitts, David B.	Watches, device to prevent injury from rupture of main spring of.	Dec. 1, 1858	VIII.
21250	Fitts, R. B., and Milton D. Whipple	Sewing-machine	Aug. 24, 1858	III.
	Fitzgerald and Perry, *et al.* (See Perry & Fitzgerald, assignors.)			
21664	Fitzgerald, Peter	Rake, hay	Oct. 5, 1858	I.
208	Fleming, John	Lanterns, method of attaching lamps to	Nov. 2, 1858	Ad'l imp't.
20785	Fleming, John	Lamps to lanterns, method of attaching	July 6, 1858	V.
	Fletcher, E., and John Endsley. (See Endsley & Fletcher.			
22328	Flint, Samuel, and Robert S. Rogers, assignors to William F. Johnson.	Boots and shoes, heels for	Dec. 14, 1858	XVI.
20416	Flowers, A. B. J.	Harvester	June 1, 1858	I.
19190	Floyd, Thomas, assignor to himself, David K. Wunderlick, and Benjamin F. Neal.	Brooms, art of making	Jan. 26, 1858	XVII.
	Flynn, J., P. Emrich, *et al.* (See Murrill, J. H., assignor.)			
21602	Focht, George	Blocks, tackle, attachment for	Sept. 28, 1858	VII.
21395	Fogerty, Valentine, assignor to Francis Houghton	Inkstands	Aug. 31, 1858	XVIII.
22329	Fogg, George W., assignor to himself and D. S. Fogg.	File-cutting machine	Dec. 14, 1858	II.
21191	Foley, C. O	Stove	Aug. 17, 1858	V.
19358	Folts, Jacob J	Fire-box and grate	Feb. 16, 1858	V.
22231	Forbes, Isaac W.	Staves from the bolt, machine for cutting	Dec. 7, 1858	XIV.
21876	Forbes, Thomas	Brick-machine	Oct. 26, 1858	XV.
19501	Forbes, William H.	Sash-fastener	Mar. 2, 1858	II.
1070	Forbes, William H.	Coffins, metallic	Dec. 7, 1858	Design.
19500	Ford, F. G., and P. Plant	Vessels, sunken, method of raising	Mar. 2, 1858	VII.
21951	Ford, Joseph S.	Vise, gas-fitters'	Nov. 2, 1858	II.
21665	Fordyce, John	Washing-machine	Oct. 5, 1858	XVII.
21411	Forman, J. C.	Paper, machine for ruling	Sept. 7, 1858	III.
20762	Forman, S. F., assignor to Henry Z. Drew	Planing-machine, rotary, device for securing cutters in.	June 29, 1858	XIV.
21251	Forrester, J. N.	Car-seats and couches	Aug. 24, 1858	X.
21330	Forsman, J. A.	Mill-stones, hanging	Aug. 31, 1858	XIII.
	Forsyth, Rockwell, Rice, and Barnes. (See Buell & Barnes, assignors.)			
22022	Forsyth, Joseph	Churns, operating	Nov. 9, 1858	I.
538	Fosket, William	Hat bodies, machinery for making	Mar. 23, 1858	Reissue.
21877	Foster, Aaron	Grain-separators	Oct. 26, 1858	I.
19922	Foster, E.	Bed-bottom, spring	April 13, 1858	XVII.
191	Foster, Elbridge	Life-preserving berths for steam and other vessels.	Feb 16, 1858	Add'l imp't.
	Foster, J. R. (See Wood, A. H., assignor.)			
19084	Foster, Josiah	Safe, marine	Jan. 12, 1858	VII.
19357	Foster, Josiah	Tree protector	Feb. 16, 1858	I.
20918	Foster, S. E., assignor to the W. Heywood Chair Co.	Chair-backs, machine for manufacturing	July 13, 1858	XIV.
528	Foster, Walter K.	Pencil-sharpeners, moulds for casting	Feb. 23, 1858	Reissue.
19191	Foster, Walter K.	Pencil-sharpeners, making blades for	Jan. 26, 1858	XVIII.
20056	Foster, Walter K.	Pencil-sharpener	April 27, 1858	XVIII.
20262	Foster, Walter K.	Pencil-sharpener	May 18, 1858	XVIII.
	Foulke, C. F., and H. Marshman. (See Marshman & Foulke.)			
19085	Fountain, James L.	Harvesters, raking attachment for	Jan. 12, 1858	I.
20786	Fournier, S.	Clocks, registering attachment for	July 6, 1858	VIII.
22115	Fowler, De Grass B.	Carbon, mode of backing articles composed of	Nov. 23, 1858	IV.
21252	Fowler, Joseph, and F. M. Bacon	Seeding-machine	Aug. 24, 1858	I.
22418	Fowler, Joseph, and F. M. Bacon	Seeding-machine	Dec. 29, 1858	I.
21412	Fowler, R. E.	Car-seats and couches	Sept. 7, 1858	X.
19556	Fowler, T.	Pin-sticking machine	Mar. 9, 1858	II.
	Fowler, W. J. (See Donovan & Fowler.)			
	Fox, A. C. (See Keiper & Fox.)			
	Fox, F. (See White, J. P., assignor.)			
19988	Frampton, Charles	Burnisher	April 20, 1858	II.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20263	France, Thomas	Fabrics, woven tucked	May 18, 1858	III.
20390	Francis, Jerome B, assignor to William Harper, jr., assignor to J. B. Francis, assignor to James J. Clark.	Teeth, method of extracting	May 25, 1858	XX.
19693	Francis, Joseph	Boats, metallic	Mar. 23, 1858	VII.
19765	Francis, S. W	Omnibus fares, cane for paying	Mar. 30, 1858	X.
22357	Francisco, Samuel P., and William P. Dickinson	Hydrant	Dec. 21, 1858	XI.
	Frank, T., and J. Stuber. (See Stuber & Frank.)			
19139	Franz, John	Steamers, ships, &c., table rack for	Jan. 19, 1858	VII.
	Frary, James A. (See Whittelsey, N. P., assignor.)			
	Fraser, D. K., *et al* (See Gates, Fraser, & Chalmers.)			
21128	Fraser, N. W., and A J McLellan	Cultivator	Aug. 10, 1858	I.
	Frazee, J. H. (See Love & Frasee.)			
	Frederick, M. C., and O. S. Boyden. (See Boyden & Frederick.)			
	Free, John W. (See Taylor, George, assignor.)			
20704	Freeman, K	Shingle-machine, rotary	June 29, 1858	XIV.
21331	Freeman, K	Car-seats and couches	Aug. 31, 1858	X.
19687	French, A. F., assignor to George J. Stannard	Reapers, binding attachment to	Mar. 23, 1858	I.
19989	French, Charles	Life-preserving bucket raft	April 20, 1858	VII.
	French, D. S., *et al.* (See Miller, W., assignor.)			
20202	French, E. P	Bee hive	May 11, 1858	I.
	French, Joshua A., and Eliza C. Tyrrell. (See Haskins & Macardle, assignors.)			
1074	French, William B	Book-marks	Dec. 14, 1858	Design.
	Frey, Charles. (See Roesler & Frey.)			
19839	Frey, Joseph	Seeding-machine	April 6, 1858	I.
22284	Frick, Jacob	Boilers, steam, feed water and blow-off apparatus for	Dec. 14, 1858	VI.
22358	Friend, Samuel, and George Seiler	Ring, finger, extension	Dec. 21, 1858	XVIII.
	Frisbie, John L., and M. Robbins. (See Robbins & Frisbie.)			
20943	Fritschler, William O. C	Rule, carpenters'	July 20, 1858	VIII.
21666	Fritz, John	Rolling railway iron	Oct. 5, 1858	III.
22359	Fritz, P C	Grain, machine for separating garlic from	Dec. 21, 1858	XIII.
	Frost, A., and J. C Kelly. (See Kelly & Frost.)			
555	Frost, I., and J. Monroe, assignors to H. A. Barr, J D. Condit, A. Swift, D. Barnum, and J. M. Carr.	Flour from bran, machinery for separating	May 11, 1858	Reissue.
	Frost, James *et al.* (See First, John, assignor.)			
524	Frost, Pinckney	Scythe fastenings	Feb. 9, 1858	Reissue.
	Froust, J. (See Conkling & Froust.)			
20342	Frye, J.	Plough gang	May 25, 1858	I.
	Fulfirth, William, *et al.* (See Lovelidge, T., assignor.)			
	Fuller & Chase. (See N. J. Willis, assignor.)			
	Fuller, Warren, & Morrison. (See Hathaway, David, assignor.)			
	Fuller, A., *et al.* (See Daniels, G. W., assignor.)			
21332	Fuller, Albert	Steam cock	Aug. 31, 1858	VI.
	Fuller, D. B and J. C. (See Kelsea, H, assignor.)			
22360	Fuller, Edward M	Horse-power for driving reciprocating saws	Dec. 21, 1858	XIII.
597	Fuller, Joel B., and George W. Pierce	Trap for catching flies	Sept. 7, 1858	Reissue.
21750	Fuller, William S	Railings, iron, construction of	Oct. 12, 1858	IX.
21069	Fulton, W	Lamp	Aug. 5, 1858	V.
	Furbish, D. H, and J. B. Cahoon. (See Cahoon, C. W., assignor.)			
22175	Furbush, Calvin	Life raft, extensible	Nov. 30, 1858	VII.
20417	Furlong, J. P	Bee-hive	June 1, 1858	I.
	Furniss, F. H. (See Myers & Furniss.)			
	Gabel, John, *et al.* (See Williams, E. M., assignor.)			
19990	Gabriel, Benedict	Fence, field	April 20, 1858	IX.
	Gage, A. G, and J. F. Beckwith. (See Beckwith & Gage.)			
19696	Gage, D. H	Mills, pug, grinding attachment to	Mar. 23, 1858	XIII.
22288	Gaige, William W	Composition for tanning leather	Dec. 14, 1858	IV.
21667	Gaines, C. A	Cotton-scraper	Oct. 5, 1858	I.
20845	Gale, W. S., assignor to himself, A. A. Valentine, and W. H. Butler.	Valve-regulator	July 6, 1858	VI.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22419	Gallagher, Patrick	Chairs and other seats, spring-bottom for	Dec. 28, 1858	XVII.
	Gandolfo, J. (See Marzoni, C., assignor.)			
22116	Ganster, G. P.	Gearing	Nov. 23, 1858	XIII.
20606	Gardiner, C. F., assignor to himself and H. D. Gardiner.	Propeller	June 15, 1858	VII.
20418	Gardiner, Heman	Cars, railroad, springs for	June 1, 1858	X.
20419	Gardiner, Heman	Railroad axle, compound	June 1, 1858	IX.
19767	Gardiner, Perry G	Car-springs, machine for testing and measuring the strength of.	Mar. 30, 1858	X.
21603	Gardiner, Perry G	Car-springs, tempering steel for	Sept. 28, 1858	X.
21828	Gardiner, Perry G	Furnace for tempering steel	Oct 19, 1858	V.
21952	Gardiner, Perry G	Car-springs	Nov. 2, 1858	X.
19766	Gardiner, S., jr	Electricity, method of lighting gas by	Mar. 30, 1858	VIII.
20706	Gardiner, S., jr., and L. Blossom	Signal-lights, electric	June 29, 1858	VIII.
19736	Gardner, E. S., assignor to himself and John H. Gould.	Railways, city, tracks for	Mar. 23, 1858	IX.
	Gardner, H. F., *et al.* (See Willmott, W. W., assignor.)			
20705	Gardner, J. and W. and G	Lathe for turning oval frames	June 29, 1858	XIV.
20057	Gardner, M. C.	Railroad-couplings, buffer-heads for	April 27, 1858	IX.
21192	Gardner, W.	Picture frames, oval, machinery for preparing	Aug. 17, 1858	XVIII.
20343	Garl, Jacob	Fish, apparatus for catching	May 25, 1858	XXII.
19923	Garlick, John T	Safe, water and fire proof	April 13, 1858	V.
19415	Garlington, T. C.	Gin, cotton	Feb. 23, 1858	III.
19768	Garretson, T.	Coal, slating, machine for	Mar. 30, 1858	V.
21604	Garrett, J. P., and Daniel Steckel	Railroad axles, compound	Sept. 28, 1858	X.
	Garrett, P., W. Ferris, and J. Megratten. (See Ferris, Garrett, & Megratten.)			
22232	Garver, Christian	Rake, horse	Dec. 7, 1858	I.
20636	Gaston, J. C.	Roofing, metallic	June 22, 1858	IX.
	Gates, Edwin L. (See Alden & Gates.)			

21668	Gates, P. W., D. R. Fraser, and Thomas Chalmers.	Valves for steam-engines, gearing of cut-off	Oct. 5, 1858	VI.
22361	Gates, P. W., D. R. Fraser, and Thomas Chalmers.	Engines, steam, cut-off gear of	Dec. 21, 1858	VI.
	Gates, William, jr. (See Miller, Samuel, and William Gates, jr., assignors.)			
19991	Galtman, Isaac	Sulphuretted ores, treatment of	April 20, 1858	IV.
19630	Gaylord, Thomas G	Girder, wrought-iron	March 16, 1858	IX.
21413	Gear, Nathaniel	Potatoes, machine for digging	Sept. 7, 1858	I.
19502	Geddes, James W	Furnaces, hot-air, registers for	March 2, 1858	V.
	Geddes, W., and T. Lindsay. (See Lindsay & Geddes.)			
22176	Gee, William	Ashes and garbage safe	Nov. 30, 1858	XXII.
21953	Gehr, John	Plough	Nov. 2, 1858	I.
19024	Geib, David	Bolting flour	Jan. 5, 1858	XIII.
19290	Geisendorff, George W. and J. C	Car-axle boxes, railroad	Feb. 9, 1858	X.
19840	Geisendorff, George W. and J. C	Car-axles, railroad box-cases and lubricators for	April 6, 1858	X.
19291	Geisendorff, Jacob C	Lubricating apparatus for journal-boxes of railroad cars.	Feb. 9, 1858	XII.
20871	Geisendorff, Jacob C	Railroad car box-case and pedestal	July 13, 1858	IX.
19086	Gemunder, Albert	Guns, spring	Jan. 13, 1858	XIV.
20058	Gengembre, H. P	Gas-meters, liquids for	April 27, 1858	IV.
20787	Genung, A. A	Pump	July 6, 1858	XI.
19557	George, A. M	Hulling rice, maching for	March 9, 1858	I.
22177	Gere, Isaac W	Window-blind slats, machine for making	Nov. 30, 1858	IX.
20420	German, John, jr., and S. R. Perkins	Smut-machine	June 1, 1858	XIII.
20778	Getty, Henry	Faucet	July 6, 1858	XI.
20872	Ghormley, B. F.	Washing-machine	July 13, 1858	XVII.
22420	Gibbony, A. F.	Looms, shuttle-boxes for	Dec. 29, 1858	III.
20999	Gibbs, Ivers	Planing-machines, rotary stock for holding the cutters in.	July 27, 1858	XIV.
21129	Gibbs, James E. A	Sewing-machine	Aug. 10, 1858	III.
21751	Gibbs, James E. A	Sewing-machine	Oct. 12, 1858	III.
573	Gibbs, James E. A., assignor to J. A. Ruckman	Sewing-machine	July 13, 1858	Reissue.
21924	Gibbs, L. H., assignor to Gibbs Arms Company	Rifles, breech-loading, patching balls for	Oct. 26, 1858	XIX.
1003	Gibbs, S. W.	Stove, cooks'	May 11, 1858	Design.
1004	Gibbs, S. W., assignor to Rathbone & Co	Stove, parlor	May 11, 1858	Design.
1005	Gibbs, S. W., assignor to Rathbone & Co	Stove plates	June 22, 1858	Design.
21639	Gibson, E. G., assignor to H. G. Finkham	Clothes-dryer	Sept. 28, 1858	XVII.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20944	Gibson, J. E	Boat, canal	July 20, 1858	VII.
20873	Gibson, Samuel	Trap for animals	July 13, 1858	XXII.
19694	Gies, C	Washstand, water-tight	March 23, 1858	XVII.
	Gilbert, H. (See Widmer, J., assignor.)			
19087	Gill, James H	Elevator, hay and straw	Jan. 12, 1858	XII.
19841	Gill, W. Y	Vessels, means for protecting tiller-ropes of, from fire	April 6, 1858	VII.
20421	Gillam, Micah	Horse-power	June 1, 1858	XIII.
20203	Gilmore, Edwin W	Can, preserve	May 11, 1858	XVII.
19842	Gilmore, Henry H	Tongs, pipe	April 6, 1858	II.
	Giveen, Shaw, & Clark. (See Shaw, Clark, & Giveen.)			
20241	Gladding, C. E. and J. N., assignors to Charles E. Gladding.	Hay, forks for elevating	May 11, 1858	I.
19359	Gladwin, P. A	Plane-iron to its stock, method of securing the	Feb. 16, 1858	XIV.
22421	Gladwin, Porter A	Fastener, sash	Dec. 29, 1858	II.
20264	Glenson, F. E	Car-coupling, railroad	May 18, 1858	X.
19695	Glennon, Robert	Roofing cement composition	March 23, 1858	IX.
	Glover, C. W., and B. Murray, *et al.* (See Van Doren, John, assignor.)			
22117	Glover, Carlos W	Straw-carriers	Nov. 23, 1858	I.
22473	Glover, Carlos W, assignor to himself, Bronson, Murray, & J. Van Doren.	Stacking agricultural products	Dec. 28, 1858	I.
22075	Glover, Henry	Astronomical instruments	Nov. 16, 1858	VIII.
20344	Glover, N. J	Turning irregular forms, machine for	May 25, 1858	XIV.
22362	Glynn, Henry	Medicated fabrics	Dec. 21, 1858	XX.
19247	Goben, Levi F	Engine, steam, rotary	Feb. 2, 1858	VI.
19330	Goddard, Kingston	Hydrant	Feb. 9, 1858	XI.
22233	Goddard, Paul B	Composition for purifying gas	Dec. 7, 1858	IV.
22363	Godfrey, Edward K	Paper-file	Dec. 21, 1858	XVIII.
19844	Goffin, F. C	Boot-jack and burglars' alarm, combined	April 6, 1858	XVII.
19845	Golden, A. H	Lantern	April 6, 1858	V.
	Goldsmith, M. (See Hatfield & Goldsmith.)			
21253	Gomez, E., and W. Mills	Cartridge for fire-arms	Aug. 24, 1858	XIX.
1069	Gomez, Edwin	Fences, iron	Nov. 30, 1858	Design.
19558	Goodale, H. T	Vehicles, fifth wheel for	March 9, 1858	X.
22118	Goodes, E. A	Gearing	Nov. 23, 1858	XIII.
21232	Goodfellow, S., assignor to himself and John Fish.	Lathe, chuck for	Aug. 17, 1858	XIV.
20707	Goodwin, L	Button fastening	June 29, 1858	XXI.
22076	Goodyear, Albert (2d)	Feed-boxes for animals, automatic	Nov. 16, 1858	I.
	Goodyear, Charles	India-rubber fabrics	June 15, 1858	Extension.
556	Goodyear, H. B., administrator of N. Goodyear, deceased.	Rubber, hard, manufacture of	May 18, 1858	Reissue.
557	Goodyear, H. B., administrator of N. Goodyear, deceased.	Rubber, hard, manufacture of	May 18, 1858	Division of reissue.
21829	Gordon, Ebenezer	Photographic shield	Oct. 19, 1858	XVIII.
529	Gordon, George P	Printing press	Feb. 23, 1858	Reissue.
581	Gordon, George P	Printing press	Aug. 10, 1858	Reissue.
624	Gordon, George P	Printing press	Nov. 16, 1858	Reissue.
20874	Gordon, George P	Printing presses	July 13, 1858	XVIII.
20204	Gordon, George P., and F. O. Degener	Printing press	May 11, 1858	XVIII.
21047	Gordon, Thomas, assignor to Charles H Bullard	Steam-heating apparatus	July 27, 1858	VI.
	Gordon, W. J. (See Green & Gordon.)			
	Gore, Henry. (See Houck & Gore.)			
19360	Gore, John	Harvesters, cutters for	Feb. 16, 1858	I.
21491	Gornal, Richard	Valve-slide, combination of a governor with a	Sept. 14, 1858	VI.
22286	Gornal, Richard	Bullets, hollow, machine for making	Dec. 14, 1858	XIX.
20422	Goshon, J. G., and W. Bowers	Grain, machine for cleaning	June 1, 1858	XIII.
	Goss, Senter, & Woodworth. (See Sherwood Allen, assignor.)			
	Gould & Wright. (See Wright & Gould.)			
19846	Gould, E D	Collar blocks, horse	April 6, 1858	XVI.
21193	Gould, Fayette	Lock	Aug. 17, 1858	II.
	Gould, John H. (See Gardner, E. S., assignor.)			
20423	Goulding, Henry	Valves, steam	June 1, 1858	VI.
	Gove, Francis N., *et al.* (See Moore, Isaac, assignor.)			
22287	Grader, George W., and Benjamin F. Cowan	Gauge, steam, and water alarm for steam-boilers	Dec. 14, 1858	VI.
	Gragg, Moses H., *et al.* (See Shaw, Henry F., assignor.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19559	Granger, R. D	Mill, grinding	March 9, 1858	XIII.
20265	Granger, R. D	Stove, cooking	May 18, 1858	V.
20846	Granger, W. J., assignor to D. J. Lake and C. B. Brown.	Metal, punch for perforating	July 6, 1858	II.
19769	Grant, James	Horse-power machine	March 30, 1858	XIII.
20059	Grassle, J F	Roofing tiles	April 27, 1858	IX.
	Gratz, R H., and W. Hopper. (See Lloyd, C. C., assignor.)			
	Gray, A. (See Taggart & Gray.)			
19532	Gray, Joshua, assignor to himself and George O. Brastow.	Sewing-machine	March 2, 1858	III.
19665	Gray, Joshua, assignor to himself and T. B. McKay.	Sewing-machine	March 16, 1858	III.
20060	Gray, S. H	Pump-coupling	April 27, 1858	XI.
21560	Gray, S H	Pump	Sept. 21, 1858	XI.
21296	Gray, William H., assignor to himself and A. G. Brown.	Chain-stopper	April 20, 1858	VII.
19292	Gregg, Mahlon	Tenons on spokes, machines for cutting	Feb. 9, 1858	XIV.
19293	Gregor, W	Shingle-machine	Feb. 9, 1858	XIV.
22073	Gregory, A	Hammer, hand	Nov. 16, 1858	II.
	Gregory, George W. (See J. F. Tozer, assignor.)			
	Greek, John (See Mahaffy, W. A., assignor.)			
20424	Greeley, B. J	Suspender, shoulder-brace	June 1, 1858	XXI.
20708	Greeley, B. J	Pantaloons	June 29, 1858	XXI.
21333	Green, Charles	Spinning machinery, top-rollers for	Aug. 31, 1858	III.
21254	Green, Francis M	Corn-stalks in the field, machine for cutting up	Aug. 24, 1858	I.
561	Green, Henry	Harvester, cutting device for	May 25, 1858	Reissue.
562	Green, Henry	Mowing-machine	May 25, 1858	Division of reissue.
563	Green, Henry	Mowing-machine, reel supporters in	May 25, 1858	Division of reissue.
564	Green, Henry	Harvester, cutting device for	May 25, 1858	Division of reissue.
20126	Green, H., and W. J. Gordon, assignor to Henry Green.	Nail-machine	April 27, 1858	II.
21954	Green, Oliver C	Straw-cutter	Nov. 2, 1858	I.
22364	Green, Plymon B	Cars, railroad, seats and couches for	Dec. 21, 1858	X.
20266	Green, Ray	Corn-sheller	May 18, 1858	I.
	Green, Samuel. (See McLean, Donald, assignor.)			
19735	Green, Samuel, assignor to Silas B. Green	Belt-coupling	March 23, 1858	XIII.
	Green, Sarah, *et al.* (See Ball Thomas C., assignor)			
22072	Green, Wilson, and Malcom McEisner	Straw-cutter	Nov 16, 1858	I.
20153	Greene, C. A	Lamp, burner for vapor	May 4, 1858	V.
19603	Greene, Daniel G., assignor to himself and George H. Greene.	Corn-sheller	March 9, 1858	I.
19416	Greenhalgh, James, jr.	Tool, expanding	Feb. 23, 1858	II.
19770	Greiner, Ludwig	Dolls' heads, constructing	March 30, 1858	XVIII.
22074	Grey, William	Harvester, binding attachment to	Nov 16, 1858	I.
20789	Griggs, Ira, assignor to Utica Screw Manufacturing Company.	Screw, machine for turning the heads and for nicking.	July 6, 1858	II.
20486	Griffin, B	Bed-bottoms	June 8, 1858	XVII.
20061	Griffith, G. V	Harvesters, raking attachment for	April 27, 1858	I.
	Griffith, William M., & Co. (See Orr, W. H., assignor.)			
20847	Grimes, William C., assignor to David Matthew	Indicators, water and steam	July 6, 1858	VI.
20848	Grimes, William C., assignor to David Matthew	Gauge, pressure	July 6, 1858	VI.
21468	Grimes, William C., assignor to David Matthew	Steam-pressure and water-indicator	Sept. 7, 1858	VI.
20487	Grimsley, J. H., and P. J. Aukney	Desks, writing	June 8, 1858	XXII.
20875	Grimsley, Joseph H	Fire-escape ladders	July 13, 1858	XI.
192	Griscom Powell and Charles S. Denn	Lime-kiln	Feb. 23, 1858	Add'l imp't.
21334	Griswold, George W	Boots and shoes, method of stretching	Aug. 31, 1858	XVI.
	Griswold, P., and H. H. Seeley. (See Seeley & Griswold.)			
19631	Grodhaus, G. C	Nail-machine, cut	March 16, 1858	II.
21414	Gronberg, C P	Harvesters, cutting device of	Sept. 7, 1858	I.
19697	Groomes, James B	Engines, rotary, steam	March 23, 1858	VI.
21955	Grosholz, Louis	Cup, drinking	Nov. 2, 1858	XXII.
20345	Grosvenor, J. P	Irregular forms, cutter-head and table-rest for cutting.	May 25, 1858	XIV.
21605	Grosz, Michael, and Peter H. Jackson	Vault-lights, metallic frames for	Sept. 28, 1858	IX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20709	Ground, R. B	Planter, seed	June 29, 1858	I.
19843	Grove, John P. and John	Puddling furnace	April 6, 1858	II.
	Grover, Potter, & Baker. (See Blodgett, S. C., assignor through N. Hunt.)			
20849	Grover, L. A., assignor to himself and N. T. Spear	Corn-huskers	July 6, 1858	I.
21669	Grover, W. O	Sewing-machine	Oct. 5, 1858	III.
21670	Grover, W. O	Sewing-machine	Oct. 5, 1858	III.
21671	Grover, W. O	Sewing-machine	Oct. 5, 1858	III.
21752	Grover, W. O	Sewing-machine	Oct. 12, 1858	III.
568	Grover, W. O., and W. E. Baker, assignors to the Grover & Baker Sewing-Machine Company.	Sewing-machine	June 15, 1858	Reissue.
572	Grover, W. O., and W. E. Baker, assignors to the Grover & Baker Sewing-machine Company.	Sewing-machines	July 6, 1858	Reissue.
	Gruol, John	Splints, attachment of adjustable foot-boards to	Jan. 5, 1858	XX.
	Guiet, M. J. A. (See Mathieu, Adolphe Nicholas, assignor.)			
	Guirand, A. (See Vascon & Guirand.)			
20267	Gujer, John	Fabric, thick woven	May 18, 1858	III.
19417	Gullett, B. D	Gins, cotton	Feb. 23, 1858	III.
19192	Gumaer, Samuel	Car-brake, railroad	Jan. 26, 1858	X.
206	Gunner, J., jr	Bolt, swing, for fastening shutters	Sept. 28, 1858	Add'l imp't.
19193	Guseman, W. D	Shingle-machines, device for shifting the bolt to effect the taper in.	Jan. 26, 1858	XIV.
19224	Gwynne, James S., assignor to Samuel Nicholson	Hydraulic engine	Jan. 26, 1858	XI.
19362	Haas, Sebastian	Window-frames	Feb. 16, 1858	IX.
20488	Habich, George	Beer, manufacture of, apparatus for	June 8, 1858	IV.
22234	Hackman, Henry, jr	Door-latch	Dec. 7, 1858	II.
22235	Hadcock, John W., and Parker Wilcox	Rake, horse	Dec. 7, 1858	I.
20642	Hafer, A., and G. Wilkinson	Spokes in hubs, machine for setting	June 22, 1858	XIV.
21130	Hagan, John C	Locomotive steam-engine	Aug. 10, 1858	VI.
	Hagans, H. (See Wells & Hagans.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20470	Hagar, E. L., assignor to himself and T. D. Aylsworth.	Clothes, machine for wringing	June 1, 1858	XVII.
549	Hager, A., and Y. Allyn	Furnace, bagasse	May 4, 1858	Reissue.
19773	Hagey, G. W	Table, self-waiting	Mar. 30, 1858	XVII.
	Haines, J. H. (See Hunt & Haines.)			
545	Haines, Jonathan	Harvesters, grain	April 13, 1858	Reissue.
19419	Haines, Joseph C	Ladle, culinary	Feb. 23, 1858	XVII.
	Haines, M. J. (See Kuhns & Haines.)			
	Haines, Richardson. (See Robins, Jabez, assignor.)			
21830	Halderman, William	Stave-jointer	Oct. 19, 1858	XIV.
21335	Hale, Albert W	Bell, house, portable	Aug. 31, 1858	XVII.
20641	Hale, Elias J	Lamps, camphene	June 22, 1858	V.
21000	Hale, R	Steam, apparatus for distributing	July 27, 1858	VI.
22236	Haley, John G., Isaac Wilson, and Jackson Lyon	Washing-machine	Dec. 7, 1858	XVII.
20154	Hall, A	Washing-machine	May 4, 1858	XVII.
19140	Hall, Ashman	Grain-separator	Jan. 19, 1858	I.
20876	Hall, E., and J. F. Stewart	Shingle-machine	July 13, 1858	XIV.
	Hall, Gaylon. (See Heth & Hall.)			
19172	Hall, H. L., assignor to the Beverly Rubber Co.	Rubber, restoring waste vulcanized	Jan. 19, 1858	IV.
20242	Hall, H. L., assignor to the Beverly Rubber Co.	Rubber, utilizing waste vulcanized	May 11, 1858	IV.
22217	Hall, Hiram L., assignor to the Beverly Rubber Company.	Rubber, restoring waste vulcanized	Dec. 1, 1858	IV.
22265	Hall, Hiram L., assignor to the Beverly Rubber Company.	Rubber goods, vulcanized, manufacture of	Dec. 7, 1858	IV.
19418	Hall, J. H	Diapers, infants', substitute for	Feb. 23, 1858	XXI.
20638	Hall, J. R	Shingle-machine	June 22, 1858	XIV.
22366	Hall, John C	Fans, portable, manufacture of	Dec. 21, 1858	XXI.
19560	Hall, Joseph F	Curtain fixtures	Mar. 9, 1858	XVII.
20269	Hall, John M	Plough	May 18, 1858	I.
20425	Hall, Marquis L	Grain-cleaning machines	June 1, 1858	I.
21956	Hall, Pliny F	Railroad chairs	Nov. 2, 1858	IX.
	Hall, Robert. (See Mullen & Hall.)			
21194	Hall, S. W	Mitres, machine for cutting	Aug. 17, 1858	XIV.
	Hall, Theodore F. (See Hart, R., assignor.)			
22365	Hall, Theodore F	Window-sash, hanging	Dec. 21, 1858	IX.
20125	Hall, Thomas, assignor to Thomas Hall & Co	Nets, fishing	April 27, 1858	XXII.
19562	Hall, Washington	Stump-extractor	Mar. 9, 1858	IX.
20793	Hall, William	Railways, chair for	July 6, 1858	IX.
19568	Hall, Wm. Kemble	Boilers, steam, safety apparatus for	Mar. 9, 1858	VI.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21721	Hall, Wm. Kemble, assignor to Amos Broadnax	Leather, artificial	Oct. 5, 1858	XVI.
20271	Hallenbeck, M	Harvesters	May 18, 1858	I.
20272	Hallenbeck, M	Harvesters	May 18, 1858	I.
20426	Hallock, H	Vessels, navigable buoyant life-preserving state-rooms for.	June 1, 1858	VII.
21415	Hallock, Nicholas	Fruit box	Sept. 7, 1858	XVII.
1031	Ham, R., assignor to Smith, Sheldon, & Co	Stoves, cooks'	Aug. 3, 1858	Design.
	Hamblin, J. G. (See Young, Moses M., assignor.)			
19194	Hamer, James A	Pug mill	Jan. 26, 1858	XV.
22119	Hamer, James A	Brick moulds	Nov. 23, 1858	XV.
20428	Hamilton, F. W	Washstand and night-stool combined	June 1, 1858	XVII.
19632	Hamilton, George W., assignor to himself and Oliver P. Bower.	Life-preserving float	Mar. 16, 1858	VII.
22422	Hamilton, James	Propeller for boats	Dec. 28, 1858	VII.
19772	Hamilton, James J	Clothes-dryer	Mar. 30, 1858	XVII.
20063	Hamilton, James J	Lock for doors	April 27, 1858	II.
19633	Hamilton, Robert	Drill, seed	Mar. 16, 1858	I.
21195	Hammer, Adolph	Heating wash-tubs, apparatus for	Aug. 17, 1858	V.
20427	Hammond, D. D	Windlass	June 1, 1858	VII.
	Handerson & Davis. (See Ball, Thos., assignor.)			
	Handy, Anson. (See North, John, assignor.)			
	Handford, W. L. (See Collins, D., assignor.)			
	Hanley, James. (See Stephens & Hanley.)			
	Hannah, Joseph, and D. K. Jackman. (See Cummings, G. W., assignor.)			
	Hannay & Plant. (See Plant, P., assignor.)			
19771	Hannen, Henry	White lead, apparatus for manufacturing	Mar. 30, 1858	IV.
19634	Hannum, L	Washing-machine	Mar. 16, 1858	XVII.
20710	Hanscom, A. A	Ink rollers	June 29, 1858	XVIII.
21336	Hansell, Issachar P	Drawing-boards	Aug. 31, 1858	XVIII.
21753	Harbough, W. H	Water-wheel	Oct. 12, 1858	XI.
	Harding, L., *et al.* (See Weatherbee, E. D., assig'r.)			

19894	Harding, Thomas, assignor to Warder, Brokaw, & Child.	Reaping and mowing machine, cutting device for	April 6, 1858	I.
22288	Hardy, Michael	Hat bodies, machinery for forming	Dec. 14, 1858	III.
21535	Hardy, W., and J. Parkinson, assignors to Hardy, Parkinson, & Bates	Valve, pressure and vacuum	Sept. 14, 1858	VI.
22423	Harger, Henry	Typographer, mechanical	Dec. 28, 1858	XVIII.
19363	Harkness, H. W	Harpoon and lance	Feb. 16, 1858	VII.
21298	Harkness, H. W., assignor to himself and J. W. Bliss.	Anchor balls	Aug. 24, 1858	VII.
21297	Harkness, H. W., and W. A. Terry, assignors to themselves and Joseph Sigourney.	Broiling, toasting, &c., apparatus for	Aug. 24, 1858	V.
22143	Harkness, Hiram W., assignor to himself and Willford H. Nettleton.	Sewing-machine	Nov. 23, 1858	III.
21754	Harkness, John C	Door, self-closing	Oct. 12, 1858	IX.
	Harnett, J. W. (See Waters & Harnett.)			
22249	Harnett, John Warren	Preventing incrustation of steam-boilers	Dec. 7, 1858	IV.
	Harold, John. (See Serrell, L. W., assignor.)			
	Harper, James, *et al.* (See Krauser, John L., assignor.)			
20062	Harper, T. B	Churn	April 27, 1858	I.
	Harper, William, jr. (See Francis, Jerome B., assignor.)			
21755	Harrington, Barzillai, and Nelson Russell	Tanning	Oct. 12, 1858	XVI.
21070	Harrington, Charles L	Cars, sleeping, for railroads	Aug. 3, 1858	X.
20607	Harrington, F. H., assignor to Horace Smith and Daniel B. Wesson.	Fire-arm, revolving	June 15, 1858	XIX.
	Harris & Clark. (See Clark & Harris.)			
21131	Harris, A. A	Rack, clothes	Aug. 10, 1858	XVII.
571	Harris, B. T., assignor to M. E. Harris	Workmen, machine for marking time of attendance of.	July 6, 1858	Reissue.
19141	Harris, Daniel	Sewing-machine	Jan. 19, 1858	III.
21673	Harris, Daniel	Carpet-sweeper	Oct. 5, 1858	XVII.
21672	Harris, Daniel	Sewing-machines	Oct. 5, 1858	III.
	Harris, E. A., administratrix. (See Stillman, Alfred, deceased.)			
	Harris, Hubbard. (See Richardson, Alpha, deceased.)			
20790	Harris, J. P	Plough	July 6, 1858	I.
19924	Harris, John	Drill, seed	April 13, 1858	I.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21804	Harris, John K	Harvester	Oct. 12, 1858	I.
20396	Harris, Joseph	Brakes, railroad	May 25, 1858	IX.
19465	Harris, Joseph, jr., and Daniel Holmes, assignors to Daniel Holmes.	Carpet-beating machine	Feb. 23, 1858	XVII.
19849	Harris, L. W	Potato-digger	April 6, 1858	I.
	Harris, Washington, and John S. Clark. (See Beesley, J., assignor.)			
21047	Harrison, C. C., and Joseph Schnitzer, assignor to C. C. Harrison.	Photographic cameras, diaphragm for	Sept. 7, 1858	XVIII.
625	Harrison, Edward	Mills, grinding	Nov. 16, 1858	Reissue.
20273	Harrison, James	Signs	May 18, 1858	XVIII.
621	Harrison, James	Locomotives, automatic steam whistles in	Nov. 9, 1858	Reissue.
21255	Harrison, James, jr	Springs, metallic	Aug. 24, 1858	X.
600	Harrison, James, jr	Sewing-machine	Sept. 14, 1858	Reissue.
22120	Harrison, Joshua	Ranges, cooking	Nov. 23, 1858	V.
20791	Harrison, R. H	Washing-machine	July 6, 1858	XVII.
21925	Hart, R., assignor to Theodore F. Hall	Hinges	Oct. 26, 1858	II.
21831	Hartell, Thomas R	Bottles, &c., apparatus for making glass stoppers for	Oct. 19, 1858	XV.
22428	Hartell, Thomas R	Furnaces for burning lime	Dec. 28, 1858	V.
616	Hartell, William, and Joseph Lancaster, assignors to Thomas R. Hartell.	Heat, generating, mode of	Nov. 2, 1858	Reissue.
21494	Harthan, John and Ezra	Engine, steam, rotary	Sept. 14, 1858	VI.
19361	Hartman, H. T	Railroad snow plough	Feb. 16, 1858	IX.
19466	Hartman, John, jr., assignor to John Hartman, sr.	Weighing mechanism applied to the carts of coal dealers and others, construction and arrangement of the	Feb. 23, 1858	XII.
21469	Hartman, John, jr., assignor to John Hartman, sr.	Cars, railroad, couch seats for	Sept. 7, 1858	X.
20792	Hartman, S. H	Springs, machine for testing the strength of	July 6, 1858	XII.
20268	Hartman, Samuel H	Carriage springs, forming the heads of	May 18, 1858	X.
22250	Hartwell, C	Stoves	Dec. 7, 1858	V.
19661	Hartwell, Charles, assignor to Lewis L. Bartlett	Sash, metallic	Mar. 16, 1858	IX.
21878	Hartwell, Samuel E	Bedstead-bottom	Oct. 26, 1858	XVII.
	Harvey, J. (See Vandenburg & Harvey.)			
	Harvey, J. M. (See Beeker & Harvey.)			
20555	Harvey, John	Windlass	June 15, 1858	VII.
19847	Harvey, John M., and N. J. Becker	Railroad station indicator	April 6, 1858	IX.
641	Harvey, Thomas W., assignor to Charles Ely, assignor to H. A. Harvey.	Screws, machine for cutting	Dec. 28, 1858	Reissue.
21957	Harvey, William	Rails, T, joint for	Nov. 2, 1858	IX.
19848	Harwood, Forest H	Motion, converting reciprocating into rotary	April 6, 1858	XIII.
21832	Haskell, Jacob S	Table, writing	Oct. 19, 1858	XVII.
22144	Haskins, C. A., and G. Macardle, assignors to Joshua A. French and Eliza C. Tyrrell.	Dryers, grain and fruit	Nov. 23, 1858	V.
20556	Haskins, Charles A	Printing presses, hand	June 15, 1858	XVIII.
20877	Haskins, R. W	Ships, method of coppering the interior of, to protect them from lightning.	July 13, 1858	VII.
20639	Hatch, P	Planter, corn	June 22, 1858	I.
21958	Hatfield A	Seeding-machines	Nov. 2, 1858	I.
	Hatfield, Burdick, & Cloud. (See Cloud, Hatfield, & Burdick.)			
20878	Hatfield, J., and H. M. Goldsmith	Churn	July 13, 1858	I.
21071	Hatfield, R. G	Sound, tube for conveyance of	Aug. 3, 1858	XI.
978	Hathaway, David, assignor to Fuller, Warren, & Morrison.	Stoves (Viola)	Jan. 12, 1858	Design.
976	Hathaway, David, assignor to Fuller, Warren, & Morrison.	Stoves (Leader)	Jan. 12, 1858	Design.
977	Hathaway, David, assignor to Fuller, Warren, & Morrison.	Stoves (Consul)	Jan. 12, 1858	Design.
979	Hathaway, David, assignor to Fuller, Warren, & Morrison.	Stoves (Pride of the West)	Jan. 12, 1858	Design.
22398	Hathaway, William, assignor to William G. Maynard.	Clothes-frame	Dec. 21, 1858	XVII.
22367	Havell, Henry	Scissors, manufacture of	Dec. 21, 1858	II.
22178	Havens, Hiram H	Boilers, steam, sediment collector for	Dec. 1, 1858	VI.
	Havens, L. (See Came & Havens.)			
21674	Hawkins, Samuel C	Halters and bridles for horses	Oct. 5, 1858	XVI.
552	Hawkins, W., and W. C. Clary	Sawing-mill	May 11, 1858	Reissue
19774	Hawkins, William, and William C. Clary	Sawing-mill	Mar. 30, 1858	XIV.
19294	Hawley, Edward E	Planter, potato	Feb. 9, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Hay, Wilmarth, & Coffin. (See Wilmarth, Hay, & Coffin.)			
21471	Hay, Adam, assignor to himself and S. W. and L. B. Miller.	Railroad chair	Sept. 7, 1858	IX.
19027	Hayden, John J	Telegram keys, method of operating	Jan. 5, 1858	VIII.
	Hayden Manufacturing Company. (See Richardson, B., assignor.)			
20640	Hayes, John P	Furnace, air-heating	June 22, 1858	V.
21675	Haynes, Reuben	Laths, machine for cutting	Oct. 5, 1858	XIV.
	Haythorn, J. (See Rice & Haythorn.)			
21196	Hayward, F. D	Wrench	Aug. 17, 1858	II.
20637	Hazen, B	Corn-husker	June 22, 1858	I.
	Hazleton, J. . (See Pratt, George, assignor.)			
	Heartt, J. S. (See Ostrander & Heartt.)			
21337	Heath, William	Sad-iron-heater cover	Aug. 31, 1858	XVII.
19142	Heaton, John D., and W. A. Clark	Corn-husker	Jan 19, 1858	I.
19635	Heaton, William	Fruit, apparatus for drying	Mar. 6, 1858	XVII.
19935	Hebbard, A	Car-couplings, railroad	April 13, 1858	X.
988	Hebbard, Henry, and John Polhamus	Spoons, &c., handles of	Feb. 16, 1858	Design.
	Heberling, T. H. (See Denley & Heberling.)			
19775	Hedenberg, Francis L	Heating apparatus	Mar. 30, 1858	V.
20489	Heerdt, W	Table, extension	June 8, 1858	XVII.
21416	Heerman, Theodore	Roasters, coffee	Sept. 7, 1858	V.
19088	Heiden, J	Vehicles, wheel	Jan. 12, 1858	X.
21166	Heidrick, F., assignor to C. F. Clothier	Lamp, burner for vapor	Aug. 10, 1858	V.
21073	Heikes, D. M	Fence, field	Aug. 3, 1858	IX.
20879	Heinisch, R	Tailors' shears	July 13, 1858	XXI.
	Hellings, John. (See Smith, Benjamin R.)			
19421	Helton, M. W	Mills, cider	Feb 23, 1858	XIII.
21495	Hely, Georges	Horse-powers	Sept. 14, 1858	XIII.
19992	Henck, John B	Rails for street railroads	April 20, 1858	IX.
20794	Henderson, G., and J. Steetle	Metals, lathe for turning	July 6, 1858	II.
20274	Henderson, J. C	Stoves	May 18, 1858	V.
622	Henderson, Joseph C	Stoves	Nov. 9, 1858	Reissue.
20155	Henderson, W. H	Eave-troughs, braces of	May 4, 1858	IX.
21496	Hendrick, A. T	Hinge, gate	Sept. 14, 1858	II.
19660	Hendrick, Joseph E., assignor to himself and William Holmes.	Sewing-machines	Mar. 16, 1858	III.
21722	Hendrick, Joseph E., assignor to himself, W. H. Nettleton, and George Stevens.	Sewing-machines	Oct. 5, 1858	III.
19364	Hendrickson, Derius J	Nails, tools for clenching	Feb. 16, 1858	II.
20064	Hendrickx, A	Range and coal-gas generator, combination cooking	April 27, 1858	V.
21001	Hendrickx, A	Gas apparatus, valves for	July 27, 1858	IV.
21072	Hendrickx, A., assignor to Victoria Hendrickx	Gas, apparatus for condensing and purifying	Aug. 3, 1858	IV.
22399	Heneage, Robert, assignor to himself and Edward O. Ball.	Hemp-brake	Dec. 21, 1858	III.
19606	Henn, J., assignor to himself, Anton, Daniel, and Leopold Lankan.	Tools to handles, attaching	Mar. 9, 1858	II.
	Henry, J. T. (See Weatherhead & Henry, assignors.)			
21959	Henry, W. Y	Seeding-machine	Nov. 2, 1858	I.
21561	Henshaw, F	Pump	Sept. 21, 1858	XI.
21879	Henshaw, J. R	Hook, self-mousing	Oct. 26, 1858	VII.
20971	Henwood, D., and J. Stephens, assignors to themselves and Thomas F. Rowland.	Hulling and cleaning rice, machine for	July 20, 1858	I.
21417	Herder, A	Window-blinds	Sept. 7, 1858	IX.
22121	Hermance, M. Richard	Stove, cooking	Nov. 23, 1858	V.
22023	Hermance, William G	Gates, farm, method of opening and closing	Nov. 9, 1858	IX.
21233	Herrick, H. H., assignor to L. Culver	Carpet-sweeper	Aug. 17, 1858	XVII.
	Herrick, Harlow. (See White, Samuel, assignor.)			
	Herringshaw, Westbrook, & Parker. (See Parker, Sidney, assignor.)			
20557	Herron, A. C	Sewing-machine	June 15, 1858	III.
19089	Herron, James P	Ventilating pulpits, apparatus for	Jan. 12, 1858	V.
19973	Hersh, H. B. Banman, and H. C. Lacker	Alarm, burglars'	April 13, 1858	XXII.
19561	Hersh, Henry and Amos	Cutting and crushing corn-stalks, machine for	March 9, 1858	I.
19926	Hervey, H. L	Alarm lock	April 13, 1858	XXII.
19295	Hervey, Horace L	Alarm locks	Feb. 9, 1858	XXII.
21256	Heth, Albert, and Gaylon Hall	Sawing-machine, cross-cut	Aug. 24, 1858	XIV.
	Hewitt, John. (See Loomis & Hewitt.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Heywood Chair Company. (See Foster, S. E., assignor.)			
19195	Heywood, R. W.	Ice in rivers, machine for planing away	Jan. 26, 1858	XXII.
21880	Heywood, Simeon	Switch, railroad	Oct. 26, 1858	IX.
22425	Hiatt, S.	Lock	Oct. 28, 1858	II.
	Hibbard, Elias. (See Nutz, L. N., assignor.)			
	Hibbard, H. F. (See Clinton, Miles N., assignor.)			
20346	Hibbard, J.	Press, cheese	May 25, 1858	XII.
21756	Hibbard, W. C.	Pump, centrifugal	Oct 12, 1858	XI.
20795	Hibbs, J.	Wagons, running-gear of	July 6, 1858	X.
20880	Hibsch, George	Pump	July 13, 1858	XI.
19425	Hickok, W. O.	Straw-cutter	Feb. 23, 1858	I.
21961	Hickok, W. O.	Wooden screws, die for cutting	Nov. 2, 1858	XIV.
21960	Hickok, W. O.	Wooden screws, tap for cutting	Nov. 2, 1858	XIV.
21132	Hicks, George B.	Telegraphic instruments	Aug. 10, 1858	VIII.
21497	Hicks, L. E.	Gas-burner	Sept. 14, 1858	V.
19613	Hicks, Lucien E., assignor to David C. Field	Inkstand	March 9, 1858	XVIII.
21133	Hidden, W., and J. Reeves	Motive-power, apparatus for heating and cooling air to be used as a	Aug. 10, 1858	XIII.
	Higbie, W. (See King, John, assignor.)			
19850	Higgins, L., and A. Brown	Sails, reefing	April 6, 1858	VII.
21338	Higgs, James R.	Hydrant	Aug. 31, 1858	XI.
19196	Hildreth, Abel	Alarm, tidal	Jan. 26, 1858	XXII.
19423	Hildreth, G. W.	Seeding-machine	Feb. 23, 1858	I.
21257	Hildreth, Paul	Seeding-machine	Aug. 24, 1858	I.
21797	Hiler, Selah, assignor to John M. and Cornelius A. Berrian.	Coating metals	Oct. 12, 1858	IV.
19028	Hill, B. B., and S. W. Adams	Bit-holder	Jan. 5, 1858	XIV.
21676	Hill, Edmund	Traps, animal, construction of	Oct. 5, 1858	XXII.
21418	Hill, George J.	Printing and numbering press	Sept. 7, 1858	XVIII.
20558	Hill, Levi G.	Burning fluids, manufacture of	June 15, 1858	V.
	Hill, Samuel A. (See Alter & Hill.)			
21798	Hill, Samuel L., assignor to himself and A. Palmer, and A. S. Doan.	Spelling-block	Aug. 12, 1858	XVIII.
19296	Hill, U. C. and C. F.	Musical instruments	Feb. 9, 1858	XVIII.
	Hills, Andrew. (See Pickett & Hills.)			
19851	Hills, James H.	Row-lock	April 6, 1858	VII.
21339	Hills, William O.	Alarm, prison, apparatus for	Aug. 31, 1858	XXII.
21002	Hinds, William	Wheelwright's machine	July 27, 1858	XIV.
21592	Hinckley, Jonas, assignor to himself and F. A. Wildman.	Sewing-machine	Sept. 21, 1858	III.
19467	Hinman, George, assignor to himself and John H. Pardee.	Scissors-sharpener	Feb. 23, 1858	XVII.
	Hitchcock, Rufus E., *et al.* (See Warner, Ezra J., assignor.)			
19197	Hoadley, John C.	Heaters or coolers	Jan. 26, 1858	V.
21419	Hoadley, Thomas	Clay, machine for moulding	Sept. 7, 1858	XV.
19564	Hoagland, A.	Lock	March 9, 1858	II.
20388	Hoard, J. W., assignor to himself and G. B. Wiggin.	Valve, steam-trap	May 25, 1858	VI.
21472	Hoard, J. W., assignor to himself and G. B. Wiggin.	Steam-trap	Sept. 7, 1858	VI.
21198	Hoard, John W., and Thomas A. Searle	Nail-plate feeder	Aug. 17, 1858	II.
20559	Hobson, Iris	Tire, wheel, reducing	June 15, 1858	II.
	Hobson, W. (See Baltzly & Hobson.)			
19777	Hock, John G.	Gas-generator	March 30, 1858	IV.
21962	Hoffacker, Joseph	Lock and key	Nov. 2, 1858	II.
21926	Hoffman, Francis, assignor to himself and John Menzell.	Bedstead, bureau	Oct. 26, 1858	XVII.
20347	Hoffman, Theodore A.	Sugar, manufacture of dextrine and	May 25, 1858	IV.
21420	Hoffmeier, Amos K.	Carriage-shafts, convertible	Sept. 7, 1858	X.
19468	Hoge, Solomon G., assignor to himself, R. H. St. John, and J. E. Leas.	Locomotives, walking, manner of attaching legs to	Feb. 23, 1858	VI.
20560	Hoge, Thomas	Fence, field	June 15, 1858	IX.
19563	Hoke, David	Plough	March 9, 1858	I.
19927	Holbrook, A.	Lock, chronometric	April 13, 1858	II.
19928	Holl, Samuel	Wheelwright's machine	April 13, 1858	XIV.
	Holland, W. (See Ross & Holland.)			
19636	Hollely, Joseph	Blow-pipes	March 16, 1858	V.
22427	Hollensbury, John W.	Cannon, breech-loading	Dec. 28, 1858	XIX.
19779	Hollman, W. W.	Straw-cutter	March 30, 1858	I.
20796	Holly, A. P.	Pump, rotary	July 6, 1858	XI.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20919	Holly, B., assignor to himself and Jno. S. Edwards.	Stoves, furnaces, &c., atmospheric regulator for	July 13, 1858	VI.
20156	Holman, George W	Billiard-table cushions	May 4, 1858	XXII.
21562	Holmes, Alexander M	Dentist's chair	Sept. 21, 1858	XX.
21536	Holmes, Alexander M., assignor to himself and A. G. Purdy.	Car seats and couches	Sept. 14, 1858	X.
214	Holmes, Alexander M., assignor to himself and Albert G. Purdy.	Car seats and couches	Dec. 21, 1858	Add'l Imp't.
20561	Holmes, D.	Skirt hoops	June 15, 1858	XXI.
	Holmes, Daniel. (See Harris & Holmes, assignors.)			
585	Holmes, David	Skirt hoops	Aug. 17, 1858	Reissue.
22426	Holmes, John	Skirts, ladies' hooped	Dec. 28, 1858	XXI.
	Holmes, A. (See Marsh, A., assignor.)			
	Holmes, William, *et al.* (See Hendrick, Joseph E., assignor.)			
22289	Holt, J. H., and J. H. Gerrould	Radiator, steam	Dec. 14, 1858	V.
20348	Holton, S., jr	Thermostat	May 25, 1858	VIII.
21606	Holyland, J. and J. C	Cracker-machine	Sept. 28, 1858	XVII.
21048	Holzer, Charles F., assignor to William B. Smith and William Bromwell.	Gas-regulator	July 27, 1858	IV.
20797	Homes, L	Railing, iron, method of constructing	July 6, 1858	IX.
19297	Homrighaus, Philip	Mills, hominy	Feb. 9, 1858	XIII.
20389	Hooffstatter, Charles, assignor to Joseph Firman	Stove	May 25, 1858	V.
21049	Hook, A. H., assignor to Union Sewing-Machine Company.	Sewing-machine	July 27, 1858	III.
22179	Hook, Albert H	Sewing-machine	Dec. 1, 1858	III.
19503	Hooker, Daniel and Solomon E	Coffins	Mar. 2, 1858	XXII.
21677	Hoole, E	Checks, baggage	Oct. 5, 1858	XXII.
	Hoover, Briggs, Sloan, & Smith. (See Sloan, Smith, Hoover, & Briggs.)			
20528	Hope, J., assignor to himself and T. Hope	Engraving-machines, apparatus for supporting and adjusting gravers for.	June 8, 1858	XVIII.
19607	Hope, John, assignor to himself and Thos Hope	Engraving-machine, pentagraphic device for	Mar. 9, 1858	XVIII.
21723	Hope, John, assignor to himself and Thos. Hope	Printing calico, rollers for	Oct. 5, 1858	XVIII.
19424	Hopkins, D. A	Journal-boxes	Feb. 23, 1858	X.
21563	Hopkins, Hiram	Smut-machines	Sept. 21, 1858	XIII.
20711	Hopkins, T. R	Engravers, &c., ring clamp for	June 29, 1858	XVIII.
20712	Hopkins, W. A	Cultivator	June 29, 1858	I.
20429	Hopper, T	Car-brakes, railroad	June 1, 1858	X.
	Hopper, W. (See Lloyd, C. C., assignor.)			
22428	Horn, Edwin B	Time-keepers, method of adjusting the tripper to escapement lever of.	Dec. 28, 1858	VIII.
	Horner, James. (See Bailey, John A., assignor.)			
19420	Horning, William	Rake, horse	Feb. 23, 1858	I.
19365	Horrall, W. A., and R. G. Sirwell	Harrow, revolving	Feb. 16, 1858	I.
	Horstmann, W. H. (See Shaler, R., assignor.)			
21498	Horstmann, W. H	Walls under water, method of building	Sept. 14, 1858	IX.
19698	Horstmann, William J	Loom, ribbon	Mar. 23, 1858	III.
	Horton, Steffie, & Currie. (See Steffie, Horton, & Currie.			
21074	Horton, C	Fence, field	Aug. 3, 1858	IX.
21678	Horton, Hanford	Pistons for steam-engines, packing	Oct. 5, 1858	VI.
	Horton, Henry B. (See Thrasher & Horton.)			
1016	Horton, J., assignor to D. Stuart and J. Peterson	Stoves	June 29, 1858	Design.
20430	Horton, M. L	Stove, cooking	June 1, 1858	V.
19173	Horton, William F., assignor to Walter K. Marvin	Pump bucket	Jan. 19, 1858	XI.
20066	Hosford, M., and J. C. Avery	Harvester, cotton	April 27, 1858	I.
22290	Hotchkiss, B. B	Harness snaps	Dec. 14, 1858	XVI.
21199	Hotchkiss, Gideon	Mill spindles, method of securing and adjusting the steps of.	Aug. 17, 1858	XIII.
19366	Houck, George O., and Henry Gore	Brick-machine	Feb. 16, 1858	XV.
19248	Houck, James	Cultivator	Feb. 2, 1858	I.
19993	Houck, James	Nails, clenching horse-shoe	April 20, 1858	II.
22291	Hough, Joseph, and Jacob Moore	Car-brakes	Dec. 14, 1858	X.
19112	Hough, Sylvester A., assignor to himself and A. S. Hough.	Wagon-brake	Jan. 12, 1858	X.
20920	Houghton, A., assignor to himself and E. D. and G. Draper.	Spinning-frames	July 13, 1858	III.
	Houghton, F. B. (See Watt & Burgess, assignors.)			
	Houghton, Francis. (See Fogerty, Valentine, assignor.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20349	House, R. E.	Omnibus-register	May 25, 1858	X.
605	House, Royal E.	Telegraph, magnetic printing	Sept. 28, 1858	Reissue.
	Houston, George. (See Parson & Houston.)			
19143	Houston, Joseph U.	File	Jan. 19, 1858	II.
21340	Howard, Jeremiah	Mills for sugar-cane	Aug. 31, 1858	XIII.
20431	Howard, William	Signal-lantern	June 1, 1858	VIII.
20562	Howarth, John	Distilling oils, apparatus for	June 15, 1858	IV.
20945	How, H.	Saw-filing machine	July 20, 1858	II.
19249	How, James, and Charles W. Copeland	Damper regulator	Feb. 2, 1858	V.
21258	Howe, E., jr.	Sewing-machine	Aug. 24, 1858	III.
21640	Howe, Frederick W., assignor to the Newark Machine Company.	Shafting, hangers and boxes for	Sept. 28, 1858	XIII.
19367	Howell, Charles	Reaping and mowing machine	Feb. 16, 1858	I.
19422	Howell, Charles	Harvester	Feb. 23, 1858	I.
19504	Howell, Charles	Mowing-machine	Mar. 2, 1858	I.
20275	Howell, Charles	Reaping and mowing machine	May 18, 1858	I.
21499	Howell, Charles	Harvesters, cutting apparatus for	Sept. 14, 1858	I.
19090	Howell, David	Metal plates, bending, machine for	Jan 12, 1858	II.
19637	Howes, S., and G. E. Throop	Separator and cleaner, grain	Mar. 16, 1858	XIII.
20157	Howland, William H.	Quartz-crusher	May 4, 1858	II.
21998	Howson, Henry, assignor to J. P. and J. L. Wendell.	Axle-boxes	Nov. 2, 1858	X.
21421	Hoyer, Jacob K.	Meat-cutter	Sept. 7, 1858	XVII.
184	Hoyt, Benaiah C	Plough	Jan. 5, 1858	Add'l imp't.
19175	Hoyt, George E., and Frederick Nishwitz, assignors to George E. Hoyt.	Coal-screen	Jan. 19, 1858	V.
21757	Hoyt, J. P. and O. W.	Water-wheel	Oct. 12, 1858	XI.
19994	Hoyt, John	Sleds, runners of	April 20, 1858	X.
20798	Hubbard, D. C.	Cultivator	July 6, 1858	I.
20799	Hubbard, G.	Faucet, measuring	July 6, 1858	XI.
21537	Hubbard, G. W., assignor to himself and H. Hubbard, and W. L. and N. L. Bradley.	Sewing-machine	Sept. 14, 1858	III.
21833	Hubbard, George W	Sewing-machine	Oct. 19, 1858	III.
19298	Hubbard, M. G	Harvester	Feb. 9, 1858	I.
22251	Hubbard, M. G	Harvester, grain and grass	Dec. 7, 1858	I.
20713	Hubbard, W. E	Horse-shoes	June 29, 1858	II.
	Hubbell, H. S. (See Wood, Roberts, & Hubbell.)			
521	Hubbell, William W.	Shells, eccentric, explosive	Jan. 19, 1858	Reissue.
19505	Hubbell, William W.	Shell, eccentric, explosive	Mar. 2, 1858	XIX.
19776	Hubbell, William W. and Richard	Car-wheels, railroad	Mar. 30, 1858	X.
19852	Hudgin, W.	Pipes, coupling	April 6, 1858	II.
20065	Hudson, Thomas S	Pen cleaner and holder	April 27, 1858	XVIII.
22429	Hudson, Thomas S	Inkstand	Dec. 28, 1858	XVIII.
	Hudson, W. S. (See Allen & Hudson.)			
21679	Hufnagel, Bernhard	Photographic baths	Oct. 5, 1858	XVIII.
20432	Huggins, J. S., and R. Chapman	Planter, cotton-seed	June 1, 1858	I.
	Hughes, J. (See Morse & Hughes.)			
	Hughes, Richard. (See Stuber & Hughes.)			
21423	Hulbert, Samuel	Plough	Sept. 7, 1858	I.
20077	Hull, Stephen	Harvester	Nov. 16, 1858	I.
20067	Humberger, A	Harvester, corn	April 27, 1858	I.
22430	Humphrey, John	Tool for slotting clothes pins	Dec. 28, 1858	XIV.
	Humphrey S. Dwight, *et al.* (See Creemer, John B., assignor.)			
19638	Humphries, Joseph	Anchor and life-preserver, combined floating	March 16, 1858	VII.
19250	Hunt, Augustus	Hoisting ice, apparatus for	Feb. 2, 1858	XII.
20881	Hunt, Caleb S	Pulleys, machine	July 13, 1858	XIII.
20490	Hunt, Franklin B	Grinding and cutting, machine for	June 8, 1858	XIII.
	Hunt, German H., *et al* (See Pool, R., assignor.)			
	Hunt, Homer P. (See Kendall & Hunt, assignors.)			
19026	Hunt, M. J., and J. H. Haines	Planter, seed	Jan. 5, 1858	I.
22180	Hunt, R. W., and M. Kennedy	Seeding-machine	Dec. 1, 1858	~~I.~~
	Hunter, Keller, & Co. (See Wrangle, Moses, assignor.)			
20714	Hunter, W. A	Printers, type-case for	June 29, 1858	XVIII.
21200	Huntington, William C	Sawing-machine, reciprocating, for sawing plank	Aug. 17, 1858	XIV.
22400	Huntoon, Reuben K., assignor to himself and Jacob B. Rand.	Turning tapering twists on wood, machine for	Dec. 21, 1858	XIV.
19853	Hupp, A	Stave machines, method of holding and feeding the bolt in.	April 6, 1858	XIV.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Hurd, F. P., administrator of J. Hurd, deceased, assignee by intermediate assignment of said J. Hurd.	Sugar, cleansing		Extension.
	Hurd, Francis P., assignee by intermediate assignment of Joseph Hurd.	Sugar, cleansing	Sept. 30, 1858	Reissue.
22292	Hurlburt, Charles R	Car springs	Dec. 14, 1858	X.
	Hurlburt, E., *et al.* (See White, LeRoy, assignor.)			
22431	Huse, Samuel, and Samuel, jr	Propelling and steering apparatus	Dec. 28, 1858	VII.
22368	Hussey, Obed	Harvesters, method of gathering grain upon, and discharging it from the platform of.	Dec. 21, 1858	I.
22432	Hussey, Obed	Block, spring tackle	Dec. 28, 1858	VII.
19144	Huston, John	Seeding-machine	Jan. 19, 1858	I.
21680	Hutchinson, William C	Hemp brake	Oct. 5, 1858	III.
20205	Huyett, William G	Paint compounds	May 11, 1858	IV.
20050	Hyatt, Thaddeus, assignor to George R. Jackson & Co.	Vault covers, illuminating glasses for	July 27, 1858	IX.
19778	Hyde, J. Burrows	Composition for coating telegraph wires	March 30, 1858	IV.
20758	Hyde, J. Burrows, assignor to Anna M. Hyde	Charcoal, converting peat into	June 29, 1858	IV.
19029	Hyde, John	Hydrant	Jan. 5, 1858	XI.
22122	Hyde, Joseph	Wrench, screw	Nov. 23, 1858	II.
20563	Hyde, O	Driver, post and pile	June 15, 1858	IX.
20715	Hyde, O	Picket, screw	June 29, 1858	XXII.
19091	Iliff, Charles R	Plotting instrument	Jan. 12, 1858	VIII.
20068	Ingalls, E. T., and James R. Nichols	Warming apparatus, steam	April 27, 1858	VI.
21259	Ingersoll, James	Cars, railroad, and running gear for	Aug. 24, 1858	X.
20311	Ingersoll, P. C., assignor to himself and H. F. Dougherty.	Bales, cotton, securing metallic bands on	May 18, 1858	XII.
20800	Ingersoll, S	Shafts without using a crank, rotary	July 6, 1858	XIII.
19811	Ingersoll, S., assignor to himself, S. B. Turner, and George W. Kimball.	Presses	Mar. 30, 1858	XII.
19781	Ingersoll, T. Dwight	Furnaces, air heating	Mar. 30, 1858	V.
19780	Ingraham, James M	Pots, coffee and tea	Mar. 30, 1858	XVII.

19030	Ingram, James	Condults, grab for cleaning	Jan. 5, 1858	IX.
19368	Ingram, James	Ranges, water back for	Feb. 16, 1858	V.
20206	Irwin, John	Bedsteads, sofa	May 11, 1858	XVII.
	Iverson, Hans. (See Loudon & Iverson.)			
21341	Ives, Ira A	Studs and lock-joint fastener for	Aug. 31, 1858	XVIII.
993	Ives, James	Carriage-hub sand-bands	Mar. 9, 1858	Design.
	Jackman, D. K. (See Cummings, G. W., assignor.)			
21300	Jackman, J., jr., assignor to himself and E. H. Ashcroft.	Valves, cut-off, of steam-engines	Aug. 24, 1858	VI.
21963	Jackson, Abram	Threshing-machine	Nov. 2, 1858	I.
	Jackson, Francis, *et al.* (See Comfort, Samuel, jr., assignor.)			
520	Jackson, George R	Vault-covers	Jan. 19, 1858	Reissue.
19639	Jackson, George R	Vault-covers, attaching the glasses of	Mar. 16, 1858	IX.
	Jackson, George R., & Co. (See Hyatt, Thaddeus, assignor.)			
997	Jackson, J. L (No. 1)	Screens for steam-pipes, &c	April 13, 1858	Design.
998	Jackson, James L. (No. 2)	Screens for steam-pipes, &c	April 13, 1858	Design.
1045	Jackson, James L	Screens	Aug. 31, 1858	Design.
21342	Jackson, Joel C	Jack, lifting	Aug. 31, 1858	XII.
	Jackson, P H (See Leonard & Jackson.)			
21134	Jackson, Peter H	Ship's windlass	Aug. 10, 1858	VII.
21135	Jackson, Peter H	Cable-stopper	Aug. 10, 1858	VII.
	Jackson, Peter H (See Grosz & Jackson.)			
21834	Jackson, Peter H	Pavements, metallic side, construction of	Oct. 19, 1858	IX.
21234	Jackson, T. D., assignor to Joseph W. Bartlett	Sewing-machine	Aug. 17, 1858	III.
21299	Jackson, Timothy D, assignor to Joseph W. Bartlett.	Sewing-machine	Aug. 24, 1858	III.
197	Jackson, W. R	Car-brake, automatic railroad	Mar. 30, 1858	Add'l imp't.
19854	Jacobs, J. Nelson	Files, machine for cutting	April 6, 1858	II.
21003	Jacobs, Zalmon L	Boilers, steam, apparatus for regulating the supply of water to.	July 27, 1858	VI.
19995	Jacobus, R. D	Governor, steam	April 20, 1858	VI.
20491	Jacot, C. E	Watch, stop	June 8, 1858	VIII.
22123	Jadwin, Orlando H	Inkstand	Nov. 23, 1858	XVIII.
22181	James, David E	Printing-press	Dec. 1, 1858	XVIII.
20433	James, Thomas	Brick, manufacture of	June 1, 1858	XV.
19640	Jamieson, T. S	Valves in steam-engines, mode of operating	Mar. 16, 1858	VI.
19929	Jaminet, A	Filterers, water	April 13, 1858	XI.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20434	Jancovius, R.	Back-band strap, self-adjusting and vibrating	June 1, 1858	XVI.
	James, Henry C. (See White, O., assignor.)			
22252	Janes, Reuben S.	Saws, circular, guard for	Dec. 7, 1858	XIV.
	Jastram, G. B., *et al.* (See Shaw & Carpenter, jr., assignors.)			
22369	Jeffery, Edwin A	Hoop-lock	Dec. 21, 1858	XIV.
21500	Jenkins, J.	Shoes, cemented-sole, heating apparatus for the manufacture of.	Sept. 14, 1858	XVI.
21424	Jenkins, Jacob	Boots and shoes, apparatus for applying soles to	Sept. 7, 1858	XVI.
21564	Jenkins, Jacob	Boots and shoes, apparatus for applying soles to	Sept. 21, 1858	XVI.
22433	Jenkins, John K.	Fruits, preserving	Dec. 28, 1858	XVII.
	Jenkins, R., and W. A. Stephens. (See Stephens & Jenkins.)			
	Jenkins, R., and E. W. Stephens. (See Stephens & Jenkins.)			
21964	Jenks, Lemuel P., and Francis Draper	Filtering-cock	Nov. 2, 1858	XI.
21425	Jennet, Joseph	Time-keepers, escapement of	Sept. 7, 1858	VIII.
19641	Jennings, Lyman	Knives while grinding, holder for planing	Mar. 16, 1858	II.
22024	Jensen, N.	Alarm, burglars'	Nov. 9, 1858	XXII.
22293	Jensen, N.	Bandages	Dec. 14, 1858	XX.
21607	Jerome, George F. and Moses	Mowing-machine	Sept. 28, 1858	I.
21681	Jerome, George F. and Moses	Harvester	Oct. 5, 1858	I.
1000	Jerome, Samuel B	Clock-case fronts	May 4, 1858	Design.
20564	Jewell, M.	Belting, round, manufacture of	June 15, 1858	XIII.
22078	Jillson, C.	Traps, animal	Nov. 16, 1858	XXII.
22682	Jobin, Joseph	Valves of steam-engines	Nov. 5, 1858	VI.
20435	Johns, W. B.	Bedstead	June 1, 1858	XVII.
	Johnson & Morey. (See Morey & Johnson, assignors.)			
20686	Johnson, Albert F., assignor to himself and Francis F. Emery.	Sewing-machine	June 22, 1858	III.
20069	Johnson, Asa	Hose-supporter	April 27, 1858	XXI.

22124	Johnson, Benjamin	Tournures	Nov. 23, 1858	XXI.
	Johnson, C. D., *et al.* (See Mix, E. M. and J. E., assignors.)			
21501	Johnson, Daniel	Churn	Sept. 14, 1858	I.
20565	Johnson, H. G.	Tanning leather	June 15, 1858	XVI.
21835	Johnson, Isaac G.	Mercury, bottles for containing	Oct. 19, 1858	IV.
	Johnson, J., and H. E. Marsh. (See Delaney, E. J., assignor.)			
20350	Johnson, James B.	Wind-wheels	May 25, 1858	XI.
21260	Johnson, John B.	Fence, portable field	Aug. 24, 1858	IX.
21683	Johnson, Josee	Dough for bread, apparatus for raising	Oct. 5, 1858	XVII.
21758	Johnson, Josee	Pen-holder	Oct. 12, 1858	XVIII.
21759	Johnson, Josee	Book-marker, index or	Oct. 12, 1858	XVIII.
21881	Johnson, Josee	Pen, fountain	Oct. 26, 1858	XVIII.
21966	Johnson, Josee	Pins, shield	Nov. 2, 1858	XXI.
21927	Johnson, Josee, assignor to Joseph Ditto & Co.	Roofing, compositions for	Oct. 26, 1858	IX.
22253	Johnson, Josee, and F. Bailey	Lamps, burners for	Dec. 7, 1858	V.
21836	Johnson, Josee, and R. Lapham	Boilers, steam, water-gauge for	Oct. 19, 1858	VI.
21136	Johnson, R.	Window-sash, hanging	Aug. 10, 1858	IX.
	Johnson, R. R. (See Rand & Johnson.)			
19930	Johnson, S.	Gold, machine for excavating and washing	April 13, 1858	II.
20566	Johnson, W.	Shafting, adjustable hanger for	June 15, 1858	XIII.
20716	Johnson, W.	Locks, band and other	June 29, 1858	II.
21756	Johnson, William	Boots and shoes, soles for, tool for chamfering	Oct. 12, 1858	XVI.
	Johnson, William F. (See Flint & Rogers, assignors.)			
19251	Johnston, James J.	Mill, grain	Feb. 2, 1858	XIII.
20158	Johnston, James J.	Planters, seed	May 4, 1858	I.
19565	Johnston, William K.	Excavating post-holes, machine for	Mar. 9, 1858	IX.
19996	Joline, B.	Vessels, navigable, centre-boards of	April 20, 1858	VII.
21684	Jollie, Samuel C.	Ballot-box	Oct. 5, 1858	XXII.
21107	Jones, Amos, assignor to himself and Solon M. Davis.	Jack, mechanical	Aug. 3, 1858	XII.
	Jones, Edward, *et al.* (See Fetter, George, assignor.)			
20159	Jones, Edward F.	Lamp	May 4, 1858	V.
22079	Jones, J. H.	Horse-power, draught	Nov. 16, 1858	XIII.
196	Jones, J. M.	Carriage-bodies, hanging	Mar. 30, 1858	Add'l imp't.
21882	Jones, John	Candles, machine for making	Oct. 26, 1858	IV.

Patentees of inventions and designs, 1858.

No	Name of patentee.	Invention or discovery.	Date.	Class.
19566	Jones, John H., and Newton W. Smith	Fence, field	Mar. 9, 1858	IX.
21167	Jones, Joseph, assignor to Edmund and Joseph Jones, jr.	Plough	Aug. 10, 1858	I.
21965	Jones, R. V	Sausage-machine	Nov. 2, 1858	XVII.
20643	Jones, Samuel F	Seeding-machine	June 22, 1858	III.
20070	Jones, Samuel R	Cars, railroad, elliptic cushion for	April 27, 1858	X.
	Jones, Samuel R	Cars, railroad, elliptic cushion for	Oct. 26, 1858	Reissue.
	Jones, W. (See Tyler, Jones, & Lathrop)			
20351	Jones, W. D	Furnaces, &c., apparatus for separating the combustible from the incombustible gases or products of combustion in.	May 25, 1858	V.
	Jordan, A. C. (See Arnall, William M., assignor.)			
20529	Jordan, E , assignor to Benedict & Burnham Manufacturing Company.	Tubing, soldered, machine for finishing	June 8, 1858	II.
19782	Jordan, John A	Churn	Mar. 30, 1858	I.
20277	Jordan, Joseph, jr , and Thomas Eustice	Paper pulp, machine for grinding and sizing	May 18, 1858	III.
21261	Jordan, W. A	Washing-machines	Aug. 24, 1858	XVII.
21967	Joseff, P. P	Car-seats	Nov. 2, 1858	X.
20160	Joslyn, B. F	Fire-arm, revolving	May 4, 1858	XIX.
19699	Joyce, J. O	Pump	Mar. 23, 1858	XI.
21968	Judd, E. M	Fastener, sash	Nov. 2, 1858	II.
21201	Judson, A	Boats, canal, construction of	Aug. 17, 1858	VII.
19299	Julier, Edward	Washing-machine	Feb. 9, 1858	XVII.
21565	June, Henry R	Washing-machine	Sept. 21, 1858	XVII.
20717	Kahnweiler, D	Pipe-coupling	June 29, 1858	II.
21969	Kaller, Hermann	Seeding-machine	Nov. 2, 1858	I.
21608	Kane, Charles	Range and heating apparatus, combined cooking	Sept 28, 1858	V.
19855	Kauffman, E	Pitcher, ice	April 6, 1858	XVII.
21343	Kaufmann, H G	Harvesting-machine	Aug. 31, 1858	I.
21761	Keane, John	Malt liquors, apparatus for preserving	Oct. 12, 1858	IV.
21837	Kearney, William	Jack, hoisting	Oct. 19, 1858	XII.
20644	Keech, Joseph	Wash-boards	June 22, 1858	XVII.

20492	Keeler, J. F	Scales, platform	June 8, 1858	XII.
	Keen & Ladd. (See Watt & Burgess.)			
22182	Keeports, A. L., and George Palmer	Pump	Dec. 1, 1858	XI.
19507	Keezer, John	Hominy-mortar	Mar. 2, 1858	XVII.
21273	Keiper, D. B , and A. C. Fox	Seeding-machine	Aug. 24, 1858	I.
	Keller, Hunter, & Co. (See Wrangle, Moses, assignor)			
19506	Keller, Jacob	Paper bags, machine for making	Mar. 2, 1858	XVIII.
20801	Kelley, Austin	Skirt-hoop	July 6, 1858	XXI.
20207	Kelley, L W	Cultivator	May 11, 1858	I.
20161	Kelly, J. C., and A. Frost	Mill, smut	May 4, 1858	XIII.
19061	Kelly, James, assignor to himself and John Sherry	Scales, platform	Jan. 5, 1858	XII.
19092	Kellner, Louis	Velocipedes	Jan. 12, 1858	X.
	Kellogg, Nathan, *et al.* (See Knight, Eleazor B)			
19283	Kelsea, H., assignor to himself and Henry Dunklee, assignor to D. B & J. C Fuller	Sewing silk, manufacturing	Feb. 2, 1858	III.
22145	Kendall, Amos E., and Peter K. Keyes, assignors to themselves and C. W. Elton.	Chair, reclining	Nov. 23, 1858	XVII.
21883	Kendall, H.	Press, cheese	Oct. 26, 1858	XII.
20493	Kendall, H. L	Plane, bench	June 8, 1858	XIV.
21641	Kendall, H L., and Homer P. Hunt, assignor to the New England Screw Company.	Screws, wood, cutting threads of	Sept. 28, 1858	II.
22082	Kendrick, R , and A. W. Akerson	Telegraphic instrument	Nov. 16, 1858	VIII.
	Kennard and Bigelow Brothers. (See Watson ,John F., assignor)			
19031	Kennard, Seneca C	Measuring the superficies of boards, machine for	Jan. 5, 1858	VIII.
19700	Kennedy, John W	Carpenters' brackets, &c., holding bolt for	Mar. 23, 1858	XIV.
21538	Kennedy, John W., and John T. Plummer, assignor to themselves and John Batchelder.	Wool, machinery for drawing and twisting	Sept. 14, 1858	III.
	Kennedy, M. (See Hunt & Kennedy.)			
	Kent, Joseph. (See Brown, J. S., assignor.)			
21502	Kenyon, Charles P	Car-coupling, railroad	Sept. 14, 1858	X.
21344	Kenyon, James P. and Ellen	Lamp	Aug. 31, 1858	V.
1049	Kern, Francis	Bottles, nursery	Sept. 14, 1858	Design.
19701	Kerr, David B	Dyeing yarn particolored	Mar. 23, 1858	IV.
19997	Kerr, J. W	Hammer, operating blacksmith's	April 20, 1858	II.
20802	Ketcham, Alonzo R	Boiler, steam	July 6, 1858	VI.
20718	Ketcham, Charles	Daguerreotype plates, machine for cleaning	June 29, 1858	XVIII.
19300	Ketcham, G. P., jr	Saws, reciprocating, method of straining	Feb. 9, 1858	XIV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20719	Ketchum, W. F.	Harvester	June 29, 1858	I.
20494	Kettler, F.	Stumps, machine for cutting out	June 8, 1858	IX.
	Keyes, Peter K. (See Kendall & Keyes.)			
19932	Kidd, Whitten E.	Bonnet frames	April 13, 1858	XXI.
19567	Kidder, F. L., and A. E. Aeby	Vehicles, attaching the springs of	Mar. 9, 1858	X.
19931	Kidder, K. P.	Bee-hive	April 13, 1858	I.
21075	Kidder, M. W.	Stove, gas	Aug. 3, 1858	V.
20162	Kierstead, James F.	Seeding-machine	May 4, 1858	I.
21884	Kihlholz, Bernhard	Chimney-caps	Oct. 26, 1858	V.
19370	Kilbourn, Joseph K. and Edward E.	Knitting-machine	Feb. 16, 1858	III.
21566	Kilbourn, Joseph K. and Edward E.	Knitting-machine, needles for	Sept. 21, 1858	III.
21762	Kilbourn, Joseph K. and Edward E.	Knitting-machine	Oct. 12, 1858	III.
19702	Killam, Joseph W.	Planing-machines, method of clamping polygonal pieces in.	Mar. 23, 1858	XIV.
20882	Killbrith, F.	Shoemakers' edge-planes	July 13, 1858	XVI.
21137	Kimball, E. W.	Planter, seed	Aug. 10, 1858	I.
	Kimball, G. W. (See Ingersoll, S., assignor.)			
	King, George C. (See Lewis & King, assignors.)			
	King, John. (See Wood & King.)			
20764	King, John, assignor to himself and W. Higbie, H. Link, and G. R. Comstock.	Frame, quilting	June 29, 1858	XVII.
20495	King, Samuel U.	Brace, device for attaching bits to the	June 8, 1858	XIV.
20352	King, T. E. and A. and E.	Post, iron gate and fence	May 25, 1858	IX.
21503	King, T. E., Alexander, and Edwin	Dove-tails, machine for cutting	Sept. 14, 1858	XIV.
21885	Kinkead, A.	Tables, dining and other.	Oct. 26, 1858	XVII.
	Kinney, G. P., *et al.* (See Safford, M., assignor.)			
20496	Kinsey, M.	Fire-arm, revolving	June 8, 1858	XIX.
20436	Kinsley, E. G., and S. A. W. Parker, jr	Daguerreotype and other cases, hinge for	June 1, 1858	XVIII.
19856	Kinsley, R.	Tobacco, machine for crimping	April 6, 1858	XXII.
21504	Kinzer, Jacob	Lock, door	Sept. 14, 1858	II.
19369	Kinzer, Jacob	Furniture, casters for	Feb. 16, 1858	XVII.
19301	Kirck, Robert H	Window sash, removable	Feb. 9, 1858	IX.

20946	Kirk, Jacob W.	Drill, seed	July 20, 1858	I.
	Kirkpatrick, John. (See Nutall & Kirkpatrick.)			
21685	Kitson, Richard	Card-clothing	Oct. 5, 1858	III.
21168	Klemm, Theodor, assignor to Edward Moss	Tanning hides	Aug. 10, 1858	XVI.
22125	Kline, Calvin	Attraction of the needle, local method of neutralizing.	Nov. 23, 1858	VIII.
19280	Klinger, John W., assignor to Ignatius Sturn	Pins, diaper or shawl	Feb. 2, 1858	XXI.
194	Klingle, P.	Plough, steam	Mar. 9, 1858	Add'l imp't.
19427	Klingle, Pierce	Plough, steam	Feb. 23, 1858	I.
19575	Knab, David C.	Gas, manufacture of	Mar. 9, 1858	IV.
19426	Knapp, Franklin L.	Snow plough	Feb. 23, 1858	IX.
	Kneass, Strickland. (See Stiles & Kneass.)			
570	Knecht, Rudolph	Ships, &c., method of ventilating	July 6, 1858	Reissue.
2'004	Kneeland, J. C.	Paper, machinery for piling	July 27, 1858	III.
21539	Knight, Eleazer, assignor to himself and Nathan Kellogg.	Stone-holding machine.	Sept. 14, 1858	XV.
21505	Knight, John Iris	Bullet-machine	Sept. 14, 1858	XIX.
19812	Knight, Judson, assignor to S. Boyd, assignor to R. W. Booth.	Hoes, manufacture of	Mar. 30, 1858	I.
21886	Knight, L. L., and D. H. Rice	Spoke-machine	Oct. 26, 1858	XIV.
20353	Knight, Silas P.	Production of electrotype plates	May 25, 1858	IV.
21567	Knowles, Daniel R.	Metal bars, machine for cutting	Sept. 21, 1858	II.
629	Knowles, Hazard	Saw-mill	Dec. 1, 1858	XIV.
530	Knowles, Lucius J.	Boilers, steam, safety indicators for	Feb. 23, 1858	Reissue.
995	Koch, John P.	Bedsteads, iron legs and posts of	Mar. 23, 1858	Design.
20276	Korff, G. H.	Presses for zincographic printing	May 18, 1858	XVIII.
20921	Kraatz, David K., assignor to himself and Isaac S. Roland.	Water-wheel	July 13, 1858	XI.
21138	Kraemer, Frederick	Bathing apparatus	Aug. 10, 1858	XX.
21857	Kraft, G. W.	Gasometer	Oct. 26, 1858	IV.
20472	Krausch, T.	Railroad chairs	June 1, 1858	IX.
21076	Krause, F. C.	Gas-burner	Aug. 3, 1858	V.
20947	Krause, H.	Pressing grapes, machine for	July 20, 1858	XII.
21005	Krauser, John L.	Nails, manufacturing	July 27, 1858	II.
20312	Krauser, John L., assignor to John L. Krauser and James Harper.	Nail-machine	May 18, 1858	II.
19371	Kuehnhold, F. B., and D. B. Sturges	Harness-trees	Feb. 16, 1858	XVI.
553	Kuhns, B., and M. J. Haines	Planter, seed	May 11, 1858	Reissue.
	Kuhns, Benjamin. (See Ball, George S., assignor.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19998	Kurth, Henry	Umbrellas	April 20, 1858	XXI.
21888	Kutts, John	Brick-machine	Oct. 26, 1858	XV.
	Laage, C. J., *et al.* (See Tyler, S. G., assignor.)			
19642	Lacassagne, Joseph, and Rudolph Thiers	Electric currents, apparatus for regulating and measuring the intensity of.	Mar. 16, 1858	VIII.
22254	Lachat, Auguste	Watch-cases	Dec. 7, 1858	VIII.
21051	Lackey, L., assignor to himself and E. Townsend	Shoes, machine for pegging	July 27, 1858	XVI.
	Ladd & Keen. (See Watt & Burgess, assignors.)			
22183	Ladd, D	Planter, corn	Dec. 1, 1858	I.
19933	La France, T. S	Valve, throttle	April 13, 1858	VI.
19934	Lagowitz, S	Trunk handles, mode of constructing	April 13, 1858	XV.
	Lake, D. J. (See Granger, W. J., assignor.)			
	Lamb, Isaac. (See Mendenhall, Stephen C., assignor.)			
	Lamb, Thomas. (See Spencer & Lamb.)			
22294	Lammrich, Charles	Table, folding	Dec. 14, 1858	XVII.
	Lancaster, Joseph. (See Hartell & Lancaster.)			
20183	Lancelott, J., assignor to Sackett, Davis, & Co.	Chains, sheet-metal	May 4, 1858	XVIII.
20720	Landenberger, M	Skirt-hoops	June 29, 1858	XXI.
	Landenberger, Martin. (See Vickerstoff, Joseph, assignor.)			
19935	Landis, John K	Straw-cutter	April 13, 1858	I.
20645	Landon, D	Harvester, corn	June 22, 1858	I.
	Lane, C. (See Owens, Lane, & Dyer.)			
20948	Lane, Conrad M	Casting hinges	July 20, 1858	II.
20497	Lane, D. M	Carriage-springs	June 8, 1858	X.
19062	Lane, James C., assignor to himself and J. H. Barnes.	Quadrants, &c., artificial horizon for, method of determining.	Jan. 5, 1858	VIII.
	Lane, Philander P. (See Smith & Lane.)			
19372	Langdon, J. W	Wagons, extension-reach for	Feb. 16, 1858	X.
21889	Lanier, John M	Bridles to prevent horses from kicking or running away.	Oct. 26, 1858	XVI.
	Lankan, Daul, *et al.* (See Henn, J., assignor.)			
20723	Lanphear, Norman	Bedstead	June 29, 1858	XVII.
21568	Lanpher, A. M	Brush cylinders for spreaders, cotton-gins, &c.	Sept. 21, 1858	III.
21139	Lantz, J., and J. Russell	Wheat, cleaning-machine for	Aug. 10, 1858	XIII.
	Lanzweert, L. (See Tucker & Lanzweert.)			
20392	Lapham, A., and D. H. Burns, assignors to themselves and C. A. Durgin.	Car-couplings, railroad	May. 25, 1858	X.
	Lapham, R. (See Johnson & Lapham.)			
21569	Larrowe, A	Wagon-brake, self-acting	Sept. 21, 1858	X.
22295	Larrowe, A	Sled-brake	Dec. 14, 1858	X.
21970	Lashbrooks, James	Straw-cutter	Nov. 2, 1858	I.
606	Lashier, Daniel	Steam-pistons, metallic packing for	Sept. 28, 1858	Reissue.
	Lathrop, B. (See Tyler, Jones, & Lathrop.)			
20567	Laubach, W. H	Gas, retort for generating	June 15, 1858	IV.
22434	Laubach, William H	Gas-retort	Dec. 28, 1858	IV.
19033	Law, Robert	Shingle-machine	Jan. 5, 1858	XIV.
	Lawrence & Abbott. (See Smith & Brown, assignors.)			
22025	Lawrence, D. M	Cars, railroad, sleeping-berths for	Nov. 9, 1858	X.
19609	Lawrence, H., assignor to himself and J. M. Connel.	Washing-machine	Mar. 9, 1858	XVII.
	Lawrence, William. (See Wood & King, assignors.)			
	Lazell, Perkins, & Co., *et al.* (See Ferguson, James, assignor.)			
21262	Leach, Edwin	Music-stool	Aug. 24, 1858	XVIII.
19857	Leaman, Henry A	Piano-forte action	April 6, 1858	XVIII.
	Leas, J. E. (See Hoge, Solomon G., assignor.)			
20568	Leavenworth, L	Corn-husker	June 15, 1858	I.
20208	Leavitt, C	Mill, corn	May 11, 1858	XIII.
21263	Leavitt, Rufus	Bed-bottom	Aug. 24, 1858	XVII.
21345	Leavitt, W. D	Sawing-machines, circular, method of attaching the spreader to saws of.	Aug. 31, 1858	XIV.
21838	Leavitt, William D	Sawing, re-, machine	Oct. 19, 1858	XIV.
20072	Lee, Francis D	Life and treasure buoy	April 27, 1858	VII.
20280	Lee, R. K	Keys, safety-drop for	May 18, 1858	II.
	Lee, R. S. (See Barrett, Lee, & Waters.)			
20073	Lee, Thomas	Fire-arm, breech-loading	April 27, 1858	XIX.
21763	Lee, Thomas M	Cultivator	Oct. 12, 1858	I.
22126	Lefebvre, L	Sugar-juices, furnace for evaporating	Nov. 23, 1858	IV.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
609	Leller, J. George	Carriages, wear-iron for	Oct. 5, 1858	Reissue.
19034	Leller, Silas F	Churn	Jan. 5, 1858	I.
20569	Legare, J. M	Composition ivory frame	June 15, 1858	IV.
21570	Legros, Charles	Life-boats, expansable floats for	Sept. 21, 1858	VII.
21506	Leguay, Henry	Clay, machine for working	Sept. 14, 1858	XV.
	Leibrandt, McDowell, & Co. (See Smith & Brown, assignors.)			
531	Leicht, Conrad	Billiard-cues	Feb. 23, 1858	Reissue.
19643	Leidy, John	Grain cradle	Mar. 16, 1858	I.
21006	Lennon, S. N	Railroad switches, signal lantern for	July 27, 1858	IX.
22296	Lenzmann, Charles L	Hose, engine	Dec. 14, 1858	XI.
575	Leonard, A	Wagons, casting skeins for	Aug. 3, 1858	Reissue.
991	Leonard, Allen, assignor to Rogers Manufacturing Company.	Pots, tea and coffee	Feb. 23, 1858	Design.
19093	Leonard, Burton W	Mills, grinding	Jan. 12, 1858	XIII.
20721	Leonard, E. P., and P. H. Jackson	Vaults, &c., illuminating covers for	June 29, 1858	IX.
21890	Leslie, J. Y	Lampwick	Oct. 26, 1858	V.
	Lester, E. A	Car wheels, railroad, method of making cast iron	Aug. 10, 1858	Extension.
21202	Lester, J. N	Smut-machine	Aug. 17, 1858	XII.
	Levengood & Deppen. (See Deppen & Levengood.)			
19858	Levett, Morris	Dental plates, atmospheric pressure	April 6, 1858	XX.
20354	Lewenburg, L	Marine alarm and fog signal	May 25, 1858	VII.
614	Lewis, C. N., and G. C. King, assignors to George C. King.	Pumps, ventilating attachment to be applied to	Oct. 26, 1858	Reissue.
20163	Lewis, Charles N	Corn-husker	May 4, 1858	I.
20071	Lewis, E. E	Fence, field	April 27, 1858	IX.
21007	Lewis, E. E., W. D. Dunning, and C. Wheat	Railroads, compound rails for	July 27, 1858	IX.
21609	Lewis, John	Ships, balance sail rig for	Sept. 28, 1858	VII.
19508	Lewis, Reuben L	Boot-trees	Mar. 2, 1858	XVI.
22370	Lewis, Thomas	Bottle-stopper	Dec. 21, 1858	XXII.
22080	Lewis, Thomas	Breast-pipes	Nov. 16, 1858	XX.
22371	Lewis, Tristram S	Bench, folding	Dec. 21, 1858	XXII.
22435	Lewis, Tristram S	Clothes-horse	Dec. 8, 1858	XVII.
20646	Lewis, W. W	Horse-shoe machine	June 22, 1858	II.
21140	Lewis, William	Drills, rock	Aug. 10, 1858	IX
10094	Lewis, William J	Chain-making machine	Jan. 12, 1858	II.
19252	Lewis, William and W. H	Photographic cameras, frames for	Feb. 2, 1858	XVIII.
20075	Liebrich, Conrad	Toy	April 27, 1858	XXII.
22081	Liernur, Charles T	Registering speed of railroad trains, method of	Nov. 16, 1858	VIII.
	Lighthizer, V. B. (See Campbell, Lighthizer, & Shannon.)			
21426	Lillibridge, Gardner R	Railroad-indicator	Sept. 7, 1858	IX.
21427	Lillie, Lewis	Safe, iron	Sept. 7, 1858	II.
19469	Lilly, John O. D., James L. Vanclain, and James W. Lilly.	Locomotives in engine-houses, arrangement for carrying off smoke from.	Feb. 23, 1858	VI.
21686	Lincoln, Levi E	Boilers, steam, water-alarm for	Oct. 5, 1858	VI.
20570	Lindner, G. H	Doors, double fastening for	June 15, 1858	II.
19253	Lindner, Joseph R	Corn-sheller	Feb. 2, 1858	I.
19569	Lindsay, Alexander	Glass, &c., machine for polishing	Mar. 9, 1858	XV.
21008	Lindsay, T., and W. Geddes	Paper-making machines	July 27, 1858	III.
	Lindsey, Moore, & Clark. (See Moore, Clark, & Lindsey.)			
589	Lindsey, Hosea	Pump	Aug. 24, 1858	Reissue.
	Link, H. (See King, John, assignor.)			
209	Link, Henry	Propeller	Nov. 16, 1858	Add'l imp't.
19783	Lipman, Hymen L	Lead-pencil and eraser, combination of	Mar. 30, 1858	XVIII.
20074	Lippincott, O	Planter, corn	April 27, 1858	I.
22127	Lippmann, Adolphus	Refrigerator	Nov. 23, 1858	XVII.
20850	Lipps, J. P., assignor to George D. Baldwin	Lock	July 6, 1858	II.
	Litchfield, H. T. (See Young, Moses M., assignor.)			
21891	Lithgow, David	Iron, flat	Oct. 26, 1858	XVII.
20949	Little, M	Potatoes, machine for digging	July 20, 1858	I.
21264	Little, Samuel H	Hemp, machine for breaking	Aug. 24, 1858	III.
19302	Little, Thomas E	Mills, scrapers for grinding	Feb. 9, 1858	XIII.
	Littlefield, Dennis G. (See Easterly, Jas., ass'r.)			
21507	Littlefield, Sanford	Hoops, machine for notching and trimming	Sept. 14, 1858	XIV.
21508	Littlejohn, Hiram	Hoops, wooden, machine for cutting and finishing the locks of.	Sept. 14, 1858	XIV.
20680	Lloyd, C. C., assignor to W. Hopper and R. H. Gratz.	Gas metres, dry valves for	June 22, 1858	IV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22271	Lloyd, Jane H., administratrix of Richard L. Lloyd, deceased, assignor to George T. Parry.	Boilers, steam, device for preventing explosions in.	Dec. 7, 1858	VI.
19705	Loane, Henry E	Railroad car coupling	March 23, 1858	IX.
21892	Locke, Richard B	Paddle-wheel	Oct. 26, 1858	VII.
	Locker. (See Hersh, *et al*.)			
20278	Lockwood, E. D	Hame-tug fastener	May 18, 1858	XVI.
19326	Lombard, Daniel, assignor to himself and George F. Richardson.	Corn-husker	Feb. 9, 1858	I.
19470	Lombard, Daniel, assignor to himself and George F. Richardson.	Brick-machine	Feb. 23, 1858	XV.
21428	Long, Israel	Cultivator	Sept. 7, 1858	I.
19703	Long, J. M., P. Black, and R. Allstatter	Harvester	March 23, 1858	I.
19704	Long, Stephen H	Railways, superstructure of	March 23, 1858	IX.
21203	Long, Stephen H	Bridge	Aug. 17, 1858	IX.
21204	Longman, Samuel	Amalgamating gold and silver	Aug. 17, 1858	II.
21205	Loomis, W. H., and John Hewitt	Drill, rock	Aug. 17, 1858	IX.
21429	Lord, James	Printing address on newspapers, &c., machine for.	Sept. 7, 1858	XVIII.
21346	Lord, John P	Lock	Aug. 31, 1858	II.
	Lorenz, W., and J. D. Steele. (See Steele & Lorenz.)			
	Loth, Moritz. (See Reuthe, Frederick, assignor.)			
	Lothrop, Horace A	Hoe		Disclaimer.
21347	Loudon, John, and Hans Iverson	Hinges for window-blinds	Aug. 31, 1858	II.
21764	Loudon, John, and Hans Iverson	Stirrups	Oct 12, 1858	XVI.
20076	Loughran, Michael	Spike-machine	April 27, 1858	II.
	Lounsbury, Bissell, & Co. (See Butler, Thomas B., assignor.)			
21141	Lounsbury, Charles, jr	Apples, machine for coring and quartering	Aug. 10, 1858	XVII.
20279	Love, B. F., and J. H. Frazee	Horse-power	May 18, 1858	XIII.
539	Lovegrove, Thomas J	Casting iron pipe, employing centrifugal force in	March 23, 1858	Reissue.
21509	Lovejoy, Henry, and Robert Wheeler	Electrotype moulds, machine for coating	Sept. 14, 1858	XVIII.

19784	Loveland, John C	Scissors sharpener	March 30, 1858	XVII.
20498	Loveless, C. B	Lamps, burners for vapor	June 8, 1858	V.
20883	Loveless, T. W	Pile-driver, adjustable	July 13, 1858	IX.
21396	Lovelidge, T., assignor to himself and William Fulfirth.	Knitting-machine	Aug. 31, 1858	III.
19571	Loving, Josephus	Press, cotton	March 9, 1858	XII.
19644	Low, H. H	Sawing-machine	March 16, 1858	XIV.
19570	Low, William H	Valve, safety	March 9, 1858	VI.
20355	Low, Henry	Paper pulp from reeds, preparing	May 25, 1858	III.
20884	Lowe, Henry	Paper stock from reeds	July 13, 1858	III.
20851	Lowe, Joshua, assignor to himself and Daniel Barnum.	Gauge, magnetic steam	July 6, 1858	VI.
21971	Lowman, Elias B	Railroad turn or circular switch, miner's	Nov. 2, 1858	IX.
	Lown, J. (See Pittock, Richmond, & Phelps, assignors.)			
	Lown, Phelps, & Carver. (See Richmond & Pittock, assignors.)			
20950	Loy, G. W	Mill-stone dress	July 20, 1858	XIII.
20127	Lucas, George J., assignor to himself and John G. Lucas.	Vehicles, adjustable seats of	April 27, 1858	X.
19373	Ludlow, W. D	Refrigerator	Feb. 16, 1858	XXII.
	Ludlum, James, and James Horner. (See Bailey, John A., assignor.)			
	Luttgens, H. A., and H. Uhry. (See Uhry & Luttgens.)			
19859	Luts, J. B	Seeding-machine	April 6, 1858	I.
19428	Lyford, Zebulon	Looms, pickers for	Feb. 23, 1858	III.
21142	Lyles, Henry	Gas, apparatus for generating	Aug. 10, 1858	IV.
20209	Lyman, A. S	Cans for preserving food	May 11, 1858	XVII.
20722	Lyman, A. S	Cans for preserving food, &c	June 29, 1858	XVII.
21077	Lyman, A. S	Fibre of wood, separating the	Aug. 3, 1858	III.
20356	Lyman, Josiah	Protractor	May 25, 1858	VIII.
20499	Lyman, W. W	Pitcher, refrigerating	June 8, 1858	XVII.
21348	Lyman, W. W	Cans, preserve, method of sealing	Aug. 31, 1858	XVII.
22436	Lyman, W. W	Cans, fruit	Dec. 28, 1858	XVII.
20077	Lynch, John A	Paper, machine for wetting	April 27, 1858	XVIII.
21350	Lyon, E. L	Seeding-machine	Aug. 31, 1888	I.
21610	Lyon, Hamilton	Ovens by steam, method of heating	Sept. 28, 1858	V.
	Lyon, Jackson. (See Haley, Wilson, & Lyon.)			

Patentees of inventions and designs, 1848.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22101	Lyon, James, and George H. Brady, assignors to themselves and Thomas J. Falls, jr.	Bungs, machine for cutting	Nov. 16, 1858	XIV.
19429	Lyon, John H	Coal, machines for splitting	Feb. 23, 1858	V.
20885	Lyon, John H	Stone, machine for drilling and splitting	July 13, 1858	XV.
22297	Lytle, R. McG., William J. Alston, and Lorenzo W. True.	Chair, folding	Dec. 14, 1858	XVII.
	Macardle, G. (See Haskins & Macardle.)			
21510	Macdonald, J. C	Valve cock	Sept. 14, 1858	VI.
20649	Mace, A. M	Lamp, vapor	June 22, 1858	V.
20648	Mace, A. M	Lamp burner, vapor	June 22, 1858	V.
21893	Mace, A. M	Burner, hydro-carbon vapor	Oct. 26, 1858	V.
	Mackay, T. B. (See Gray, Joshua, assignor.)			
22255	Mackenzie, John	Sewing-machine	Dec. 7, 1858	III
20165	Mackerley, B	Metallic tubes, punching	May 4, 1858	II.
20282	Mackerley, B	Grinding, toothed cylinder for	May 18, 1858	XIII.
187	Mackerley, Benjamin	Mill, cider	Jan. 19, 1858	Add. imp't.
21235	Mackintosh, W., and S. Wadsworth, assignors to Cridge, Wadsworth, & Co	Valves, steam	Aug. 17, 1858	VI.
20724	Macnish, J	Knife and spoon cleaner	June 29, 1858	XVII.
20025	Macnish, James	Churn	April 20, 1858	I.
20803	Macnish, James, (A)	Churn	July 6, 1858	I.
20804	Macnish, James, (B)	Churns	July 6, 1858	I.
630	Macnish, James	Churn	Dec. 1, 1858	Reissue.
20283	Macomber, H. N	Lamp, vapor	May 18, 1858	V.
	Macrum, N. G. (See Barnes, Henry, assignor.)			
21571	Maddock, John	Horse-shoe	Sept. 21, 1858	II.
21206	Maffet, William R	Excavating-machine	Aug. 17, 1858	IX.
21397	Mahaffey, W. A., assignor to John Greek	Planter, seed	Aug. 31, 1858	I.
19785	Maillefert, B	Diving-bell	Mar. 30, 1858	VII.
20650	Main, W. H	Corn-sheller	June 22, 1858	I.
21265	Main, W. H	Harrow, rotary	Aug. 24, 1858	I.
22026	Main, William H	Harrow, rotary	Nov. 9, 1858	I.

20284	Malbert, Jean B., and Auguste Cheviron	Cradle, spring rocking	May 18, 1858	XVII.
19737	Maliphant, C., assignor to Thomas West	Ships' bulk-head	Mar. 23, 1858	VII.
21765	Mallerd, William	Gas regulator	Oct. 12, 1858	IV.
21839	Mallory, George	Skirt, hoop	Oct. 19, 1858	XXI.
19035	Mallory, George H	Dovetailing rotary-cutters in their heads, method of.	Jan. 5, 1858	XIV.
22083	Mallory, George H	Shingles, machine for sawing and planing	Nov. 16, 1858	XIV.
21078	Manley, E	Can, preserve	Aug. 3, 1858	XVII.
21972	Manley, E	Soldering, machine for	Nov. 2, 1858	II.
21352	Mann, C. M	Car seats, railroad	Aug. 31, 1858	X.
22437	Mann, Howard	Cultivator	Dec. 29, 1858	I.
21351	Mann, John L	Bending felloes, machine for	Aug. 31, 1858	XIV.
20681	Mann, R. J., assignor to L. A. Osborn and I J. Vincent.	Skirt, hoop	June 22, 1858	XXI.
22051	Mann, R. J., assignor to L. A. Osborn and I. J. Vincent.	Skirt, skeleton hoop	Nov. 9, 1858	XXI.
21009	Manning, S. B	Bran-duster	July 27, 1858	XIII.
19860	Manning, Samuel B	Smut-machine	April 6, 1858	I.
19509	Manning, W	Barrel-heads, machine for cutting	Mar. 2, 1858	XIV.
22330	Manning, William H., assignor to himself and Lucius H. Olmsted.	Soap, machine for cutting	Dec. 14, 1858	IV.
20805	Manny, J. P	Harvester, raking and binding attachment to	July 6, 1858	I.
20806	Manny, J. P	Harvester	July 6, 1858	I.
20807	Manny, J. P	Harvester, track-cleaner for	July 6, 1858	I.
20808	Manny, J. P	Harvester, fingers	July 6, 1858	I.
20809	Manny, J. P	Grain in bundles or sheaves, mode of securing	July 6, 1858	I.
22298	Mansfield, Joseph	Bath, shower	Dec. 14, 1858	XX.
19787	Manton, Joseph P	Windlass	Mar. 30, 1858	VII.
20438	Manville, E. J., and S. G. Blackman	Gas apparatus	June 1, 1858	IV.
21010	Marcell, M R	Churn	July 27, 1858	I.
19936	Marcellus, A	Mowing-machine, track-clearers for	April 13, 1858	I.
19938	Marcellus, H	Harvester, grain and grass	April 13, 1858	I.
19999	Marcellus, H	Harvester	April 20, 1858	I.
20164	Marcellus, H	Mowing-machine	May 4, 1858	I.
	March, H. E. (See Delany, E. J., assignor.)			
21430	Marcher, Robert J	Gilding, apparatus for preparing elliptical frames for.	Sept. 7, 1858	XVIII.
22184	Markham, Daniel, and Austin S. and David Eldred.	Seeding-machine	Dec. 1, 1858	I.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21687	Marks, Joseph	Spark-arrester	Oct. 5, 1858	VI.
20285	Marland, John	Spindle, machine for applying cop-tubes to	May 18, 1858	III.
21169	Marsh, A., assignor to himself, E. H. Hovell, J. Q. Dudley, and R. Holmes.	Gas-retort	Aug. 10, 1858	IV.
21207	Marsh, C. W. and W. W	Reaping-machine	Aug. 17, 1858	I.
	Marsh, George. (See McClure & Marsh.)			
22084	Marsh, James S	Harvester	Nov. 16, 1858	I.
22185	Marsh, Nathan B	Preservation of flesh for food	Dec. 1, 1858	IV.
22299	Marshall, Edward	Cannon, breech-loading	Dec. 14, 1858	XIX.
22256	Marshall, Edward	Saw-set	Dec. 7, 1858	II.
22438	Marshall, F. M	Planter, seed	Dec. 28, 1858	I.
20500	Marshall, J. V	Piano-forte action	June 8, 1858	XVIII.
	Marshall, W. H. (See Ross & Marshall.)			
22128	Marshman, H., and C. F. Foulke	Smut-machine	Nov. 23, 1858	XIII.
20571	Marston, John R	Lock, door	June 15, 1858	II.
	Martin, George G. (See Rollin, Daniel G., assignor.)			
21999	Martin, James W., assignor to Lewis Rothermel	Weighing-cart	Nov. 2, 1858	XII.
	Martin, Levi L. (See Thayer & Martin.)			
	Martino, John. (See Delany & Martino.)			
21894	Martratt, C	Press, cotton	Oct. 26, 1858	XII.
19939	Martz, George	Hoisting and dumping coal	April 13, 1858	XII.
21431	Martz, George	Hoisting and dumping apparatus	Sept. 7, 1858	IX.
	Marvin, Walter K. (See Horton, W. F., assignor.)			
19036	Mary, Nicholas	Process of dyeing silk, &c	Jan. 5, 1858	IV.
22101	Marzoni, C., assignor to J. Gandolpho	Paper pulp from wood, manufacture of	Dec. 21, 1858	III.
	Mason, C. (See Doane & Mason.)			
19374	Mason, John C	Hinge	Feb. 16, 1858	II.
19786	Mason, John L	Lathe, chuck	Mar. 30, 1858	II.
22129	Mason, John L	Bottles, moulds for making	Nov. 23, 1858	XV.
22186	Mason, John L	Bottles, screw-neck	Dec. 1, 1858	XXII.
20952	Mason, N	Lamp, vapor-burning	July 20, 1858	V.
19861	Mason, S., and E. M. Davis	Vise anvil for repairing T rails	April 6, 1858	II.
20281	Mason, Sandford, and Edward M. Davis	Rails, T, block for repairing	May 18, 1858	IX.
	Mason, William. (See Fay & Mason.)			
19147	Masser, H. B	Freezer, ice cream	Jan. 19, 1858	XVII.
	Mast, P. P. (See Thomas & Mast.)			
19146	Mather, John C	Switch, portable railroad	Jan. 19, 1858	IX.
21266	Mather, John C	Rails for switching cars off	Aug. 24, 1858	IX.
21973	Mathews, Charles	Smoking-tube	Nov. 2, 1858	XXII.
20078	Mathews, P. V	Gilding on glass, mode of protecting	April 27, 1858	XVIII.
	Mathews, S. R. C. (See Race & Mathews.)			
21011	Mathews, Samuel	Sinks, sewers, &c., flushing valve-trap for	July 27, 1858	IX.
20020	Mathieu, Adolph Nicholas, assignor to M. J. A. Ginet.	Pasteboard and paper, manufacture of leather	April 20, 1858	III.
20647	Matteson, Don C	Plough-gang	June 22, 1858	I.
21611	Matteson, Elisha	Power, mechanical	Sept. 28, 1858	XIII.
	Matthew, David. (See Grimes, C., assignor.)			
19095	Matthew, David	Car-boxes, railroad	Jan. 12, 1858	X.
22439	Matthew, David	Locomotive axle-bearings	Dec. 8, 1858	VI.
20810	Matthewman, J	Alarm-clock, burglar's	July 6, 1858	XXII.
21840	Matthews, C. B	Harvester, maize	Oct. 19, 1858	I.
19967	Matthews, Levi, assignor to himself and J. K. Andrews	Engine, rotary steam	April 13, 1858	VI.
21895	Matthewson, R. C	Transit instrument	Oct. 26, 1858	VIII.
20286	Mattice, F. M	File-machine	May 18, 1858	II.
19510	Mattison, James H	Barrel-heads, machine for cutting	Mar 2, 1858	XIV.
21769	Mattison, James H	Barrels, machine for chamfering and crozing	Oct. 12, 1858	XIV.
19572	Mattison, Judson	Packing flour, machine for	Mar. 9, 1858	XII.
618	Mauck, R. C., and W. T. McGahey	Harvester, corn	Nov. 2, 1858	Reissue.
21688	Maule, Henry	Signals on railroads, mode of transmitting magnetic	Oct. 5, 1858	VIII.
19940	Maurer, William	Bar for securing bank vaults	April 13, 1858	II.
21841	Maxwell, R	Bedstead	Oct. 19, 1858	XVII.
21511	May, Isaac M	Bedstead-fastening	Sept. 14, 1858	XVII.
21432	May, John	Paddle-wheel propeller	Sept. 7, 1858	VII.
22440	May, S. W	Corn, machine for picking	Dec. 28, 1858	I.
19431	May, William H., and Charles W. Coontz	Sowing fertilizers, machine for	Feb. 23, 1858	I.
22441	Mayall, Thomas J	Spring door	Dec. 28, 1858	II.
21799	Mayall, Thomas J., assignor to himself and Benjamin F. Cooke.	Stair-pad, elastic	Oct. 12, 1858	XVII.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22218	Mayall, Thomas J., assignor to himself and G. N. Davis.	Rubber, hard, manufacture of	Dec. 1, 1858	IV.
19430	Maydole, James H	Stones, machine for gathering	Feb. 23, 1858	I.
21012	Maynard, G	Carriages for children, hanging	July 27, 1858	X.
22300	Maynard, Gilbert	Carriage, children's	Dec. 14, 1858	X.
	Maynard, William G. (See Hathaway, William, assignor.			
19145	Mays, John	Sawing-machine	Jan. 19, 1858	XIV.
523	McAdams, John	Books, account, machine for numbering the pages of	Jan. 26, 1858	Reissue.
20357	McCammeron, Joseph	Seeding-machine	May 25, 1858	I.
	McCarty, Henry	Gates, lock, manner of suspending, opening, and closing.	Mar. 16, 1858	Extension.
20079	McCarty, John	Horse-shoes, machine for making	April 27, 1858	II.
20437	McCarty, John	Water-wheel, horizontal	June 1, 1858	XI.
21572	McCausland, John and Jefferson & James	Canal boat	Sept. 21, 1858	VII.
21842	McClay, Henry	Mop and brush combined	Oct. 19, 1858	XVII.
	McClean, William M. (See Borum & McClean.)			
21766	McClelland, R. W	Carriage-wheels, box for	Oct. 12, 1858	X.
	McClintock & Cumberland. (See Cumberland & McClintock.)			
21301	McClure, B. W., and George Marsh, assignors to B. W. McClure and J. H. Windsor.	Collar-blocks, horse	Aug. 24, 1858	XVI.
	McCollum, J. (See Schuyler, J. S., assignor.)			
	McCollum, J. (See McConaughy, T., and J. McCollum.)			
20652	McConaughy, T., and J. McCollum	Vehicles, metallic wheels for	June 22, 1858	X.
19706	McConaughy, Thomas	Plough	Mar. 23, 1858	I.
19433	McConnell, James E., and William Seaton	Railroads, construction of the permanent way of	Feb. 23, 1858	IX.
578	McCormick, C. H	Reaping-machine	Aug. 3, 1858	Reissue.
579	McCormick, C. H	Reaping-machine	Aug. 3, 1858	Division of reissue.

21573	McCormick, C. H	Grass, &c., machine for cutting	Sept. 21, 1858	I.
637	McCormick, Cyrus H	Reaping-machine	Dec. 21, 1858	Reissue.
20080	McCormick, J. B	Harvester	April 27, 1858	I.
21349	McCormick, J. B, and W. R. Baker	Seeding-machine	Aug. 31, 1858	I.
20212	McCormick, L. J., William S., & C. H	Reaping and mowing machine	May 11, 1858	I.
19942	McCracken, James	Furnace	April 13, 1858	V.
21433	McCray, S. B	Valve governor for steam-engines	Sept. 7, 1858	VI.
21512	McCreary, John	Tenoning-machine	Sept. 14, 1858	XIV.
21143	McCue, J. & W. B	Distilling oils from coal, retort for	Aug. 10, 1858	IV.
20572	McDonald, A	Planter, cotton-seed	June 15, 1858	I.
	McDowell, Leibrandt, & Co. (See Smith & Brown, assignors.)			
19648	McElheran, John	Types, picture	Mar. 16, 1858	XVIII.
19707	McElheran, John	Graphotype	Mar. 23, 1858	XVIII.
20081	McElheran, John	Stereotype plates, method of preparing	April 27, 1858	XVIII.
21208	McElheran, John	Cerotypography, feed-motion for	Aug. 17, 1858	XVIII.
19432	McEvoy, Charles A	Refrigerator, table	Feb. 23, 1858	XVII.
19862	McFarlan, Thomas W., and Lewis H. Davis	Corn-sheller	April 6, 1858	I.
22257	McFarland, William	Furnace for melting iron	Dec. 7, 1858	V.
	McFisher & Green. (See Green & McFisher.)			
	McGahey, W. T. (See Manck & McGahey.)			
19574	McGee, Melville	Cars, railroad, mode of operating brakes of	Mar. 9, 1858	X.
21513	McGeorge, H. D	Hemp brake	Sept. 14, 1858	III.
22187	McGerrah, John	Fastener, shutter	Nov. 30, 1858	II.
19375	McGhan, Francis	Closet, water	Feb. 16, 1858	IX.
19937	McGill, George W	Door-fastener	April 13, 1858	II.
20951	McGinniss, Cornelius	Casting iron kettles	July 20, 1858	II.
22372	McGrew, James C	Elevating hay, machine for	Dec. 21, 1858	XII.
22442	McIntire, Charles	Shirt-stud	Dec. 28, 1858	XXI.
20573	McIntosh, C	Lamps for lighting gas	June 15, 1858	V.
19941	McIntyre, James C	Shutters, illuminating iron rolling	April 13, 1858	IX.
	McIntyre, M. (See Sullivan D., assignor.)			
20359	McKeachnie, A	Foot-cleaner	May 25, 1858	XVII.
20211	McKenzie, James	Wrench	May 11, 1858	II.
19573	McKibbin, W	Bridges, &c., constructing framing of	Mar. 9, 1858	IX.
	McKinlay, James M. (See Bosworth, Zephaniah, assignor.)			
21353	McKinstry, W. P	Carriage, children's	Aug. 31, 1858	X.
20651	McKown, J	Planters, seed	June 22, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20287	McLaughlin, P.	Vessels, worming, parcelling, and serving the rigging of.	May 18, 1858	VII.
	McLaurin, D. and W. (See Bellingrath, Leonard, jr, assignor.)			
	McLauthlin, George T. (See Rider, Caleb, assignor.)			
	McLean, Aaron, R. (See Norman & McLean.)			
22443	McLean, Anne S.	Corsets	Dec. 28, 1858	XXI.
19225	McLean, Donald, assignor to himself, Samuel Green, and Nathan Ames.	Sails, top reefing	April 26, 1858	VII.
22258	McLean, James P.	Life-berth for vessels	Dec. 7, 1858	VII.
21767	McLean, Lazarus B.	Truss pads	Oct. 12, 1858	XX.
	McLellan, A. J. (See Fraser & McLellan.)			
22188	McLeod, N. N.	Lightning-rods, supporting insulator for	Nov. 30, 1858	VIII.
21975	McMahen, A. A.	Plough	Nov. 2, 1858	I.
20358	McMillen, G. M. L.	Seeding-machine	May 25, 1858	I.
21768	McMurray, J. and R.	Paper-making cylinders, constructing frames for wire-cloth	Oct. 12, 1858	III.
19437	McMurtry, John, assignor to Daniel Wiehl	Bale-hoops, cotton	Feb. 23, 1858	XII.
21052	McMurtry, John, assignor to James B. Clow and John Best.	Car-seats, railroad	July 27, 1858	X.
19303	McMurtry, Samuel G.	Bolts, flour	Feb. 9, 1858	XIII.
22085	McNair, F.	Drill, hand	Nov. 16, 1858	II.
21612	McNamara, David S.	Harvesters	Sept. 28, 1858	I.
20166	McNary, John	Lathe, automatic	May 4, 1858	XIV.
20000	McNeill, A.	Coal-scuttle and ash-sifter combined	April 20, 1858	V.
20811	McNeill, T. E.	Pan, dust	July 6, 1858	XVII.
19304	McVeigh, William	Railroad-station pumps, method of operating	Feb. 9, 1858	IX.
19788	McVicher, J.	Washing-machine	Mar. 30, 1858	XVII.
20001	McWhorter, F. S.	Planter, potato	April 20, 1858	I.
	McWilliam, J. H., *et al.* (See Carhardt & Moore, assignors.)			

20360	Meacham, B. B.	Corn-husker	May 25, 1858	I.
20653	Mears, L. R.	Corn-husker	June 22, 1858	I.
19037	Mecay, Samuel P.	Washing-machine	Jan. 5, 1858	XVII.
	Megratten, Ferris, & Garrett. (See Ferris, Garrett, & Megratten.)			
	Megraw, William A. (See Shaw & Megraw.)			
21422	Meneely, George R	Bells, hanging	Sept. 7, 1858	XVII.
	Mensell, John, *et al.* (See Hofman, Francis, assignor.)			
19038	Merk, George W.	Tin, machine for bending	Jan. 5, 1858	II.
20812	Merk, M.	Plough, hill-side	July 6, 1858	I.
20953	Merick, D. E.	Propeller	July 20, 1858	VII.
19943	Merriam, J. H.	Stencil-pallet	April 13, 1858	XVIII.
	Merrick, Silas. (See Miner & Merrick.)			
20954	Merrill, James H.	Fire-arm, breech-loading	July 20, 1858	XIX.
21770	Merrill, Platt	Match safe, friction, portable and water-proof	Oct. 12, 1858	XXII.
19863	Merrill, R.	Fence-post	April 6, 1858	IX.
19434	Merrill, Rensselaer	Fence, field, device for connecting the panels of	Feb. 23, 1858	IX.
20725	Merritt, Benjamin, jr.	Fish at sea, net for catching	June 29, 1858	XXII.
19305	Merwin, Abraham T.	Boots and shoes, method of attaching India-rubber soles to	Feb. 9, 1858	XVI.
22086	Meschutt, James M.	Tongs for coal, &c.	Nov. 16, 1858	XVII.
20288	Meyer, Henry	Mill for treating Chinese sugar-cane	May 18, 1858	XIII.
20439	Michel, F. W., W. Wilcox, and H. T. Miller	Shoe, over, straw and wood	June 1, 1858	XVI.
19096	Michener, William R.	Valve, steam	Jan. 12, 1858	VI.
19789	Mickles, M. L., and L. S. Olmsted	Cars, railroad, ticket-holder for	Mar. 30, 1858	X.
19738	Mihan, P., assignor to P. Mihan and G. Davis.	Egg-beater	Mar. 23, 1858	XVII.
19114	Mihan, Patrick, assignor to himself and Gilman Davis.	Stoves, gas	Jan. 12, 1858	V.
21896	Miles, Jasper S.	Glass, ornamenting	Oct. 26, 1858	XVIII.
20654	Millar, John	Car-seats, railroad	June 22, 1858	X.
21800	Millar, W., assignor to himself and John Nutt	Sewing-machine	Oct. 12, 1558	III.
20886	Miller, A. C.	Sawing-machine, carriage for	July 13, 1858	XIV.
20726	Miller, Alexander	Gauge-cock and alarm-whistle	June 29, 1858	VI.
21079	Miller, David L.	Presses, mode of operating	Aug. 3, 1858	XII.
19254	Miller, George	Bedstead, invalid	Feb. 2, 1858	XVII.
19307	Miller, Henry	Wood, clamp for holding rectangular pieces of, while being bored, tapped, &c.	Feb. 9, 1858	XIV.
	Miller, H. T. (See Michel, Wilcox, & Miller.)			

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Miller, Henry. (See Miller & Reamer.)			
19646	Miller, John G	Door-register	Mar. 16, 1858	XIV.
21689	Miller, L. H	Lock, bank	Oct. 5, 1858	II.
20180	Miller, Lewis, assignor to C. Aultman & Co., (No. 1)	Harvesters	May 4, 1858	I.
20181	Miller, Lewis, assignor to C. Aultman & Co., (No. 2)	Harvesters	May 4, 1858	I.
20182	Miller, Lewis, assignor to C. Aultman & Co., (No. 3)	Harvesters	May 4, 1858	I.
20243	Miller, Lewis, assignor to Aultman & Co	Harvesters, finger or guard for	May 11, 1858	I.
21209	Miller, Max	Lantern for burning coal-oil	Aug. 17, 1858	V.
	Miller, S. W. (See Hay, Adam, assignor.)			
19608	Miller, Samuel, and William Gates, jr., assignors to William Gates, jr.	Match-machine	Mar. 9, 1858	XXII.
20391	Miller, W., assignor to himself and D. S. French	Knife-cleaner	May 25, 1858	XVII.
20763	Miller, W., assignor to himself and W. P. Prescott.	Sewing-machine	June 29, 1858	III.
19864	Miller, W. K.	Harvester	April 6, 1858	I.
19306	Milliken, James	Railroad-chairs, manufacture of wrought-iron	Feb. 9, 1858	IX.
19148	Mills, P. W	Threshing-machine	Jan. 19, 1858	I.
22189	Mills, R. L	Gauge-cock	Nov. 30, 1858	VI.
21171	Mills, S. S	Fibre from the pulp in hemp leaves, machine for separating the.	Oct. 12, 1858	III.
20213	Miltenberger, Thomas	Photographs, compound	May 11, 1858	XVIII.
21613	Minard, A	Dredging machine	Sept. 28, 1858	IX.
22087	Miner, John, and Silas Merrick	Wash-board	Nov. 16, 1858	XVII.
	Mingis, James. (See Stancliff & Mingis.)			
22190	Munich, S.	Sheep, apparatus for holding	Nov. 30, 1858	I.
19039	Mitchell, Abner	Brooms, construction of	Jan. 5, 1858	XVII.
19040	Mitchell, George A	Boots and shoes, metal tips for toes of	Jan. 5, 1858	XVI.
632	Mitchell, George A	Boots and shoes, metal tips for toes of	Dec. 7, 1858	Reissue.
21434	Mitchell, James	Reaping-machine, binding attachment to	Sept. 7, 1858	I.
20813	Mitchell, Jeremiah	Harvesters	July 6, 1858	I.
21843	Mitchell, John B	Fence, field	Oct. 19, 1858	IX.
19113	Mitchell, V. N., assignor to himself and H. A. Area and C. N. White.	Carriage, shafts and poles to, attaching	Jan. 12, 1858	X.
22000	Mix, E. M. and J. E., assignors to themselves and C. D. Johnson.	Lock, pad	Nov. 2, 1858	II.
510	Moffitt, John R.	Separator, grain	Mar. 23, 1858	Reissue.
19865	Moffitt, John R.	Threshing-machine	April 6, 1858	I.
19814	Monestier, J., assignor to R. F. Spangenberg	Musicians, hand-exercise for	Mar. 30, 1858	XVIII.
603	Monnier, A.	Acid, sulphuric, manufacture of	Sept. 21, 1858	IV.
20291	Monnier, Alfred	Zinc, metallic, manufacture of	May 18, 1858	II.
20655	Monnier, Alfred	Sulphurets, metallic, treatment of	June 22, 1858	IV.
19376	Monnin, Charles	Ice spur	Feb. 16, 1858	XXII.
21267	Monroe, Freedom	Harnesses	Aug. 24, 1858	XVI.
	Monroe, J. (See Frost & Monroe.)			
19150	Monson, Charles	Tube joint, gas	Jan. 19, 1858	II.
536	Monson, Charles	Gas-tube joint	Mar. 9, 1858	Reissue.
19944	Monson, Charles	Pipes, gas, conduit joint for	April 13, 1858	II.
22027	Montague, Charles	Printing-press	Nov. 9, 1858	XVIII.
20167	Montgomery, James	Boiler, steam	May 4, 1858	VI.
21013	Montgomery, James	Boilers, steam, grates for	July 27, 1858	IX.
22373	Montgomery, James	Propeller, buoyant	Dec. 21, 1858	VII.
22441	Montgomery, R	Pavement, iron	Dec. 28, 1858	IX.
	Moody, B. D. (See Davis, Abbott R., assignor.)			
21435	Mogon, Joseph D	Callipers and dividers	Sept. 7, 1858	VIII.
21015	Moore, C	Sewing-machine	July 27, 1858	III.
19149	Moore, Charles	Press for packing the pulp of linseed or other seeds preparatory to extracting the oil from them.	Jan. 19, 1858	XII.
19708	Moore, Charles	Press for extracting oil from linseed	March 23, 1858	XII.
20290	Moore, Charles	Mills, chasing	May 18, 1858	XIII.
19436	Moore, Daniel	Tongs, fire	Feb. 23, 1858	V.
19308	Moore, E., William Clark, and James Lindsey	Stave-machine	Feb. 9, 1858	XIV.
22301	Moore, F. H	Stair-sweeper	Dec. 14, 1858	XVII.
21614	Moore, H. W	Car-wheels, cast-iron	Sept. 28, 1858	X.
19813	Moore, Isaac, assignor to himself and Francis Gore.	Steering-apparatus	March 30, 1858	VII.
	Moore, Jacob. (See Hough & Moore.)			
21354	Moore, Lewis	Seeding-machine	Aug. 31, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Moore, Solomon K. (See Dulaney, George L., assignor.)			
19255	Moore, Solomon P	Hemp-brake	Feb. 2, 1858	III.
21108	Moore, T. W., assignor to Elliott & Moore	Beef and other steaks tender, machine for making	Aug. 3, 1858	XVII.
	Moore, W. (See Carhart & Moore.)			
22146	Moore, William, assignor to George L. Cameron	Lock	Nov. 23, 1858	II.
22191	Moran, Edward	Valve-gear of steam-engine	Nov. 30, 1858	VI.
20656	Morehouse, W	Seeding-machine	June 22, 1858	I.
19866	Moorewood, Edmund, and George Rogers	Metal-plates, coated	April 6, 1858	II.
517	Morey, C., and J. B. Johnson, assignors to J. M. Singer and Edward Clark.	Sewing-machine	Jan. 12, 1858	Reissue.
518	Morey, C., and J. B. Johnson, assignors to J. M. Singer and Edward Clark.	Sewing-machine	Jan. 12, 1858	Division of reissue.
19667	Morfit, Campbell	Soap, process of making	March 16, 1858	IX.
21670	Morgan, B. S.	Cultivator	Oct. 5, 1858	I.
	Morgan, B. S. (See Seymour & Pease, assignors.)			
	Morgan, D. S. (See Seymour, W. H., and D. S Morgan.)			
	Morgan, D. S. (See Platt, N., assignor.)			
20501	Morgan, E	Shingle-machines, device for operating the bolt to obtain taper in.	June 8, 1858	XIV.
19199	Morgan, Elijah	Shingle-machine	Jan. 26, 1858	XIV.
20502	Morgan, Jesse	Tanning, method of	June 8. 1858	XVI.
21268	Morgan, Mirick	Rake, horse	Aug. 24, 1858	I.
21210	Morley, Franklin A	Steering-apparatus	Aug. 17, 1858	VII.
20574	Morrell, Benjamin D	Washing-machine	June 15, 1858	XVII.
22192	Morrill, A. R	Valves of steam-engine	Nov. 30, 1858	VI.
	Morrill, Amos. (See Russill & Morrill.)			
20289	Morrill, Oscar F	Lamps, aerovapor burners for	May 18, 1858	V.
21691	Morris, David A	Iron, sheet, rolls for making	Oct. 5, 1858	II.
21692	Morris, David A	Hammer and anvil, trip	Oct. 5, 1858	II.
21772	Morris, David A	Iron, sheet, manufacture of	Oct. 12. 1858	II.
21014	Morris, E	Railroad-rails, splice pieces for	July 27, 1858	IX.
	Morris, George W. (See Solomon & Morris.)			
22445	Morris, Henry	Motion, rotary, device for transmitting	Dec. 28, 1858	XIII.
	Morris, James. (See Corbin & Morris.)			
	Morrison, Fuller, and Warren. (See Hathaway, David, assignor.)			
20082	Morrison, D. H	Bridges, truss, metallic-shoe for	April 27, 1858	IX.
21865	Morrison, Thomas, assignor to A. S. Solomons	Chronometer-escapement	Oct. 19, 1858	VIII.
22374	Morse, Albert W	Seeding-machine	Dec. 21, 1858	I.
	Morse, G. A. (See Williams & Morse.)			
20503	Morse, G. W	Fire-arms, breech-loading	June 8, 1858	XIX.
20214	Morse, George W	Cartridge case	May 11, 1858	XIX.
20727	Morse, George W	Cartridges	June 29, 1858	XIX.
19815	Morse, J. H., assignor to himself and L. Patee	Lock, permutation	March 30, 1858	II.
19435	Morse, Stephen	Car-springs, railroad	Feb. 23, 1858	X.
	Morse, T. L. (See Disston & Morse.)			
20922	Morse, W., and J. Hughes, assignors to G. H. & A. F. Devereux, and O. W. & E. E. Barrett.	Stamps, hand	July 13, 1858	XVIII.
21615	Moses, Israel	Wagon, ambulance	Sept. 28, 1858	X.
20361	Moses, Oren	Straw-cutter	May 25, 1858	I.
19198	Mosier, P. C	Planter, corn	Jan. 26, 1858	I.
	Moss, Edward. (See Klemm, Theodor, assignor.)			
20887	Moul, C	Reaping and mowing machine	July 13, 1858	I.
21616	Moulson, John	Key-hole stop	Sept. 28, 1858	II.
21617	Mulholland, William	Lamp	Sept. 28, 1858	V.
19309	Mullen, A. J., and Robert Hall	Bricks, mode of burning	Feb. 9, 1858	XV.
22193	Muller, George	Wood, angular pieces of, machine for cutting curvilinear surfaces on.	Nov. 30. 1858	XIV.
20888	Mumm, Jacob	Watches, escapement of	July 13, 1858	VIII.
19200	Mumma, J. H	Straw cutter	Jan. 26, 1858	I.
20504	Munroe, B. B	Wagons, &c., brake for	June 8, 1858	X.
22446	Murphy, John	Fastener, blind	Dec. 28, 1858	II.
19790	Murray, Archibald	Wrench	March 30, 1858	II.
	Murray, B. (See Van Doren, John, assignor.)			
	Murray, B. (See Glover, Carlos W., assignor.)			
	Murray, Bronson. (See Van Doren, John, assignor.)			
22259	Murray, Bronson, and John Van Doren	Harvesters, corn	Dec. 7, 1858	I.
20608	Murrill, J. H., assignor to himself, and J. Flynn, and P. Emrich.	Cannon, breech-loading	June 15, 1858	XIX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19816	Musgrave, T., assignor to Anna L. Musgrave	Wool, machine for burring	March 30, 1858	III.
19256	Musser, William R., and John Coleman	Press, tobacco	Feb. 2, 1858	XII.
21436	Myers, F. R., and F. H. Furniss	Cars, railroad, couches for	Sept. 7, 1858	X.
21976	Nagele, John	Presses for embossing and figuring velvet, &c.	Nov. 2, 1858	XXII.
22302	Nance, Z. F.	Irregular forms, machine for turning	Dec. 14, 1858	XIV.
21016	Nash, E. H.	Milk, closet for	July 27, 1858	XVII.
20083	Natcher, G.	Millstone dress	April 27, 1858	XIII.
20084	Natcher, G.	Millstone dress	April 27, 1858	XIII.
	Nathurst, Rudolph A. (See Stewart, J. L., assignor.)			
21897	Naughten, James	Refrigerator	Oct. 26, 1858	XVII.
	Neal, Benjamin F. (See Floyd, Thos., assignor.)			
19438	Neal, Daniel B.	Planter, cotton-seed	Feb. 23, 1858	I.
20575	Neal, Daniel B.	Seeding-machine	June 15, 1858	I.
21269	Neal, Daniel B.	Harrow	Aug. 24, 1858	I.
19257	Neal, W. W.	Washing machine	Feb. 2, 1858	XVII.
22130	Neece, J.	Saddle-trees	Nov. 23, 1858	XVI.
20577	Neer, C.	Cracker-machine	June 15, 1858	XVII.
20576	Neer, Charles	Window blinds, metallic	June 15, 1858	IX.
1025	Neidig, H. (A)	Bedstead	July 13, 1858	Design.
1024	Neidig, H. (B)	Bedstead	July 13, 1858	Design.
21618	Nelson, J. H.	Planing irregular surfaces, machine for	Sept. 28, 1858	XIV.
21437	Nelson, John	Harvesters, raking attachment to	Sept. 7, 1858	I.
20889	Nelson, M.	Propeller, boat	July 13, 1858	VII.
19576	Nelson, N. C.	Skirt supporter	March 9, 1858	XXI.
21898	Nelson, Robert	Water, device for elevating, by the combustion of a volatilizable hydro-carbon.	Oct. 26, 1858	XI.
21438	Nelson, S. D.	Scythe-blade	Sept. 7, 1858	II.
	Nettleton, Stevens, &c. (See Hendrick, Joseph E., assignor.)			
	Nettleton, Willford H. (See Harkness, Hiram W., assignor.)			
	Nettleton, Willford H. (See Raymond, Charles, assignor.)			
	Neuer, George H. (See Regan, Henry W., assignor.)			
21619	Nevins, W. R., and J. J. Yates	Bread and cracker machine	Sept. 28, 1858	XVII.
21620	Nevins, W. R., and J. J. Yates	Oven, baker's	Sept. 28, 1858	V.
22194	Nevison, J. and E.	Plough, under-drain	Dec. 1, 1858	IX.
20292	Nevison, James	Lath-machines, method of feeding the bolt in	May 18, 1858	XIV.
	Newark Machine Company. (See How, Frederick W., assignor.)			
21621	Newbrough, John B.	Adding numbers, machine for	Sept. 28, 1858	VIII.
19327	Newbury, F. D., assignor to Richard V. De Witt, jr.	Fire-arms	Feb. 9, 1858	XIX.
19739	Newbury, F. D., assignor to R. V. De Witt, jr.	Fire-arms, revolving	March 23, 1858	XIX.
20765	Newbury, F. D., assignor to R. V. De Witt, jr.	Fire-arms, revolving	June 29, 1858	XIX.
204	Newbury, Frederick D.	Fire-arms, revolving	Sept. 28, 1858	Add'l imp't.
20890	Newell, George M.	Hemp-brake	July 13, 1858	III.
21270	Newell, John W.	Fabrics, elastic	Aug. 24, 1858	III.
20891	Newell, W.	Coffee, apparatus for cleaning and polishing	July 13, 1858	I.
	New England Pin Company. (See Van Vliet, Cornelius W., assignor.)			
	New England Screw Company. (See Kendall & Hunt, assignors.)			
20293	Newhall, H. A.	Cars, railroad, safety attachment for	May 18, 1858	X.
22131	Newlove, W.	Gate, farm	Nov. 23, 1858	IX.
21514	Newman, M.	Meat cutter	Sept. 14, 1858	XVII.
19439	Newton, Abner N.	Sewing-machine	Feb. 23, 1858	III.
22028	Newton, Daniel.	Shears for cutting sheet metal	Nov. 9, 1858	II.
	Newton, G. (See Conklin & Newton.)			
21017	Newton, O.	Boiler, steam	July 27, 1858	VI.
	New York Car and Steamboat Gas Company. (See Bidwell S., assignor.)			
19647	Nichols, Alfred E.	Bobbins, spinning	March 16, 1858	III.
21080	Nichols, F. B.	Printing-press	Aug. 3, 1858	XVIII.
	Nichols, George W. (See Ball, T., assignor.)			
	Nichols, J. R. (See Ingalls & Nichols.)			
	Nicolson, Samuel. (See Gwynne, James S., assignor.)			
21899	Nicolson, Samuel	Railways, street rails for	Oct. 26, 1858	IX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22447	Niles, Peter H	Lathe for turning masts, &c	Dec. 28, 1858	XIV.
19258	Nishwitz, F	Casting wheels, flasks for	Feb. 2, 1858	II.
	Nishwitz, F. (See Hoyt & Nishwitz.)			
19377	Nishwitz, Frederick	Harvester	Feb. 16, 1858	I.
20294	Nixon, Martin	Paper pulp, preparation of fibre for	May 18, 1858	III.
19201	Noble, Butler G	Tanning leather	Jan. 26, 1858	XVI.
21844	Noble, James	Iron, rolls for planishing	Oct. 19, 1858	II.
20362	Noble, James M	Bed-bottom	May 25, 1858	XVII.
21572	Noblet, Samuel	Nuts from unscrewing, mode of preventing	Sept. 21, 1858	II.
	Noe, J. C. (See Perry, James, assignor.)			
19867	Noette, F	Wood, machine for splitting	April 6, 1858	XIV.
21211	Noney, A. W	Carpet cleaner	Aug. 17, 1858	XVII.
21622	Norman, James, and Aaron R. McLean	Marble stone, etc., machine for sawing	Sept. 28, 1858	XV.
21693	Normandy, A	Distillation of fresh water from salt water	Oct. 5, 1858	IV.
20363	Norris, J. A	Journal-boxes	May 25, 1858	X.
22195	Norris, Martin	Auger for wood	Dec. 1, 1858	XIV.
534	Norris, Septimus	Locomotive engines, running-gear of	March 2, 1858	Reissue.
	North, Chase, and North. (See Smith & Brown.)			
	North, Chase, and North. (See Smith & Brown.)			
22147	North, Gibson, assignor to North, Chase, and North.	Stove, cooking	Nov. 23, 1858	V.
19868	North, Henry S	Fire-arms, revolving, removable rammer of	April 6, 1858	XIX.
574	North, J., assignor to A Hardy, assignor to S. T. Bacon.	Paper, machine for folding	July 27, 1858	Reissue.
21172	North, John, assignor through mesne assignments to Steuben T. Bacon.	Paper, machine for folding	Aug. 10, 1858	XVIII.
20295	Norton, H. & J S. B	Apples, device for slicing	May 18, 1858	XVII.
20215	Notman, George	Harvesters, binding device for	May 11, 1858	I.
19945	Nowlan, Samuel	Metal beams, connecting rigidly the ends of	April 13, 1858	II.
20002	Nowlan, Samuel	Mangle, domestic	April 20, 1858	XVII.
20657	Nowlan, Samuel	Ships and other vessels, air-cells for giving buoyancy to.	June 22, 1858	VII.
	Nutt, John, *et al.* (See Miller, W., assignor.)			
	Nutt, John. (See Miller, W., assignor.)			
22448	Nuttall, James	Railing, iron, construction of	Dec. 28, 1858	IX.
20168	Nuttall, Richard, and John Kirkpatrick	Screw cutting, chuck for	May 4, 1858	II.
21144	Nutting, R	Grain, machine for fanning and assorting	Aug. 10, 1858	XIII.
21236	Nutz, Leonard N., assignor to Irwin B. Randle and Elias Hibbard.	Addometer	Aug. 17, 1858	VIII.
21977	Nyce, Benjamin M	Refrigerator	Nov. 2, 1858	XVII.
20506	Oakes, John	Altitudes, sun's, heliographic instrument for taking the	June 8, 1858	VIII.
20505	Oakes, W. N	Irregular forms, machine for cutting	June 8, 1858	XIV.
	Obdyke, William. (See Austin, William, assignor.)			
21694	O'Byrne, James, and S. H. Yokum	Steam water-tank	Oct. 5, 1858	VI.
21355	Odiorne, Henry B	Sewing-machines, hemming-guides for	Aug. 31, 1858	III.
19895	Okey, J. B, assignor to himself and W. Y. Wiley.	Straw-cutter	April 6, 1858	I.
20270	Oliver, Thomas	Cotton, machine for cleaning	May 18, 1856	III.
19097	Olmstead, David G	Gins, cotton	Jan. 12, 1858	III.
19202	Olmstead, David G	Press, cotton	Jan. 26, 1858	XII.
19709	Olmstead, David G	Bale ties, cotton	Mar. 23, 1858	XII.
	Olmstead, L S. (See Mickles & Olmstead.)			
21173	Olmstead, Lorenzo B	Ordnance, compound shell for	Oct. 12, 1858	XIX.
	Olmstead, Lucius H. (See Manning, William H., assignor.)			
20296	O'Neil, John K	Lamp, vapor, burner for	May 18, 1858	V.
21695	Oot, Adam	Apple-paring knife	Oct. 5, 1858	XVII.
22237	Opp, Henry	Harvester	Dec. 7, 1858	I.
19648	Oppenheimer, Solomon	Pail, milking	Mar. 16, 1858	XVII.
19259	Orange, Samuel J	Harrow	Feb. 2, 1858	I.
21439	Orange, Samuel J., and George Beidelman	Harrows	Sept. 7, 1858	I.
22238	Orr, Adrian V. B., and Gideon Bantz	Nail, wrought, machine	Dec. 7, 1858	II.
19041	Orr, James F	Gin, cotton	Jan. 5, 1858	III.
20923	Orr, H., assignor to William M. Griffith & Co	Grain, machine for cleaning	July 13, 1858	I.
	Osborn, L. A. (See Mann, R. J., assignor.)			
20578	Osborn, M	Vessels, sunken, apparatus for raising	June 15, 1858	VII.
631	Osborn, Marmaduke	Felting for coats, hats, &c	Dec. 1, 1858	Reissue.
20216	Osgood, Enoch	Gin, cotton	May 11, 1858	III.
21145	Osgood, H. B	Scales, counter	Aug. 10, 1858	XII.
19203	Osgood, James W	Valves, steam throttle	Jan. 26, 1858	VI.
19440	Osgood, Pelatiah	Railroad-track cleaner	Feb 23, 1858	IX.

Patentees of inventions and designs, 1858.

No.	Name of patentee	Invention or discovery.	Date.	Class.
21774	Ostrander, J., and J. S. Heartt	Bricks, fire, manufacture of	Oct. 12, 1858	XV.
21271	Otis, E Graves	Oven	Aug. 24, 1858	V.
22132	Oudry, Charles Francis Leopold	Preserving surfaces of cast or wrought iron	Nov. 23, 1858	IV.
21081	Outten, George F	Whiffletree, safety	Aug. 3, 1858	X.
21440	Owen, Benjamin	Planter, seed	Sept. 7, 1858	I.
20892	Owen, J. E., C. Lane, and E. G. Dyer	Threshing-machine, endless chains for	July 13, 1858	I.
20170	Packard, Reuben	Hoisting-machine	May 4, 1858	XII.
20728	Packer, Henry H	Drill, hand	June 29, 1858	II.
21696	Page, Charles	Cars and locomotives when without steam, windlass for moving.	Oct. 5, 1858	X.
20507	Page, Charles G	Head-rest, combined umbrella and	June 8, 1858	X.
22239	Page, Clark D	Kiln, lime	Dec. 7, 1858	XV.
20579	Page, E	Clothes-frame	June 15, 1858	XVII.
19310	Page, Enos	Churn	Feb. 9, 1858	I.
	Page, John D (See Woodworth & Page.)			
	Paine, Charles F., deceased, Joseph Eaton, administrator of	Presses, hay	April 22, 1858	Extension.
22219	Paine, Henry M	Air-engine	Nov. 30, 1858	XI.
21082	Painter, W	Money table	Aug. 3, 1858	XXII.
21356	Painter, William	Car-seats	Aug. 31, 1858	X.
22029	Palmenbuerg, Joseph R	Galvano-electric machine	Nov. 9, 1858	VIII.
	Palmer, A. (See Hill, Samuel L., assignor.)			
21775	Palmer, Arnold	Paper-clamps	Oct. 12, 1858	XVIII.
	Palmer, George. (See Keeport & Palmer.)			
	Palmer, George M. (See Suter & Palmer.)			
21176	Palmer, Hiram	Life-preserver	Oct. 12, 1858	VII.
980	Palmer, Peter A.	Stove	Jan. 12, 1858	Design.
21623	Palmer, William	Fire-arm, revolving	Sept. 28, 1858	XIX.
	Pardee, John H. (See Hinman, George, assignor.)			
19511	Parham, John and Samuel P	Hydrant	Mar. 2, 1858	XI.
20085	Parisen, William O	Awning, metal	April 27, 1858	XXII.
20003	Parker, E	Corn-sheller	April 20, 1858	I.

20440	Parker, E	Planter, seed	June 1, 1858	I.
20814	Parker, J. J	Apples, machine for paring, slicing, and coring	July 6, 1858	XVII.
20580	Parker, Joseph	Bedstead, invalid	June 15, 1858	XVII.
	Parker, S A. W., jr. (See Kinsley & Parker.)			
19662	Parker, Sidney, assignor to himself and Leonard Westbrook and Hugh Herringshaw.	Sewing-machine	Mar. 16, 1858	III.
	Parkhurst & Byam. (See Byam & Parkhurst.)			
19442	Parkhurst, H. A	Harvester	Feb. 23, 1858	I.
21357	Parkhurst, H. C	Gin, cotton	Aug. 31, 1858	III.
532	Parkhurst, S. R	Carding-machine	Feb. 23, 1858	Reissue.
20086	Parkhurst, S. R	Gin, cotton	April 27, 1858	III.
	Parkinson, Hardy, & Bates. (See Hardy & Parkinson, assignors.)			
19379	Parks, Nathaniel	Magnet, receiving	Feb. 16, 1858	VIII.
21697	Parmelee, Dubois D	Caoutchouc, tools for manufacturing goods of	Oct. 5, 1858	IV.
19380	Parrish, Stephen E	Car-wheels, railroad	Feb. 16, 1858	X.
21358	Parson, L. H., and George Houston	Rake, horse	Aug. 31, 1858	I.
	Parsons, Henry S. (See Barnes, Stephen, assignor.)			
20581	Partridge, W., jr., and G. W. Shaw	Grain, machine for cleaning	June 15, 1858	I.
20660	Past, J. C	Saw-mills, method of clamping and laterally feeding the log in.	June 22, 1858	XIV.
	Patee, L. (See Morse, J. H., assignor.)			
	Patrick, Robert M. (See Perkins, John M., assignor.)			
	Patterson, C S. (See Shaw, Thomas, assignor.)			
19378	Patterson, James W	Harvesters, raking attachment for	Feb. 16, 1858	I.
21146	Paulus, E	Time-keepers, escapement for	Aug. 10, 1858	VIII.
19710	Pauvert, C	Compounds for hardening iron and steel	Mar. 23, 1858	IV.
19577	Pawling, Joseph H	Snow-plough	Mar. 9, 1858	IX.
21019	Payne, F. C	Mosquito bars, means of adjusting	July 27, 1858	XVII.
	Payne, George W. (See Wilson & Payne.)			
21978	Payne, Reuben L	Trap for animals	Nov. 2, 1858	XXII.
22196	Peabody, John F	Railway bars, securing the ends of	Nov. 30, 1858	IX.
21359	Pearsall, A	Welding bellows pipe	Aug. 31, 1858	II.
	Pearson, Hiram E. (See Batchelder, Asahel G., assignor.)			
19204	Pearson, John	Car-coupling, railroad	Jan. 26, 1858	X.
21900	Pearson, John, jr	Stove, cooking	Oct. 26, 1858	V.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Pease, H. (See Seymour & Pease.)			
20893	Peatfield, J.	Knit gloves, manufacturing	July 13, 1858	III.
21624	Peatfield, S.	Car-springs, India rubber	Sept. 28, 1858	X.
22197	Peberdy, Samuel	Skirts, ladies' hoop	Nov. 30, 1858	XXI.
19311	Peck, Elias.	Cotton-fields, machine for cutting brush from	Feb. 9, 1858	I.
19472	Peck, Russel, assignor to himself and G. H. Wooster.	Clock-movements, lathe for cutting tenons for	Feb. 23, 1858	VIII.
22375	Peckham, John	Shirts, draughting	Dec. 21, 1858	XVII.
	Peckover, J. (See Adams & Peckover.)			
22449	Petley, Jacob	Lathe-machine	Dec. 28, 1858	XIV.
19581	Peirce, William	Pump, rotary	Mar. 9, 1858	XI.
19869	Pelletreau, Jesse W	Planting potatoes, machine for	April 6, 1858	I.
21588	Pemberton, Lemuel, administrator of John Pemberton, deceased.	Saw-mill	Sept. 21, 1858	XIV.
21360	Penniston, George W.	Bales, &c., cotton, machine for tightening and securing metallic bands for.	Aug. 31, 1858	XII.
20021	Pepper, Calvin, assignor to Nelson R. Scovel	Cars, railroad, method of ventilating	April 20, 1858	X.
22331	Pepper, Calvin, assignor to himself and John G. Treadwell.	Gas for heating and illuminating purposes, method of applying.	Dec. 14, 1858	V.
21361	Pepper, T. W.	Sewing-machines, oiling the threads for	Aug. 31, 1858	III.
19151	Perham, David	Cranberry separator	Jan. 19, 1858	I.
19099	Perin, Ezra and John Z.	Sawing cross-cut, horse-power machine for	Jan. 12, 1858	XIV.
20441	Perkins, C. H.	Horse-shoes, machine for making	June 1, 1858	II.
19533	Perkins, John M., assignor to Robert M. Patrick	Lock	Mar. 2, 1858	II.
19098	Perkins, Nahum S. C.	Engines, steam, arrangement for	Jan. 12, 1858	VI.
	Perkins, Lazell, & Co. (See Ferguson, James, assignor.)			
	Perkins, S. R. (See German & Perkins.)			
19791	Perley, Charles	Desk-seats for schools	Mar. 30, 1858	XXII.
21979	Perley, Charles	Boat-davits, tripping block for	Nov. 2, 1858	VII.
20169	Perrine, William C	Meters, fluid	May 4, 1858	XI.
	Perry, A. G. (See Smith & Perry.)			
20582	Perry, C. P.	Straw-cutter	June 15, 1858	I.
19946	Perry, David	Skirts, cords for	April 13, 1858	XXI.
20955	Perry, E. H.	Chain, machine for making	July 20, 1858	II.
21362	Perry, Edwin H	Chain, machine for making	Aug. 31, 1858	II.
22266	Perry, Horatio O., assignor to himself and Sidney Sheppard.	Propellers, means of securing the arms to the hub of.	Dec. 7, 1858	VII.
20815	Perry, J. G.	Sausage-filler	July 6, 1858	XVII.
19610	Perry, James, and E. Fitzgerald, assignors to James Perry, Daniel Fitzgerald, and Horatio Bogert.	Dough, raising	Mar. 9, 1858	XVII.
22148	Perry, James, assignor to J. C. Noe	Sewing-machine	Nov. 23, 1858	III.
19441	Perry, Philander	Mill, grain	Feb. 23, 1858	XIII.
21901	Perry, Philander	Car-coupling, railroad	Oct. 26, 1858	X.
20658	Perry, S.	Lock, combination	June 22, 1858	II.
19100	Peter, Lewis	Engine, rotary steam	Jan. 12, 1858	VI.
21845	Petersen, Charles J. C	Coffee-roasters	Oct. 19, 1858	XVII.
22303	Petersen, Charles J. C	Boiler, steam	Dec. 14, 1858	VI.
21363	Petersen, Charles J. C	Corn-husker	Aug. 31, 1858	I.
22198	Petersen, Charles J. C	Valve-gear of locomotive engines	Nov. 30, 1858	VI.
	Peterson & Stuart. (See Horton, J., assignor.)			
	Peterson, Stuart, & Cresson. (See Delany & Martino, assignors.)			
	Peterson, Stuart, & Cresson. (See Cresson, Stuart, & Peterson.)			
	Peterson, J. (See Reed, J A., assignor.)			
	Peterson, Richard. (See Steffe, Horton, & Currie, assignors.)			
22199	Pettee, S. E.	Bag machines, &c., pasting apparatus for	Nov. 1, 1858	XVIII.
20217	Pettee, S. E., and E. G. Cobb	Stamp, hand, self-inking	May 11, 1858	XVIII.
21147	Pettet, W	Oven, bake	Aug. 10, 1858	V.
19101	Phelan, Michael, assignor to H. W. Collender	Billiard tables, cushions for	Jan. 12, 1858	XXII.
	Phelps, Lown, & Carver. (See Richmond & Pittock, assignors.)			
	Phelps, Pittock, & Richmond. (See Pittock, Richmond, & Phelps.)			
20087	Phelps, Charles	Envelopes for letters, &c	April 27, 1858	XVIII.
22030	Phelps, Ebenezer W	Bee-hive	Nov. 9, 1858	I.
19042	Phelps, George M	Electro-magnetic speed-governor	Jan. 5, 1858	VIII.
21980	Phelps, James N.	Printing-press, hand	Nov. 2, 1858	XVIII.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20297	Phelps. L. B	Planters, corn	May 18, 1858	I.
20393	Philbrick, David, assignor to himself and Elmer Townsend.	Last-holder, rotary	May 25, 1858	XVI.
	Phillips, J. (See Dewey & Phillips.)			
	Phillips, John. (See Cannon, Francis A., assignor.)			
19649	Phillips, Nathan M	Bedstead, spring	Mar. 16, 1858	XVII.
20298	Phillips, Nathan M	Lathe-dog	May 18, 1858	XIV.
19512	Picket, Warner, and Andrew Hills	Corn-husker	Mar. 2, 1858	I.
20364	Pierce, D	Clothes-pin	May 25, 1858	XVII.
22133	Pierce, George V and Edwin A	Bustles for ladies' dresses	Nov. 23, 1858	XXI.
	Pierce, George W. (See Fuller & Pierce.)			
22450	Pilgrim, James	Cores for moulding plastic substance	Dec. 28, 1858	XV.
21515	Pilson, R	Looms, temples for	Sept. 14, 1858	III.
584	Pirsson, Joseph P	Engines, steam, surface-condensers for	Aug. 10, 1858	Reissue.
20128	Pitcher, Benjamin, assignor to himself, William Tobey, and John Anderson.	Bending mould-boards for ploughs	April 27, 1858	II.
	Pitkin & Wiard. (See Wiard, Thomas, assignor.)			
	Pittock, G. W. (See Richmond & Pittock, assignors.)			
996	Pittock, G. W., G. G. Richmond, and C. Phelps, assignors to themselves and J. Lown.	Stoves, cooks'	April 6, 1858	Design.
21272	Plant, Increase C	Bales, &c., metallic bands or ties for	Aug. 24, 1858	XII.
21724	Plant, John, assignor to himself and George H. Plant.	Furnace for heating buildings	Oct. 5, 1858	V.
	Plant, P. (See Ford & Plant.)			
19896	Plant, P., assignor to himself and P. Hannay	Lamp	April 6, 1858	V.
21902	Platt, Edwin and Jacob B	Press, copying	Oct. 26, 1858	XVIII.
20659	Platt, Henry M	Plough	June 22, 1858	I.
21083	Platt, N	Carriage-wheels, hubs for	Aug. 3, 1858	X.
590	Platt, N., assignor to W. H. Seymour and D. S. Morgan.	Harvester	Aug. 31, 1858	Reissue.
591	Platt, N., assignor to W. H. Seymour and D. S. Morgan.	Harvester	Aug. 31, 1858	Division of reissue.
592	Platt, N., assignor to W. H. Seymour and D. S. Morgan.	Harvester	Aug. 31, 1858	Division of reissue.
593	Platt, N., assignor to W. H. Seymour and D. S Morgan.	Harvester	Aug. 31, 1858	Division of reissue.
22031	Plinta, Augustus	Railway bars, joints for securing the ends of	Nov. 9, 1858	IX.
22376	Plinta, Augustus	Railroad rails	Dec. 21, 1858	IX.
20816	Plonk, Levi	Collars, horse, machine for stuffing	July 6, 1858	XVI.
19711	Plumb, Hiram	Turning tool-handles, etc., machine for	Mar. 23, 1858	XIV.
	Plummer, J. T. (See Kennedy & Plummer.)			
21020	Pohle, C. R. M	Time, combination of the needle and sun-dial to ascertain.	July 27, 1858	VIII.
21021	Pole, Joseph W	Locomotive-engines, grates for	July 27, 1858	VI.
22451	Pollard, Ezra	Clothes, pestle for cleansing	Dec. 28, 1858	XVII.
19205	Pollard, Horatio	Heel-spur to prevent slipping on ice	Jan. 26, 1858	XXII.
	Pomeroy, C. S. (See Behrens, H. J., assignor.)			
20171	Pomroy, C	Pipe, cast-iron	May 4, 1858	II.
21903	Pond, Joseph F	Washing-machine	Oct. 26, 1858	XVII.
20924	Poole, R., assignor to himself and German H. Hunt.	Car-wheels, cooling	July 13, 1858	X.
20022	Poole, Robert, assignor to Robert Poole and German H. Hunt.	Casting car-wheels	April 20, 1858	II.
21625	Poole, T. W	Cultivator	Sept. 28, 1858	I.
566	Pope, A. R	Electro-magnetic alarms	June 8, 1858	Reissue.
20299	Poppenhusen, C	Whalebone, manufacture of artificial	May 18, 1858	XXII.
20894	Porter, C. T	Engines, steam, governor for	July 13, 1858	VI.
22377	Porter, David D	Gun-carriages, quoins for	Dec. 21, 1858	XIX.
21626	Porter, Emma T	Clothes-dryer	Sept. 28, 1858	XVII.
19152	Porter, Luther E	Seaming-machine, double	Jan. 19, 1858	II.
22200	Porter, Rufus	Engine, steam	Nov. 30, 1858	VI.
	Post & Burridge. (See Burridge & Post.)			
22442	Postley, Charles A	Bustle	Dec. 7, 1858	XXI.
	Potter & Bodine. (See Borden, J., assignor.)			
	Potter & Co. (See Vedder & Sanderson, assignors.)			
	Potter & Co. (See Vedder & Ripley.)			
	Potter, Grover, & Baker. (See Blodgett, S. C., assignor.)			
19870	Potter, H. H	Sawing-machine, cross-cut	April 6, 1858	XIV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22304	Potter, Henry H	Carriage-seats, adjustable	Dec. 14, 1858	IX.
	Potter, Louis. (See Vedder & Ripley, assignors.)			
19260	Potter, Nathaniel	Car-brake, railroad	Feb. 2, 1858	X.
22267	Potter, Robert M	Gas meters, valves for	Dec. 7, 1858	IV.
19578	Potts, Albert	Letter-boxes to lamp-posts, mode of attaching metallic.	Mar. 9, 1858	XXII.
22088	Potts, Jesse F	Vessels, centre-board for	Nov. 16, 1858	VII.
19513	Powell, James	Hydrant	Mar. 2, 1858	XI.
	Powell, James. (See Robbins & Powell, assignors.)			
21022	Powers, J. H	Gas-regulator	July 27, 1858	IV.
20366	Pratt, A. M	Seeding-machine	May 25, 1858	I.
	Pratt, Caleb, and T. Willis Pratt	Bridges, truss-frames for	Mar. 29, 1858	Extension.
21148	Pratt, E	Printing-ink rollers	Aug. 10, 1858	XVIII.
20365	Pratt, F. B., and T. Tylee	Washing-machine	May 25, 1858	XVII.
20530	Pratt, George, assignor to J. A. Ellis and J. E. Hazelton.	Table, extension	June 8, 1858	XVII.
989	Pratt S. F	Sewing-machines, tables for	Feb. 16, 1858	Design.
22240	Pratt, Samuel F	Sewing-machines	Dec. 7, 1858	III.
20661	Prentiss, E. F	Cleansing woollens, solutions for	June 22, 1858	IV.
210	Prescott, Jedediah	Gin feeder, cotton	Nov. 30, 1858	Add'l imp't.
	Prescott, W. P. (See Miller, W., assignor.)			
22241	Preston, E. A	Measuring and recording by the tape, method of	Dec. 7, 1858	VIII.
19948	Preston, John	Process of extracting fat oils from seeds	April 13, 1858	IV.
22201	Preston, O. W., jr	Pumps	Nov. 30, 1858	XI.
21364	Price, C. E., & J. Haythorn	Carding-machine	Aug. 31, 1858	III.
19947	Price, John T	Wheels of steam-vehicles, ploughs, &c., driving, giving adhesion to.	April 13, 1858	X.
19712	Prime, Bradley, L	Roofing-cement, composition for	Mar. 23, 1858	IX.
21149	Prindle, F B	Fire-arm, repeating	Aug. 10, 1858	XIX.
21212	Pritz, Adam	Drill, grain	Aug. 17, 1858	I.
	Proctor, H. M. (See Bancroft, N. W., assignor.)			
20662	Proctor, L. H	Coal-ashes, &c., apparatus for sifting	June 22, 1858	V.

20508	Prosser, Thomas	Bee-hive	June 8, 1858	I.
22149	Puffer, Milton G., assignor to Cyrus White and Lewis A. Corbin.	Envelopes, machine for making	Nov. 23, 1858	XVIII.
20583	Pugh, John	Car-wheels	June 15, 1858	X.
20367	Pullman, N	Switch, railroad	May 25, 1858	IX.
19261	Purchase, Thomas E	Bars, making railway	Feb. 2, 1858	II.
	Purdy, Albert G. (See Holmes, Alexander M., assignor.)			
20004	Pusey, L	Car-wheels, railroad, securing tires to	April 20, 1858	X.
20368	Pusey, L	Horse-power, governor for	May 25, 1858	XIII.
20442	Putnam, S. S	Pump	June 1, 1858	XI.
21213	Putnam, S. S	Nails, machine for forging	Aug. 17, 1858	II.
21636	Pye, Thomas L	Lock	Sept. 28, 1858	II.
22202	Quackenbush, Cornelius	Fences, field, brace-post for	Nov. 30, 1858	IX.
20817	Quackenbush, J. H	Car coupling, railroad	July 6, 1858	X.
	Quigley, J. (See Clare & Quigley.)			
20088	Quigley, M	Table, convertible extension	April 27, 1858	XVII.
20369	Quimby, A	Washing-machine	May 25, 1858	XVII.
19713	Quimby, David S	Stove-heating apparatus	Mar. 23, 1858	V.
	Quimby, E. M. (See Crossman & Quimby.)			
20443	Quinn, E	Pump-buckets	June 1, 1858	XI.
19206	Race, W., and S. R. C. Mathews	Hydrant	Jan. 26, 1858	XI.
20729	Racey, W. H	Lamp, vapor	June 29, 1858	V.
21627	Racey, W. H	Lamp	Sept. 28, 1858	V.
20818	Racine, L	Mill-stones, ventilating	July 6, 1858	XIII.
21698	Raezer, Mathias	Rake, hay	Oct. 5, 1858	I.
20509	Rarford, Philip H	Press, ratchet	June 8, 1858	XII.
21084	Ralston, A	Stove	Aug. 3, 1858	V.
21575	Ralston, Andrew	Churn	Sept. 21, 1858	I.
19262	Ramage, Joseph O	Plough	Feb. 2, 1858	I.
19949	Rand, A. C., and R. R. Johnson	Fog-bells	April 13, 1858	VII.
	Rand, Jacob B. (See Huntoon, Reuben K., assignor.)			
1057	Randall, A. C	Lockets	Oct. 19, 1858	Design.
21053	Randall, G. W., assignor to R. J. Todd	Lamp, vapor, burner for	July 27, 1858	V.
19381	Randall, H. H	Press, cotton	Feb. 16, 1858	XII.
	Randle, Irwin B. (See Nutz, L. N., assignor.)			
20370	Rands, C	Mill, flouring	May 25, 1858	XIII.
19792	Ransom, J. L	Brick-machine	Mar. 30, 1858	XV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20089	Rarey, G. S.	Churn	April 27, 1858	I.
	Rathbone & Co. (See Gibbs, S. W.)			
19650	Raub, Christian, (A)	Stove, cooking	Mar. 16, 1858	V.
19651	Raub, Christian, (B)	Stove, cooking	Mar. 16, 1858	V.
20584	Ray, Amos H	Gas-burners	June 15, 1858	V.
22452	Ray, James S	Burnishing attachment for lathes	Dec. 28, 1858	II.
22220	Raymond, C., assignor to W. H Nettleton	Sewing-machine	Nov. 30, 1858	III.
19612	Raymond, Charles, assignor to Willford H. Nettleton.	Sewing-machine	Mar. 9, 1858	III.
21054	Raymond, E. A., and C. Robitaille, assignors to themselves, J. B. Richards, and T. K. Austin.	Fire-arm, revolving	July 27, 1858	XIX.
21778	Raymond, N. C	Compositions used as building materials	Oct. 12, 1858	IV.
20683	Read, H. F., assignor to himself and Samuel J. Burr.	Stuffing boxes	June 22, 1858	XIII.
22032	Read, Hosea W	Harvester	Nov. 9, 1858	I.
1017	Read, J. A., assignor to D. Stuart and J. Peterson	Stove	June 29, 1858	Design.
	Read, J. M. (See Copeland, Josiah.)			
21516	Reamer, Isaac, and Henry Miller	Harvester, corn	Sept. 14, 1858	I.
21846	Reaney, William	Plough	Oct. 19, 1858	I.
19579	Redhead, Joseph	Planter, seed	March 9, 1858	I.
22378	Redhead, Joseph	Levelling instruments, self-adjustable	Dec. 21, 1858	VIII.
20585	Reed, D. R., and J. E. Chapman	Sheep while being sheared, device for holding	June 15, 1858	I.
22305	Reed, George P	Time-pieces, escapement for	Dec. 14, 1858	VIII.
981	Reed, Henry G., assignor to himself and Charles E. Burton.	Tea-service	Jan. 12, 1858	Design.
20819	Reed, J	Leathering tacks, machine for	July 6, 1858	XVI.
22453	Reed, Jessee	Steering-apparatus	Dec. 28, 1858	VII.
21023	Reed, Lyman	Compounds for treating potato-rot	July 27, 1858	IV.
20300	Reeder, A	Ploughs, apparatus for clearing the coulters of	May 18, 1858	I.
21150	Rees, E M	Hay-elevator	Aug. 10, 1858	I.
21725	Rees, Jacob, assignor to Jonah L. Rees	Barrels, machine for forming	Oct. 5, 1858	XIV.
21847	Reese, Adam R	Harvesters, raking attachment to	Oct. 19, 1858	I.
21024	Reeve, T. and J., and S. M. Tyler	Telegraph machines, printing, mode of operating the mechanism of.	July 27, 1858	VIII.
577	Reeves, Israel S., assignor to J. B. Slawson	Omnibus fare-box	Aug. 3, 1858	Reissue.
19471	Reeves, Israel S., assignor to J. B. Slawson	Omnibus fare-box	Feb. 23, 1858	X.
	Reeves, J. (See Hidden & Reeves.)			
19043	Reeves, John	Ships, construction of	Jan. 5, 1858	VII.
21801	Regan, Henry W., assignor to himself and George H. Neuer.	Pump	Oct. 12, 1858	XI.
20895	Rehahn, H	Refrigerator	July 13, 1858	XVII.
22089	Rehn, Isaac	Melodeons, &c	Nov. 16, 1858	XVIII.
22033	Reichhold, Frederick	Umbrellas and parasols, frames for	Nov. 9, 1858	XXI.
21576	Reichmann, C	Lamp	Sept. 21, 1858	V.
20371	Reid, Daniel	Distilling spirits of turpentine, apparatus for	May 25, 1858	IV.
19207	Reighard, Jacob H	Lantern	Jan. 26, 1858	V.
19897	Reighard, Jacob H., assignor to himself, John Bird, and David Challiner.	Lantern	April 6, 1858	V.
19580	Reimann, H	Cigar-lighting cinders, apparatus for containing and igniting.	March 9, 1858	XXII.
19717	Reimann, Henrich	Cigar-lighting cinders	March 23, 1858	XXII.
21442	Reinert, W. S	Kneading-machine	Sept. 7, 1858	XVII.
	Remington, E. (See Sangster, A. W., assignor.)			
	Remington, Samuel. (See Thomas, John F., assignor.)			
20956	Rennie, A	Lathes, turning, method of feeding tool-carriage in	July 20, 1858	XIV.
21085	Resor, William	Broiling-furnace and cooking-range combined	Aug. 3, 1858	V.
203	Reuthe, F	Trap for animals	July 6, 1858	Ad'l imp't.
21302	Reuthe, Frederick, assignor to Moritz Loth	Trap for animals	Aug. 24, 1858	XXII.
1062	Reynolds, Edward, assignor to Thomas W. Brown	Stands, hat and cane	Nov. 16, 1858	Design.
20957	Reynolds, George	Axe-polls, machine for making	July 20, 1858	II.
20444	Reynolds, H. H	Truss-pads	June 1, 1858	XX.
21365	Reynolds, Joseph	Carpet-fastener	Aug. 31, 1858	XVII.
19793	Reynolds, O L	Sewing-machine	March 30, 1858	III.
21214	Reynolds, Samuel D	Threshing-machine	Aug. 17, 1858	I.
20090	Reynolds, T. S	Printing-press	April 27, 1858	XVIII.
22454	Reynolds, Uel J	Trace-fastening	Dec. 28, 1858	XVI.
	Rhodes, Drake, and Collins (See Collins, J. J. G., assignor.)			
	Rhodes, John. (See Brown, Cyriel E., assignor.)			
	Rhodes, S. (See Clime, J. C., assignor.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Riatti, Vincent. (See Corbelli & Riatti.)			
19153	Rice, Charles W., and John E. Harrington	Pendulum, compound	Jan. 19, 1858	VIII.
	Rice, D. H. (See Knight & Rice.)			
22379	Rice, George F	Boring wood, machine for	Dec. 21, 1858	XIV.
	Rice, John. (See Wood, William W. W., assignor.)			
19794	Rice, John W	Car-coupling, railroad	March 30, 1858	X.
21086	Rice, John W	Cars, brakes for railroad	Aug. 3, 1858	X.
22455	Rice, John W	Car-brakes, railroad	Dec. 28, 1858	X.
20820	Rice, Luther O	Carriage-springs, attaching	July 6, 1858	X.
	Rice, V. M. (See Buel & Barnes.)			
	Rice, V. M. (See Sangster, A. W.)			
22102	Rich, Isaac, assignor to S. C. Arnold	Boot and shoe soles, instrument for trimming the edges of.	Nov. 16, 1858	XVI.
20372	Richard, A. C	Jack, lifting	May 25, 1858	XII.
19044	Richard, Albert C	Lanterns, attachment for lighting	Jan. 5, 1858	V.
21517	Richard, Albert C	Bale hoops, cotton, clasps for	Sept. 14, 1858	XI.
21848	Richard, Albert C	Bands, clasps for metallic or other flexible	Oct. 19, 1858	XII.
22243	Richards, Henry E	Furniture-casters, device for supporting	Dec. 7, 1858	XVII.
	Richards, J. B. (See Raimond & Robitaille, assignors.)			
19950	Richards, Samuel	Snow-plough	April 13, 1858	IX.
19443	Richards, Thomas	Valve, rotary	Feb. 23, 1858	VI.
	Richardson, Alpha, deceased, Hubbard, Harris, administrator of	Leather, machinery for splitting strips or pieces of	April 17, 1858	Extension.
20925	Richardson, B., assignor to himself and the Hayden Manufacturing Company.	Thread, machinery for polishing	July 13, 1858	III.
	Richardson, George F. (See Lombard, Daniel, assignor.)			
1048	Richardson, Nathaniel P	Stove	Sept. 7, 1858	Design.
	Richardson, Nathaniel T., & Co. (See Stevens, William W., assignor.)			
	Richardson, S. (See Robins, Jabez, assignor.)			

21518	Richmond, A	Stoves, cooking	Sept. 14, 1858	V.
	Richmond, G. G. (See Pittock, Richmond, & Phelps.)			
20682	Richmond, G. G., and G. W. Pittock, assignors to themselves, C. Phelps, and J. Lown; and Pittock assigns his interest to D. B. Carver.	Stoves, cooking	June 22, 1858	V.
21152	Richmond, T. R	Seeding-machine	Aug. 10, 1858	I.
21443	Rickart, Alexander	Turning hubs, machine for	Sept. 7, 1858	XIV.
21928	Rider, Caleb, assignor to George T. McLauthlin	Water-motor	Oct. 26, 1858	XI.
21215	Rider, J	Fire-arm, revolving	Aug. 17, 1858	XIX.
20978	Rider, W., assignor to himself and J. B. Sweetland	Horse-power	July 20, 1858	XIII.
21303	Ridley, Henry, assignor to S. P. Thatcher and Walter Stillman.	Carpet-stretcher	Aug. 24, 1858	XVII.
21151	Rieseck, G	Valve, steam	Aug. 10, 1858	VI.
21087	Riggs, Joseph H	Yokes, ox	Aug. 3, 1858	I.
19263	Riker, William	Winch, safety	Feb. 2, 1858	XII.
20091	Riley, William	Trap, fly	April 27, 1858	XXII.
20373	Rimmington, George	Lamp for burning coal-oil, &c.	May 25, 1858	V.
19514	Ring, Aaron	Seeding-machine	Mar. 2, 1858	I.
	Ripley, Ezra. (See Vedder & Ripley, assignors.)			
19872	Risher, T. A	Seeding-machine	April 6, 1858	I.
19716	Risher, Thomas A	Harvester, corn	Mar. 23, 1858	I.
19871	Risher, Thomas A	Seeding-machine	April 6, 1858	I.
	Rixford, Nathan. (See Dimock & Rixford.)			
19652	Roach, Lewis	Plough, gang	Mar. 16, 1858	I.
19653	Robb, James	Washing-machine	Mar. 16, 1858	XVII.
19449	Robbins, Chandler	Bedstead, wardrobe	Feb. 23, 1858	XVII.
21849	Robbins, Henry R	Alarm, burglars'	Oct. 19, 1858	XXII.
525	Robbins, Martin	Planter, corn	Feb. 9, 1858	Reissue.
21699	Robbins, Martin, and John L. Frishie	Indicator, water, for steam boilers	Oct. 5, 1858	VI.
22402	Robbins, Martin, and James Powell, assignors to James Powell.	Faucet	Dec. 21, 1858	XI.
20303	Roberts, A. J	Street sweeping machine	May 18, 1858	XXII.
19447	Roberts, Charles	Harvester	Feb. 23, 1858	I.
	Roberts, Cyrus. (See Bunsen & Roberts.)			
21275	Roberts, H. A	Stand, ice	Aug. 24, 1858	XVII.
	Roberts, J. E. (See Wood, Roberts, & Hubbell.)			
21274	Robertson, A	Packages for dry goods	Aug. 24, 1858	XXII.
560	Robertson, T. J. W	Sewing-machine	May 18, 1858	Reissue.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
599	Robertson, T. J. W	Sewing-machine	Sept. 14, 1858	Reissue.
22090	Robie, Harry, and Royal V	Churn	Nov. 16, 1858	I.
21577	Robins, Jabez	Harrow, rotary	Sept. 21, 1858	I.
19281	Robins, Jabez, assignor to himself, Daniel K. Haines, and S. Richardson.	Harrow	Feb. 2, 1858	I.
19582	Robinson, Charles	Chairs, sofas, etc, spring seats of	Mar. 9, 1858	XVII.
20092	Robinson, Charles	Bedstead, rail	April 27, 1858	XVII.
	Robinson, Charles. (See Thayer, C. B., assignor.)			
20093	Robinson, Charles E., and L. D. Sanborn	Leather from vats, apparatus for raising	April 27, 1858	XVI.
	Robinson, Chester G. (See Cradit, Nathaniel, assignor.)			
21367	Robinson, F. W	Threshing-machines, straw carriers of	Aug. 31, 1858	I.
21628	Robinson, F. W	Threshing-machine, riddles for	Sept. 28, 1858	I.
21366	Robinson, J. R. and H. S	Valve-cocks	Aug. 31, 1858	VI.
20301	Robinson, L	Seeding-machine	May 18, 1858	I.
22456	Robinson, Oliver	Bedstead fastening	Dec. 28, 1858	XVII.
19444	Robinson, William	Stave-machine	Feb. 23, 1858	XIV.
20005	Robison, L. S	Fence, field, portable	April 20, 1858	IX.
	Robitaille, C. (See Raymond & Robitaille.)			
19312	Robjohn, Thomas	Organs, &c., pedals for	Feb. 9, 1858	XVIII.
19313	Rockwell, Charles E	Pipe, lead, machine	Feb. 9, 1858	II.
	Rockwell, L. A. (See Schuyler & Rockwell.)			
	Rockwell, R. D. (See Buell & Barnes, assignors.)			
21700	Rockwell, Sidney S	Grafts, root, machine for cutting	Oct. 5, 1858	I.
	Rockwood, Aaron W. (See Barden, John S., assignor.)			
19446	Rodgers, James	Carriages, &c., boxes for receiving money in	Feb. 23, 1858	X.
20663	Roe, Henry A	Cheese-vat	June 22, 1858	XVII.
20302	Roester, A., and Charles Frey	Lanterns, self-lighting and extinguishing	May 18, 1858	V.
19951	Rogers, B. A	Carriage-wheels, tightening the spokes and fellies of.	April 13, 1858	X.
	Rogers Brothers' Manufacturing Co. (See Leonard, Allen, assignor.)			
21444	Rogers, C. B. and J. and M. C	Billiard-balls	Sept. 7, 1858	XXII.
19584	Rogers, D. B. S. and L	Cultivator	Mar. 9, 1858	I.
21904	Rogers, Daniel J	Pump, mode of operating	Oct. 26, 1858	XI.
19448	Rogers, David B	Car-springs, railroad	Feb. 23, 1858	X.
21905	Rogers, E. C	Lightning-rods, method of insulating and supporting.	Oct. 26, 1858	VIII.
19264	Rogers, F. O	Carriages, adjustable axle-brace for	Feb. 2, 1858	X.
	Rogers, George. (See Moorewood & Rogers.)			
21368	Rogers, J	Shutter-operator	Aug. 31, 1858	II.
21398	Rogers, John T. B., assignor to George B. Sloat	Sewing-machines, regulating the tension of the thread in.	Aug. 31, 1858	III.
22306	Rogers, Robert E	Steam-generator	Dec. 14, 1858	VI.
	Rogers, Robert S. (See Flint & Rogers.)			
19445	Rogers, Seymour	Car-wheels, railroad	Feb. 23, 1858	X.
19715	Rogers, Thomas	Engines, steam, revolving cylinder	Mar. 23, 1858	VI.
20244	Rohr, D. E., assignor to himself and Thomas W. Davis.	Washing-machine	May 11, 1858	XVII.
	Roland, Isaac F. (See Kraatz, David K., assignor.)			
19102	Rollin, Daniel G	Carriage-springs, equalizing	Jan. 12, 1858	X.
19450	Rollin, Daniel G	Springs, volute	Feb. 23, 1858	X.
20129	Rollin, Daniel G., assignor to George G. Martin	Fire-arms, continuous priming for	April 27, 1858	XIX.
21216	Rood, D. C	Washing-machine	Aug. 17, 1858	XVII.
20510	Roome, J. H	Boots and shoes, revolving heels for	June 8, 1858	XVI.
21369	Roome, J. H	Shears	Aug. 31, 1858	XXI.
22034	Root, E. K	Forging metals, drop for	Nov. 9, 1858	II.
21370	Root, J	Fastener, window	Aug. 31, 1858	II.
21850	Root, M. S	Seeding-machine	Oct. 19, 1858	I.
20730	Rose, A	Churn	June 29, 1858	I.
20896	Rose, A. F	Medicated vapor apparatus	July 13, 1858	XX.
19583	Rose, John	Leather, enameling	Mar 9, 1858	XVI.
21217	Rose, Jonathan H	Planter, seed	Aug. 17, 1858	I.
20664	Ross, F. A., and W. H. Marshall	Sewing-machines, cabinet for	June 22, 1858	III.
19714	Ross, Hiram	Press, cotton	Mar. 23, 1858	XII.
19874	Ross, James	Planters, cotton-seed	April 6, 1858	I.
	Ross, James M. (See Buckley, H. C., assignor.)			
20665	Ross, R., and W. Holland	Machinery, oil-cup for	June 22, 1858	XII.
21276	Ross, R., and W. Holland	Steam-cock	Aug. 24, 1858	VI.

No.	Name of patentee	Invention or discovery.	Date.	Class.
	Ross, Richard M. (See Faust, John F., assignor.)			
19045	Rossman, Stephen	Paper, machinery for manufacturing	Jan. 5, 1858	III.
19515	Roth, Honore	Sugar-kettles, method of setting	Mar. 2, 1858	IV.
	Rothermel, Lewis. (See Martin, James W., assignor.)			
21153	Routh, J., and A. Vaughn	Harrow	Aug. 10, 1858	I.
19817	Rowe, John L., assignor to Frederick Stevens	Plumb and level indicator, attaching the plumb-line to a	Mar. 30, 1858	VIII.
22403	Rowe, John L., assignor to F. Stevens	Ice-pick	Dec. 21, 1858	XXII.
19873	Rowell, B	Fence, field	April 6, 1858	IX.
21701	Rowell, Stephen P	Carpet-sweeper	Oct. 5, 1858	XVII.
21851	Rowland, E. C	Gates, farm, method of opening and closing by approaching vehicles.	Oct. 19, 1858	IX.
20731	Rowland, Robert	White-lead, apparatus for manufacturing	June 29, 1858	IV.
	Rowland, Samuel. (See Barnes, Stephen, assignor.)			
	Rowland, Thomas F. (See Henwood & Stephens, assignors.)			
22457	Rowlands, Henry R	Water, apparatus for walking on the	Dec. 28, 1858	VII.
22307	Roy, F	Sugar-juices, furnaces for evaporating	Dec. 14, 1858	IV.
	Ruckman, J. A. (See Gibbs, James E. A., assignor.)			
20732	Rude, P. C	Washing-machine	June 29, 1858	XVII.
20445	Rudisill, A	Smoothing-iron	June 1, 1858	XVII.
519	Ruggles, Stephen P	Printing-press	Jan. 19, 1858	Reissue.
19046	Ruggles, Stephen P	Bank-notes, &c., shears for cutting	Jan. 5, 1858	XVIII
20304	Ruggles, W. G	Baking and cooking, apparatus for	May 18, 1858	V.
	Ruih, Charles E. (See Albrecht, Joseph, assignor.)			
20666	Russ, H. P	Ore-separator	June 22, 1858	II.
20821	Russell, Charles L	Leathering tacks, machine for	July 6, 1858	XVI.
19952	Russell, E. P	Straw-cutter	April 13, 1858	I.
21519	Russell, F	Bed-bottom	Sept. 14, 1858	XVII.
21777	Russell, Fisk	Mowing-machine	Oct. 12, 1858	I.

22308	Russell, George D., Samuel H., and Charles L	Skirts, hoops, forceps for fastening clasps in	Dec. 14, 1858	XXI.
1036	Russell, Henry E	Door-lock plates	Aug. 10, 1858	Design.
	Russell, Isaac D., and Cornelia Waterman, administratrix of Stephen Waterman, deceased.	Ships' blocks	Jan. 30, 1858	Extension.
	Russell, J., and J. Lantz. (See Lantz & Russell.)			
20586	Russell, S. J	Carriage-wheels, metallic hubs for	June 15, 1858	X.
21779	Russell, T. H., and Amos Morrill	Horse-shoe machine	Oct. 12, 1858	II.
19953	Russell, Thomas	Planters, seed	April 13, 1858	I.
21852	Ryerson, V. B	Submarine explorer	Oct. 19, 1858	VII.
	Sackett, Davis, & Co. (See Lancelott, J., assignor.)			
20609	Safford, George E., assignor to himself and F. G. and F. T. Ward.	Bed bottom, spring	June 15, 1858	XVII.
20977	Safford, M., assignor to himself and G. P. Kinney.	Lamps, burners and wick-tubes of vapor	July 20, 1858	V.
	Sailor, S. H. (See Smith, Brown, & Sailor.)			
21025	Salisbury, S. C	Brick-machine	July 27, 1858	XV.
19795	Salomon, John C. F	Brake, railroad	Mar. 30, 1858	IX.
20172	Salomon, John C. F	Engines, gas, arrangement of	May 4, 1858	VI.
19047	Salomon, John C. F., and George W. Morris	Vessels, sea-going, steam, lightening	Jan. 5, 1858	VII.
21906	Sample, John	Tiller-rope protector	Aug. 26, 1858	VII.
21026	Sampson, Blaney E	Cars, horse-railway, coupling for	July 27, 1858	X.
22244	Sampson, Elnathan	Scales, platform	Dec. 7, 1858	XII.
19154	Samuel, A. P	Engine, steam, cut-off for	Jan. 19, 1858	VI.
19722	Samuel, A. P	Pistons and piston-rod connexions	Mar. 23, 1858	VI.
21629	Samuels, S	Telegraph-cables, method of laying submarine	Sept. 28, 1858	VIII.
	Sanborn, L. D. (See Robinson & Sanborn.)			
21277	Sanders, Benjamin D	Bolting flour, machinery for	Aug. 24, 1858	XIII.
19048	Sanders, Henry	Harness-saddle	Jan. 5, 1858	XVI.
21027	Sanders, J. Milton	Gas, illuminating, production of	July 27, 1858	IV.
22309	Sanderson, Joseph D	Bee hive	Dec. 14, 1858	I.
	Sanderson, William L. (See Vedder & Sanderson.)			
	Sanderson, William L. (See Vedder & Sanderson.)			
19587	Sanford, Gelston	Mill, grinding	Mar. 9, 1858	XIII.
20455	Sanford, Turney	Plough	Feb. 23, 1858	I.
19535	Sangster, Amos W., assignor to Victor M. Rice, James Sangster, and Eliza Remington.	Sewing-machine	Mar. 2, 1858	III.
20531	Sangster, A. W., assignor to V. M. Rice, J. Thayer, J. Sangster, and E. Remington.	Sewing-machine	June 8, 1858	III.
21929	Sangster, A. W., assignor to V. M. Rice, J. Thayer, J. Sangster, and E. Remington.	Sewing machine	Oct. 26, 1858	III.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19155	Sangster, James, and Amos W	Sewing-machine	Jan. 19, 1858	III.
19723	Sangster, James, and Amos W	Sewing-machine	Mar. 23, 1858	III.
19585	Sargent, Charles G , and Francis A. Calvert	Carding-cylinders, clothing for	Mar. 9, 1858	III.
20852	Sargent, G. D., a-signor to himself and T. R. Abbott.	Alarm-clock, burglars'	July 6, 1858	XXII.
	Sargent, J. B. (See Brocksieper & Sargent.)			
21218	Sargent, J. B	Andirons	Aug. 17, 1858	XVII.
19875	Sargent, J. T	Wallet-fastener	April 6, 1858	XXII.
21981	Sargent, Joseph B	Handles, lifting	Nov. 2, 1858	II.
20587	Sargent, T. D	Distilling oils from coal, retort for	June 15, 1858	IV.
20511	Saunders, Nathan, and F. T. Sherman	Excavating-machine	June 8, 1858	IX.
19876	Savage, Elliot	Sewing-machine	April 6, 1858	III.
22310	Savage, Julius B	Nut-machine	Dec. 14, 1858	II.
19796	Savage, S T	Stove	Mar. 30, 1858	V.
20733	Savage, S. T	Stove, cooking	June 29, 1858	V.
21445	Savage, S. T	Stove, coal	Sept. 7, 1858	V.
21446	Savage, S. T	Stove	Sept. 7, 1858	V.
21447	Savage, S. T	Stove lining, coal, construction of	Sept. 7, 1858	V.
22035	Savage, S. T	Tiles, plates, beams, &c., connecting metallic	Nov. 9, 1858	IX.
20667	Savage, Silas T	Furnaces of boilers and stoves	June 27, 1858	V.
22134	Savage, Silas T	Grate-bars	Nov. 23, 1858	V.
20174	Sawyer, A. C	Shingle machines, device by which the width of the bolt checks the feed in.	May 4, 1858	XIV.
	Sawyer, L. (See Wright & Sawyer.)			
21170	Sawyer, Robert, assignor to William G. Brown	Cultivator	Aug. 10, 1858	I.
21982	Saxe, Charles A	Surveying instruments, method of adjusting the plummet without moving the tripod in.	Nov. 2, 1858	VIII.
20734	Scarlett, W	Mill, grinding	June 29, 1858	XIII.
19589	Schaefer, A	Dividers, mathematical	March 9, 1858	VIII.
19797	Schaub, George	Printing, casting types for	March 30, 1858	XVIII.
21028	Scheitlin, J	Weighing and registering grain, machinery for	July 27, 1858	XII.
21802	Schenkl, John P., assignor to himself and Edward A. Dana.	Fire-arms or ordnance	Oct. 12, 1858	XIX.
20512	Schimmelfennig, A., and Julius Ende	Ink rollers	June 8, 1858	XVIII.
19226	Schleier, Charles S., assignor to John H. Bonn	Window-shade fixtures	Jan. 29, 1858	XVII.
21702	Schmadel, Joseph	Ranges and stoves, cooking boilers for	Oct. 5, 1858	V.
20513	Schnebly, W. and T	Weighing-machine, automatic grain	June 8, 1858	XIII.
22203	Schnebly, William and Thomas	Harvester	Dec. 1, 1858	I.
19049	Schneider, John	Car-coupling, railroad	Jan. 5, 1858	X.
19208	Schneider, John	Lock, pad	Jan. 26, 1858	II.
	Schnitzer, Joseph. (See Harrison & Schnitzer.)			
21278	Scholfield, Nathan	Harpoon lance	Aug. 24, 1858	VII.
22135	Schott, Frederick	Knitting-machine	Nov. 23, 1858	III.
20916	Schrage, V	Lightning rods, device for securing	July 13, 1858	VIII.
19473	Schroeder, C., assignor to himself and P. H. Tuska.	Bed-bottoms, spring	Feb. 23, 1858	XVII.
20514	Schuh, George	Steam-power meter	June 8, 1858	VI.
21907	Schultz, C. A	Engine, steam	Oct. 26, 1858	VI.
19877	Schunks, F	Grain-separator	April 6, 1858	I.
19968	Schuyler, J. S., assignor to J. McCollum	Dough, machine for rolling and cutting	April 13, 1858	XVII.
21449	Schuyler, J. S., and L. A. Rockwell	Carriage-hose	Sept. 7, 1858	X.
21630	Scofield, B. B	Plough	Sept. 28, 1858	I.
	Scott, Todd, & Co. (See Black, James, assignor.)			
21448	Scott, E. M	Loom	Sept. 7, 1858	III.
21371	Scott, George	Telegraph cable, apparatus for paying out	Aug. 31, 1858	VIII.
19969	Scott, George, assignor to Scott, Todd, & Co	Steam generator	April 13, 1858	VI.
200	Scott, R. B	Carriage wheels, tightening the tires of	June 8, 1858	Add. imp't.
19721	Scott, Robert B	Carriage wheels, tightening the tires of	March 23, 1858	X.
20094	Scott, Thomas	Valve, steam	April 27, 1858	VI.
19382	Scott, Thomas M	Trap, fly	Feb. 16, 1858	XXII.
19314	Scotten, Stephen	Roofs, sheet-metal, joints for	Feb. 9, 1858	IX.
20218	Scotten, S	Railroads, implements for shooting missiles at cows, &c., on.	May 11, 1858	IX.
	Scovel, Nelson R. (See Pepper, Calvin, assignor.)			
	Scoville & Ellithorpe. (See Ellithorpe & Scoville.)			
19878	Scoville, Thaddeus S	Plough	April 6, 1858	I.
	Scrimgeour, James. (See Chilcott & Schrimgeour.)			
19588	Scripture, E. S	Fastener, window	March 9, 1858	II.
19954	Scripture, E. S	Wrench	April 13, 1858	II.
20822	Scripture, E. S	Sash-holder	July 6, 1858	II.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20897	Seal, G. W. R.	Gas-generator	July 13, 1858	IV.
	Sealy, Thomas. (See Dennison & Sealy.)			
	Searle, Thomas A. (See Hoard & Searle.)			
	Seaton, William. (See McConnell & Seaton.)			
	Seaver & Bruff. (See Bruff & Seaver.).			
19209	Seaver, Ebenezer	Galvanic battery	Jan. 26, 1858	VIII.
1011	Seavey, G T	Stoves, &c., ornament in bas-relief	June 1, 1858	Design.
19724	Seekins, H. G	Fences, field, post for	March 23, 1858	IX.
	Seeley, B. W. (See Pollard, Ezra, assignor.)			
20735	Seeley, H. H., and P. Griswold	Grain-separator	June 29, 1858	I.
	Seiler, George. (See Friend & Seiler.)			
19050	Seipel, John, and William Rupp	Oyster-opener	Jan. 5, 1858	XVII.
19210	Seitz, George	Distillation, preparing mash for	Jan. 26, 1858	IV.
20588	Selleck, R M	Harness-pad, construction of	June 15, 1858	XVI.
19718	Sellers, William	Railroads, turning and sliding tables for	March 23, 1858	IX.
20446	Sellers, William	Metal shafting, lathe for turning	June 1, 1858	II.
582	Sellers, William	Railroads, turning and sliding tables for	Aug. 10, 1858	Reissue.
19451	Semple, A. C	Bedsteads, cast-iron, fastenings of	Feb. 23, 1858	XVII.
19654	Semple, A C	Books, machine for trimming	March 16, 1858	XVIII.
	Sener, Joseph W. (See Waite & Sener.)			
	Senter, Gass, & Woodworth. (See Sherwood, Allen.)			
22380	Sergeant, H. C	Governor for steam-engines	Dec. 21, 1858	VI.
21029	Sergeant, Isaac A	Clothes-wringer	July 27, 1858	XVI.
20245	Serrell, L. W., assignor to John Harold	Sewing-machines, guides for	May 11, 1858	III.
20394	Seymour, W. H., and H. Pease, assignors to W. H. Seymour and Dayton S. Morgan.	Harvester	May 25, 1858	I.
20515	Seymour, W. H., and D. S. Morgan	Harvesting-machine	June 8, 1858	I.
	Seymour, W. H. (See Platt, N., assignor.)			
21450	Shaefer, John	Ironing clothes, machine for	Sept. 1, 1858	XVII.
21703	Shaler, I. W	Ticket-holder	Oct. 5, 1858	XXII.
580	Shaler, A., assignor to W. H. Hortsmann	Knife-polisher		Reissue.

21451	Shaler, Reuben	Carpet-sweeper	Sept. 7, 1858	XVII.
22381	Shaler, Reuben	Brush	Dec. 21, 1858	XVII.
19158	Shanks, Thomas	Lamp or candlestick and match-box combined	Jan. 19, 1858	V.
	Shannon, P. (See Campbell, Lighthizer, & Shannon.)			
	Sharp, John. (See Titus & Sharp.)			
20736	Sharte, T	Safes, fire and burglar proof	June 29, 1858	II.
20471	Shaw, C. A., J. Clark, and D. T. Giveen, assignors.	Sewing-machine	June 1, 1858	III.
19211	Shaw, Charles A., and James Clark	Tanning skins, apparatus for	Jan. 26, 1858	XVI.
20447	Shaw, David W., and William A. Megraw	Brush, whitewash	June 1, 1858	XVII.
20023	Shaw, E., and C. Carpenter, jr., assignors to themselves and G. B Jastram.	Horse-shoe machine	April 20, 1858	II.
19879	Shaw, E. M	Lock	April 6, 1858	II.
	Shaw, G. W. (See Partridge & Shaw.)			
19383	Shaw, George W	Wind-wheels, method of furling the sails of	Feb. 16, 1858	XI.
19534	Shaw, Henry F., assignor to himself and Moses H. Gragg.	Saws, scroll	Mar. 2, 1858	XIV.
20130	Shaw, Thomas, assignor to himself and C. S. Patterson.	Gas-meter	April 27, 1858	IV.
22335	Shaw, Thomas, assignor to himself and C. S. Patterson.	Stove, gas-burning	Dec. 14, 1858	V.
20589	Shaw, W. F	Reflector, light	June 15, 1858	V.
22311	Shaw, William F	Lamp-shade supporter	Dec. 14, 1858	V.
19452	Shearer, Leander	Spike-machine	Feb. 23, 1858	II.
20374	Shears, A. L	Life-boat	May 25, 1858	VII.
19174	Shedaker, Benjamin, assignor to Edwin Bender	Floors, marquetry, construction of	Jan. 19, 1858	IX.
19516	Shehan, Thomas	Grapple, sub-marine	Mar. 2, 1858	VII.
21983	Shelby, William	Hemp-brake	Nov. 2, 1858	III.
	Sheldon, Smith, & Co. (See Ham, R., assignor.)			
19159	Sheldon, William D	Fences, field, method of connecting the panels of	Jan. 19, 1858	IX.
21726	Shell, A. N., assignor to W. S. Wood and T. N. Shell.	Trap, roach	Oct. 5, 1858	XXII.
20590	Shellaberger, M. M	Doors, weather-strip for	June 15, 1858	IX.
	Shepard, Charles J. (See Williams, Charles, assignor.)			
975	Shepard, Charles J	Stoves	Jan. 5, 1858	Design.
21984	Shepherd, F	Book and slate combined	Nov. 2, 1858	XVIII.
	Shepherd, Samuel. (See Earle, John E., assignor.)			
	Sheppard, Sidney. (See Perry, Horatio O.)			

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20898	Sherburne, N. H	Churn	July 13, 1858	I.
20899	Sherburne, N. H	Grain-cleaning machine	July 13, 1858	I.
20516	Sherman, David S	Punching-machine	June 8, 1858	II.
	Sherman, F. T. (See Saunders & Sherman.)			
	Sherry, John. (See Kelley, James, assignor.)			
19212	Sherwood, Allen	Harvesters, raking and binding, devices for	Jan. 26, 1858	I.
21540	Sherwood, Allen, assignor to E. P. Senter, Albert H Goss, and Daniel Woodworth.	Harvesters, raking and binding, apparatus for	Sept. 14, 1858	I.
	Sherwood, Samuel S. and A. (See Douglass & Sherwood.)			
22091	Shinn, S. S	Glass bottles, mould for	Nov. 16, 1858	XV.
22092	Shiverick, Benjamin	Hammer, forge	Nov. 16, 1858	II.
19821	Shrader, Henry	Press, cotton	Mar. 30, 1858	XII.
20095	Shuler, Isaac C	Coffins, constructing	April 27, 1858	XXII.
21985	Sibbet, John W	Car-seats	Nov. 2, 1858	X.
22314	Sibbet, John W	Carriage-thills to axles, attaching	Dec. 14, 1858	X.
21219	Sibley, Rufus	Bomb-lance	Aug. 17, 1858	XIX.
565	Sickels, F. E	Steam-cylinder with the steam-chests, mode of connecting the.	June 1, 1858	Reissue.
	Sickels, F. E	Valves of steam-engines, method of opening and closing the.		Extension.
20219	Sickels, G	Pencils, slate, instrument of sharpening	May 11, 1858	XVIII.
22315	Siemens, Charles W	Meters, fluid	Dec. 14, 1858	II.
	Sigourney, Joseph. (See Harkness & Terry, assignors.)			
20307	Sikes, O. S	Boot-jack	May 18, 1858	XVII.
21279	Simkins, Elisha	Bolt-machine	Aug. 24, 1858	II.
21908	Simkins, Elisha	Mining coal, machine for	Oct. 26, 1858	IX.
21853	Simmerman, Jacob S	Teeth, method of applying electricity during extraction of.	Oct. 19, 1858	XX.
21780	Simmons, Andrew	Seeding-machine	Oct. 12, 1858	I.
21986	Simmons, I. H	Railroad chair	Nov. 2, 1858	IX.
20448	Simonds, W. A	Gas retort	June 1, 1858	IV.
20173	Simons, R	Roofing, cement for	May 4, 1858	IX.
19384	Simpson, William M	Bank-check canceller	Feb. 16, 1858	XXII.
20958	Sinclair, R., jr	Straw-cutter	July 20, 1858	I.
	Singer & Clark. (See Morey & Johnson, assignors.)			
	Singer & Clark. (See Batchelder, John, assignor.)			
20900	Sirret, E, jr	Sawing machines, scroll	July 13, 1858	XIV.
	Sirwell, R. G. (See Horrall & Sirwell.)			
20591	Skelly, E	Furnaces for burning bagasse, &c	June 15, 1858	V.
22382	Skelly, Evan	Furnace-boiler	Dec. 21, 1858	V.
	Skiddy, William. (See Taylor, James R., assignor.)			
19519	Skinner, H	Clock calendar	March 2, 1858	VIII.
	Slawson, J. B. (See Reeves, Israel S., assignor.)			
21372	Slawson, J. B	Omnibus, &c, fare-boxes for	Aug. 31, 1858	X.
550	Slawson, J. B	Boxes for receiving passengers' fares	May 4, 1858	Reissue.
19798	Slevin, Andrew	Pendulum-power, applying	March 30, 1858	VIII.
	Sloan, Hervy. (See Turner, Alexander, assignor.)			
	Sloan, Hervy. (See Turner, Bess, & Sloan.)			
20375	Sloan, I. T., Volney Smith, Manuel Hoover, & R. M. Briggs.	Gas-retort	May 25, 1858	IV.
626	Sloan, Thomas J, assignor to the Eagle Screw Company	Screws, wood	Nov. 23, 1858	Reissue.
19051	Sloan, William D	Lathe, turning	Jan. 5, 1858	XIV.
20737	Sloane, W. M	Stave-machine	June 29, 1858	XIV.
	Sloat, G. B. (See Blodgett, S. C., assignor.)			
21987	Slocomb, S	Candlesticks, &c	Nov. 2, 1858	V.
	Small, Alexander. (See Smith, Brown, & Sailor, assignors.)			
21373	Smart, A	Skirts, hoop, clasps for	Aug. 31, 1858	XXI.
19517	Smead, E. A	Metal pans, sheet, machine for forming	March 2, 1858	II.
	Smith, Sheldon, & Co. (See Ham, R., assignor.)			
20376	Smith, A. S	Chair and cradle, combined rocking	May 25, 1858	XVII.
21578	Smith, Alpha	Water-wheel	Sept. 21, 1858	XI.
20823	Smith, Asberry	Cultivator, cotton	July 6, 1858	I.
22036	Smith, Benjamin F	White lead, manufacture of	Nov. 9, 1858	IV.
19474	Smith, Benjamin R., assignor, to John Hellings	Washing-machine	Feb. 23, 1858	XVII.
21781	Smith, C. W	Electricity, method of lighting street-lamps by	Oct. 12, 1858	VIII.
19880	Smith, Charles J	Railroad station indicator	April 6, 1858	IX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20305	Smith, Charles W	Burners, device for regulating by electricity the issue of gas from.	May 18, 1858	V.
20223	Smith, Daniel C	Corn-husker	May 11, 1858	I.
21088	Smith, Daniel N	Chuck for centering, &c	Aug. 3, 1858	II.
19213	Smith, David W	Fire-arms, nipple-guard of	Jan. 26, 1858	XIX.
20175	Smith, E. Harry	Sewing-machine	May 4, 1858	III.
20739	Smith, E Harry	Sewing-machine	June 29, 1858	III.
21089	Smith, E Harry	Sewing-machine	Aug. 3, 1858	III.
19214	Smith, Frederick	Water-wheel	Jan. 26, 1858	XI.
20738	Smith, G., and A. G. Perry	Planter, seed	June 29, 1858	I.
974	Smith, G., H. Brown, and S. H. Sailor, assignors to Alexander Small and E. G. Smyser.	Stoves, cook's	Jan. 5, 1858	Design.
1019	Smith, G., and H. Brown, assignors to Leibrandt, McDowell, & Co.	Stove, cook	June 29, 1858	Design.
1018	Smith, G., and H. Brown, assignors to Leibrandt, McDowell, & Co.	Stove, cook's	June 29, 1858	Design.
1072	Smith, G., and H. Brown, assignors to Leibrandt, McDowell, & Co.	Stove, parlor	Dec. 14, 1858	Design.
1029	Smith, G., and H. Brown, assignors to G. Abbott and A. Lawrence.	Stove	July 20, 1858	Design.
1073	Smith, G., and H. Brown, assignors to G. Abbott and A Lawrence.	Range, cook	Dec. 14, 1858	Design.
1052	Smith, G., and H. Brown, assignors to North, Chase, & North.	Stove	Sept. 21, 1858	Design.
21376	Smith, G. W	Warming device, feet	Aug. 31, 1858	V.
21520	Smith, George H	Balances, spring, in combination with a knife	Sept. 14, 1858	XII.
20959	Smith, George R	Railroad switches	July 20, 1858	IX.
20592	Smith, George W	Pitcher, ice	June 15, 1858	XVII.
1028	Smith, George W	Pitcher	July 20, 1858	Design.
598	Smith, Gilbert	Cartridges	Sept. 14, 1858	Reissue.
20313	Smith, H., assignor to H. Disston	Saws, hand, device attached to, for squaring and marking.	May 18, 1858	XIV.
20824	Smith, H. B	Mouldings, arrangement of devices for planing	July 6, 1858	XIV.
19590	Smith, H. C	Harvester	Mar. 9, 1858	I.
20225	Smith, H. C	Harvester	May 11, 1858	I.
20449	Smith, H. E	Threshing-machine	June 1, 1858	I.
	Smith, H M	Straw-cutters	Feb. 18, 1858	Extension.
21909	Smith, Hamilton E	Washing-machine	Oct. 26, 1858	XVII.
19518	Smith, Henry C	Harvester-fingers	Mar. 2, 1858	I.
	Smith, Horace. (See Harrington, F. H., assignor.)			
19104	Smith, J. D	Excavator	Jan. 12, 1858	IX.
21375	Smith, J. D	Seeding-machine	Aug. 31, 1858	I.
19160	Smith, Jeremiah P	Corn-sheller	Jan. 19, 1858	I.
21374	Smith, John F., and Wightman Brown	Churn	Aug. 31, 1858	I.
	Smith, John M. (See Weatherhead & Henry, assignors.)			
19655	Smith, John W	Gas retort, portable	Mar. 16, 1858	IV.
	Smith, Joseph. (See Bussell & Smith.)			
21854	Smith, Joseph D	Harvester	Oct. 19, 1858	I.
188	Smith, Joseph M	Rolls, drawing covering for	Jan. 26, 1858	Add'l imp't.
19103	Smith, Justin M	Butter-worker	Jan. 12, 1858	XVII.
20096	Smith, Nathan	Paddle wheel	April 27, 1858	VII.
21377	Smith, Nathaniel S	Cultivator	Aug. 31, 1858	I.
	Smith, Newton W. (See Jones & Smith.)			
22383	Smith, O. B	Harness-buckles	Dec. 21, 1858	XVI.
	Smith, O. P. (See Arnall, William M.)			
	Smith, R. D. O. (See Bryant & Smith.)			
20593	Smith, S. H	Harvester	June 15, 1858	I.
198	Smith, Samuel J	Printing-press, hand	April 6, 1858	Add'l imp't.
21250	Smith, Samuel N	Windlass	Aug. 24, 1858	VII.
22268	Smith, Samuel R., and Philander P. Lane, assignors to Lane & Bodley.	Saw-mill	Dec. 7, 1858	XIV.
20224	Smith, Solomon P	Straw-cutter	May 11, 1858	I.
22037	Smith, Thomas Briggs	Mattresses and cushions, elastic material for	Nov. 9, 1858	XVII.
19157	Smith, Thomas W	Car-brakes, railroad	Jan. 19, 1858	X.
	Smith, V. (See Sloan, Smith, Hoover, & Briggs.)			
21988	Smith, Waterman	Wool and other fabrics for spinning, preparing	Nov. 2, 1858	III.
20517	Smith, William	Provision-cutter	June 8, 1858	XVII.
	Smith, William B. (See Holser, Charles F., assignor.)			
19156	Smith, Winser	Millstones, feeding	Jan. 19, 1858	XIII.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20594	Smull, George L.	Brick-machine	June 15, 1858	XV.
	Smyser, E. G. (See Smith, Brown, & Sailor, assignors.)			
21154	Sneider, C. E.	Printing-press	Aug. 10, 1858	XVIII.
19611	Snell, Edward S., assignor to himself and Francis B. Washburn.	Boots and shoes, machine for pricking and cutting heels of	Mar. 9, 1858	XVI.
20960	Snell, V.	Boots and shoes, heel-shavers for	July 20, 1858	XVI.
19955	Snelling, Joseph	Chain-shackle	April 13, 1858	II.
20306	Snow, George K.	Stamps to letters, post office, machine for affixing	May 18, 1858	XXII.
20684	Snow, Heman S., assignor to himself and G. F. Snow.	Sewing-machine	June 22, 1858	III.
20901	Snyder, J. H.	Rolling railway chairs	July 13, 1858	II.
22038	Solis, Richard	Shirred goods, machinery for manufacturing	Nov. 9, 1858	IV.
636	Solis, Richard, assignor to Horace H. Day	Cloth, elastic, manufacture of	Dec. 14, 1858	Reissue.
	Solomans, A. S. (See Morrison, Thomas, assignor.)			
22245	Solomon, Lewis	Amalgamator	Dec. 7, 1858	II.
20825	Soule, George H.	Fire-arm, breech-loading	July 7, 1858	XIX.
19521	Southwick, Hosea	Mill, grinding	Mar. 2, 1858	XIII.
19161	Spafford, William W.	Spinning-machine	Jan. 19, 1858	III.
	Spangenberg, R. F. (See Monastier, J., assignor.)			
20668	Spaulding, S. B.	Stove, cooking	June 22, 1858	V.
21521	Spaulding, Stillman C.	Lantern	Sept. 14, 1858	V.
19956	Spear, James	Stove, cooking	April 13, 1858	V.
20450	Spear, James	Stove, cooking	June 1, 1858	V.
	Spear, N. T. (See Grover, L. A., assignor.)			
21522	Spear, N. T.	Corn-husker	Sept. 14, 1858	I.
195	Speer, James R.	Clasps for metallic hoops	Mar. 23, 1858	Add'l imp't.
207	Speer, James R.	Hoops, metallic, clasps for	Oct. 26, 1858	Add'l imp't.
20097	Speers, N. W.	Bedstead	April 27, 1858	XVII.
22284	Speight, Ira	Mills, flouring	Dec. 21, 1858	XIII.
20176	Spencer, A. B.	Cars, railroad, method of ventilating and excluding dust from.	May 4, 1858	X.
21631	Spencer, Charles L.	Switches, railroad	Sept. 28, 1858	IX.
22136	Spencer, James	Printing names or directions on packages, &c., machine for	Nov. 23, 1858	XVIII.
22137	Spencer, James H., and Thomas Lamb	Sewing-machine	Nov. 23, 1858	III.
20766	Spencer, Seth P., assignor to himself, S. S. Spencer, and Harris Boardman	Rollers, drawing	June 29, 1858	III.
	Sperry, E. W. (See White, Le Roy, assignor.)			
21782	Sperry, John	Planing-cutter, rotary	Oct. 12, 1858	XIV.
19974	Spieker, Charles F.	Manure-beds, preparing	April 13, 1858	IV.
22204	Sprague, Joseph W.	Canals, &c., stop-gate for	Nov. 30, 1858	IX.
1071	Sprecher, George D.	Stove, dining-room	Dec. 7, 1858	Design
20518	St. Charles, W.	Bedstead	June 8, 1858	XVII.
20378	St. John, J. A.	Harvesters, raking-attachment to	May 25, 1858	I.
21378	St. John, Le Grand C.	Propeller for boats	Aug. 31, 1858	VII.
	St. John, R. H. (See Hoge, Solomon G., assignor.)			
20903	St. John, William W.	Sleigh-runners, attaching	July 13, 1858	X.
20826	Stace, W. R.	Tailors' measure	July 6, 1858	XXI.
22138	Stadtmuller, L.	Ore-separator	Nov. 23, 1858	II.
20451	Staehlen, W.	Spittoon	June 1, 1858	XVII.
20961	Staehlen, W.	Firemen's trumpet	July 20, 1858	XXII.
22093	Stafford, Charles W.	Churn	Nov. 16, 1858	I.
19719	Stafford, R. J.	Looms, hair cloth, stop motion for	March 23, 1858	III.
21783	Stamm, F.	Mortising machines, mode of reversing the chisels in.	Oct. 12, 1858	XIV.
21452	Stanbro, Samuel	Seeding machine	Sept. 7, 1858	I.
20828	Stancliff, C. A., and James Mingis	Rails, chair, continuous	July 6, 1858	IX.
21030	Stanford, C. P.	Crushing and grinding the same, feeding quartz, &c., to machine for.	July 27, 1858	XIII.
	Stanley, Henry	Stoves, coal	Dec. 24, 1858	Extension.
	Stannard, George J. (See French, A. F., assignor.)			
19520	Stanberry, S.	Bee-hive	March 2, 1858	I.
19881	Stanton, Benjamin B.	Printing-stamp, hand	April 6, 1858	XVIII.
21090	Stanwood, J. E.	Gas-burner, Argand	Aug. 3, 1858	V.
	Staples, Watson, *et al.* (See Wolfe, H. R., assignor.)			
21523	Starr, E. T.	Fire-arm, breech-loading	Sept. 14, 1858	XIX.
20827	Staufen, W.	Hemp, Tampico, treatment of fibre of	July 6, 1858	III.
	Stearns, Joseph E. (See Dorman & Stearns.)			
21991	Stebbins, F.	Boilers, steam, safety apparatus for	Nov. 2, 1858	VI.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
	Steckel, Daniel. (See Garrett & Steckel.)			
21855	Steele, Henry	Umbrella	Oct. 19, 1858	XXI.
21992	Steele, J. D., and H. Lorenz	Cars, railroad, speed indicator and recorder for	Nov. 2, 1858	X.
21856	Steele, William	Staves from the bolt, machine for cutting	Oct. 19, 1858	XIV.
20006	Steer, P. J	Sewing-machine	April 20, 1858	III.
	Steetle, J. (See Henderson & Steetle.)			
1041	Steffe, Jacob, James Horton, and John Currie, assignors to David Stewart and Richard Peterson.	Stove, (fancy egg)	Aug. 17, 1858	Design.
1042	Steffe, Jacob, James Horton, and John Currie, assignors to David Stewart and Richard Peterson.	Stove, (iron side)	July 17, 1858	Design.
19586	Steigers, Mathias	Motion, reciprocating, mode of producing vertical and horizontal.	March 9, 1858	XIII.
19898	Steinman, Robert, assignor to himself and N. S. Wax.	Lamp	April 6, 1858	V.
20595	Steinway, H	Piano-forte actions	June 15, 1858	XVIII.
21989	Stemple, Adolph	Harness, machine for creasing and blacking leather for.	Nov. 2, 1858	XVI.
20007	Stephens, E. W., and R. Jenkins	Railroad rails	April 23, 1858	IX.
20452	Stephens, E. W., and R. Jenkins	Railway cars, rollers for	June 1, 1858	IX.
	Stephens, J. (See Henwood & Stephens.)			
22385	Stephens, John, and James Hanley	Skirt-hoop, buckles for	Dec. 21, 1858	XXI.
19105	Stephens, L. C	Rule, carpenters'	Jan. 12, 1858	VIII.
19799	Stephens, W. A., and R. Jenkins	Iron shafts, wrought, manufacture of tubular	March 30, 1858	II.
22333	Stephens, William, assignor to Richard Stephens	Valve-gear slide for oscillating engines	Dec. 14, 1858	VI.
21281	Sterling, W. G	Gas-regulator	Aug. 24, 1858	IV.
22334	Stern, J. C., assignor to himself and G. W. Stone	Boiler, steam	Dec. 14, 1858	VI.
21993	Stetson, C. T	Harvester	Nov. 2, 1858	I.
21990	Stetson, William B	Pianos, pedal, attachment for	Nov. 2, 1858	XVIII.
19106	Steveley, A	Scissors sharpener	Jan. 12, 1858	XXII.
22246	Stevens, Andrew	Composition, water-proof, cork	Dec. 7, 1858	IV.

22205	Stevens, Bradford, and Lorenzo	Boot-soles, crimping	Nov. 30, 1858	XVI.
21091	Stevens, E. M	Pegging-machine	Aug. 3, 1858	XVI.
	Stevens, Frederick. (See Rowe, John L., assignor.)			
	Stevens, George. (See Hendrick, Joseph E., assignor.)			
20377	Stevens, J. C	Drill, seed	May 25, 1858	I.
22039	Stevens, John	Shirt-bosom folders	Nov. 9, 1858	XXI.
21803	Stevens, Judd, assignor to himself and John L. Beadle.	Spading-machines	Oct. 12, 1858	I.
20220	Stevens, M	Mills, cider	May 11, 1858	XIII.
21857	Stevens, Thomas S	Cultivator	Oct. 19, 1858	I.
21155	Stevens, W. J	Valves, steam	Aug. 10, 1858	VI.
19385	Stevens, William K	Lubricators	Feb. 16, 1858	XII.
1047	Stevens, William W., assignor to Nathaniel P. Richardson & Co.	Stove, cook's, oven	Sept. 7, 1858	Design.
21910	Stevenson, C. L	Bolts, machine for drawing	Oct. 26, 1858	II.
20520	Stevenson, W. J	Bottles, jars, &c., metallic caps for	June 8, 1858	XXII.
19800	Stevenson, William J	Peas, machine for shelling	March 30, 1858	I.
	Stewart, Brandebury, *et al.* (See Brauer, Louis, assignor.)			
20962	Stewart, A. D	Barrel-heads, machine for cutting both bevels simultaneously on.	July 20, 1858	XIV.
	Stewart, J. F. (See Hall & Stewart.)			
21171	Stewart, J. L., assignor to Rudolph A. Nathurst	Stove, cooking	Aug. 10, 1858	VI.
22458	Stewart, James	Dredging-machine	Dec. 28, 1858	IX.
22150	Stewart, John, assignor to Charles Wall	Rope-yarn, machine for tarring	Nov. 23, 1858	III.
20453	Stewart, John L	Gas, manufacture of	June 1, 1858	IV.
21524	Stewart, Robert	Valve, combination steam	Sept. 14, 1858	VI.
21579	Stewart, Thomas	Valve for steam-engines, rotary	Sept. 21, 1858	VI.
21911	Stewart, Thomas	Engines, applying power to the cranks of	Oct. 26, 1858	VI.
19957	Stiles, George, jr., and Strickland Kneass	Horse-shoe machine	April 13, 1858	II.
619	Stillman, Alfred, deceased, Elizabeth Ann Harris, administratrix.	Furnace for burning bagasse	Nov. 9, 1858	Reissue.
	Stillman, Walter. (See Ridley, Henry, assignor.)			
21717	Stimpson, J., and James H. Stimpson	Butter-cooler	Oct. 5, 1858	XVII.
20902	Stimpson, J. H	Butter-cooler	July 13, 1858	XVII.
21220	Stimpson, James H	Butter-bucket	Aug. 17, 1858	XVII.
	Stimpson, James H., assignor to Sophia E. and Julia Stimpson, and Edward F. Colburn.	Vessels for holding liquids	Nov. 12, 1858	Disclaimer.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21031	Stoddard, A	Harvester, corn	July 27, 1858	I.
19958	Stoddard, O	Harvesters, raking attachment to	April 13, 1858	I.
20221	Stoddard, O	Harvester	May 11, 1858	I.
22312	Stoddard, Oren	Harvester	Dec. 14, 1858	I.
19215	Stoddard, William	Ploughing-machine	Jan. 26, 1858	I.
20669	Stone, C	Clothes, frame for drying	June 22, 1858	XVII.
19107	Stone, Chester	Rack, clothes	Jan. 12, 1858	XVII.
21727	Stone, Draper, assignor to himself and E. S. Turner.	Car-seats, railroad	Oct. 5, 1858	X.
	Stone, G. W. (See Stern, J. C., assignor.)			
22474	Stone, Harley, assignor to P. P. Todd	Bit, expanding	Dec. 28, 1858	XIV.
21032	Stone, James A	Horse-power machine	July 27, 1858	XIII.
19265	Stone, N. F., and W. H. Ward	Saw-gummer	Feb. 2, 1858	II.
	Storer, C. (See Bennett & Storer.)			
21473	Storm, W. M., assignor to A. Cummings	Stamping milk-cans, apparatus for	Sept. 7, 1858	XXII.
20519	Storrs, L. B	Tailors' pressing-machine	June 8, 1858	XXI.
21453	Story, C. L.	Shingles from the log, method of manufacturing	Sept. 7, 1858	XIV.
21379	Stover, H. D	Irregular forms, machine for cutting	Aug. 31, 1858	XIV.
22459	Stow, O. W	Burring-machine	Dec. 28, 1858	II.
	Strange, James W. (See Bellingrath, Leonard, jr., assignor.)			
22460	Stratton, Samuel T	Starch, manufacture of	Dec. 28, 1858	IV.
19386	Strause, G	Mill-bushes	Feb. 16, 1858	XIII.
20220	Straw, W., and R. H. Armstrong	Harness tug-buckle	May 11, 1858	XVI.
19454	Strong, Charles	Saw-mill	Feb. 23, 1858	XIV.
	Stuart, Cresson, and Peterson. (See Delany & Martino, assignors.)			
	Stuart & Peterson. (See Horton, J., assignor.)			
	Stuart, D. (See Reed, J. A., assignor.)			
22313	Stubblefield, Thomas	Gauges, water, for steam-boilers	Dec. 14, 1858	VI.
20454	Stuber, J., and F. Frank	Furnace, hot-air	June 1, 1858	V.
19266	Stuber, John, and Richard Hughes	Lamp	Feb. 2, 1858	V.
	Sturges, D. B. (See Kuehnhold & Sturges.)			
	Sturn, Ignatius. (See Klinger, John G., assignor.)			
19282	Sturtevant, B. F., assignor to himself and Elmer Townsend.	Shoe-pegs, method of preparing blanks for	Feb. 2, 1858	XVI.
21593	Sturtevant, B. F., assignor to himself and Elmer Townsend.	Boots and shoes, machine for pegging	Sept. 21, 1858	XVI.
19720	Sullivan, D., and M. McIntyre	Gas-burner	March 23, 1858	V.
20098	Sultzback, H. Lee	Leather-sticker	April 27, 1858	XVI.
20008	Summers, J	Gates, farm, catch-latch for	April 20, 1858	IX.
	Sumner, Palmer	Lath, metallic	April 24, 1858	Extension.
	Sumner, Palmer	Ceilings, fire-proof	April 25, 1858	Disclaimer.
635	Sumner, William	Organs	Dec. 14, 1858	Reissue.
21704	Suter, James S., and George M. Palmer	Cigars, wrappers for	Oct. 5, 1858	XXII.
20963	Sutton, J. L	Stove, steam	July 20, 1858	VI.
640	Sutton, J. L., assignor to H. Downing	Stove, steam	Dec. 29, 1858	Reissue.
21858	Swan, James	Hydrant	Oct. 19, 1858	XI.
21221	Swan, Moses	Churns, &c., operating	Aug. 17, 1858	I.
20099	Swaney, Charles M	Washing-machine	April 27, 1858	XVII.
	Swartley, J. S. (See Brey, E., assignor.)			
	Swartwout, Edwin L. (See Worden, Leonard J.)			
19656	Swartz, George W	Boat-propeller, canal	March 16, 1858	VII.
21282	Sweeney, Owen	Fire-escape	Aug. 24, 1858	XXII.
21381	Sweet, Francis M	Bracelets	Aug. 31, 1858	XVIII.
21222	Sweet, James H	Nail-plate feeder	Aug. 17, 1858	II.
21380	Sweet, James H	Railway-chairs, rolling	Aug. 31, 1858	IX.
	Sweetland, J. B. (See Rider, W., assignor.)			
	Swift, Carr, Condit, Barnum, and Burr. (See Frost & Monroe, assignors.)			
22461	Swigert, George W	Washing-machine	Dec. 28, 1858	XVII.
21525	Sykes, Chester W	Pliers	Sept. 14, 1858	II.
22094	Symmes, John C	Fire-arm, breach-loading	Nov. 16, 1848	XIX.
1050	Tabb, Philip	Bedstead, cast iron	Aug. 14, 1858	Design.
22040	Tabor, Calvin and Byron D	Saws, machine for filing	Nov. 9, 1858	II.
20379	Taft, George C	Wrench	May 25, 1858	II.
20831	Taft, P. P	Corn-sheller	July 6, 1858	I.
21705	Taggart, A. C. and A. Gray	Tanning, apparatus for	Oct. 5, 1858	XVI.
	Taggart, A. W. (See Thompson, Samuel, assignor.)			
19216	Taggart, Lorenzo	Life-preserving rafts, canvas sheets connected with	Jan. 26, 1858	VII.
535	Taggart, Lorenzo	Life-preserving raft	March 2, 1858	Reissue.
19162	Talbot, G. H	Screw-drivers, ratchet movement for	Jan. 19, 1858	II.

No.	Names of patentee.	Invention or discovery.	Date.	Class.
19959	Tallman, William	Gas burner	April 13, 1858	V.
21156	Tallon, John	Rice-machine for pounding	Aug. 10, 1858	XIII.
21912	Taltavull, Peter	Bee-hive	Oct. 26, 1858	I.
19315	Tambling, W. H	Washing-machine	Feb. 9, 1858	XVII.
20740	Tambling, W. H	Churn	June 29, 1858	I.
21223	Tapley, D. J	Shoe-tool, combination	Aug. 17, 1858	XVI.
22095	Tapley, Daniel J	Boot and shoe soles, machine for moulding	Nov. 16, 1858	XVI.
22386	Tarr, Asa F	Mitre-box	Dec. 21, 1858	XIV.
19591	Tasker, Thomas T	Radiator, hot-water	Mar. 9, 1858	V.
20226	Tatum, J. H	Brush	May 11, 1858	XVII.
21706	Tatum, Joel H	Candles, manufacture of	Oct. 5, 1858	IV.
22247	Taylor, Allen	Cans, preserve, sealing	Dec. 7, 1858	XVII.
21382	Taylor, Alva B	Hat-body machinery	Aug. 31, 1858	III.
19657	Taylor, Anson	Preparing silk for use with felting substances	Mar. 16, 1858	IV.
20024	Taylor, George, assignor to himself and John W. Free.	Planter, corn	April 20, 1858	I.
	Taylor, George F. (See Chilcott & Strimgeour.)			
	Taylor, George W. (See Bullock, Wm., assignor.)			
20100	Taylor, H. R	Drawer for closets, bureaus, &c	April 27, 1858	XXII.
20829	Taylor, H. W	Nail-machine	July 6, 1858	I.
20830	Taylor, J. F	Hulling-machine, rice	July 6, 1858	I.
20131	Taylor, James R., assignor to Wm. Skiddy	Ship's capstan	April 27, 1858	VII.
20741	Taylor, Susan E	Pen, fountain	June 29, 1858	XVIII.
21033	Taylor, W. W	Compounds for protecting trees from insects	July 27, 1858	IV.
	Taylor, Wm. (See Burlingame, S. S., assignor.)			
20177	Taylor, William N	Gas-generators	May 4, 1858	IV.
	Teal, J. W. (See Dake & Teal.)			
19801	Telford, George	Sawing-machine, crosscut	Mar. 30, 1858	XIV.
21283	Tenney, F. A	Meter, water	Aug. 24, 1858	II.
	Tenney, John. (See Brown, Cyriel E., assignor.)			
19387	Terrel, Charles C	Fire-arm, repeating	Feb. 16, 1858	XIX.
	Terry, W. A. (See Harkness & Terry.)			

20904	Tetlow, J	Gin, cotton	July 13, 1858	III.
19592	Tewksbury, Abijah R	Pavement, iron	Mar. 9, 1858	IX.
	Thacher, S. P. (See Ridley, Henry, assignor.)			
20101	Tharp, E	Washing-machine	April 27, 1858	XVII.
21109	Thayer, C. B., assignor to himself and Charles Robinson.	Gun, centrifugal	Aug. 3, 1858	XIX.
19882	Thayer, H	Carpet-holder	April 6, 1858	XVII.
21474	Thayer, H. H., assignor to J. A. Woodbury and S. A. Woods.	Journal-boxes	Sept. 7, 1858	XIII.
	Thayer, Henry. (See Campbell, Ethan, ass'r.)			
19316	Thayer, Horace, and Levi L. Martin	Painting and varnishing machine	Feb. 9, 1858	XVIII.
	Thayer, J. (See Sangster, A. M., assignor.)			
	Thayer, R. (See Bailey & Thayer.)			
	Thiers, R. (See Lacassagne & Thiers.)			
20905	Thomas, Charles C	Teeth, extracting, apparatus as aids in	July 13, 1858	XX.
20102	Thomas, Chauncey	Mill for grinding paint	April 27, 1858	XIII.
22387	Thomas, Enoch	Press, cam	Dec. 21, 1858	XII.
21157	Thomas, J. H	Gridirons, folding	Aug. 10, 1858	V.
21034	Thomas, J. H., and P. P. Mast	Planter, seed	July 27, 1858	I.
19328	Thomas, John F., assignor to himself and Samuel Remington.	Gun, cane	Feb. 9, 1858	XIX.
22041	Thomas, Joseph	Furnace for tempering steel	Nov. 9, 1858	V.
1061	Thomas, Lyman L., assignor to Dighton Furnace Company.	Stove	Nov. 9, 1858	Design.
20178	Thomas, R	Lamp attachment for preventing smoke, &c	May 4, 1858	V.
20455	Thompson, George	Hoisting and lowering goods, machinery for	June 1, 1858	XII.
	Thompson, J. B. (See Barker, William, jr., assignor.)			
19802	Thompson, Joseph	Composition, mastic	Mar. 30, 1858	IV.
21158	Thompson, Joseph	Cement for roofing purposes	Aug. 10, 1858	IV.
21784	Thompson, Meriwether	Rule for describing polygonal forms	Oct. 12, 1858	VIII.
20308	Thompson, N., jr	Boats, moulding frame for the construction of	May 18, 1858	VII.
19317	Thompson, Nathan, jr	Boats, collapsible	Feb. 9, 1858	VII.
22462	Thompson, Nathan, jr	Car-seats and couches, railroad	Dec. 28, 1858	X.
21994	Thompson, O. B	Lock	Nov. 2, 1858	II.
21580	Thompson, Salathiel, S	Harrow, rotary	Sept. 21, 1858	I.
19818	Thompson, Samuel, assignor to himself and A W. Taggort.	Planter, seed	Mar. 30, 1858	I.
19163	Thompson, Thomas	Plough	Jan. 19, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20742	Thomson, John	Sewing-machine	June 29, 1858	III.
21581	Thomson, W. S	Skirts, ladies', eylet fastenings for	Sept. 21, 1858	XXI.
20380	Thorn, L	Boilers, steam, feed-regulator for	May 25, 1858	VI.
20743	Thorndike, John	Punch, brad	June 29, 1858	II.
19267	Thrasher, Francis, and Henry B. Horton	Window-sashes, fastening for	Feb. 2, 1858	IX.
	Throop, G. E. (See Howes & Throop.)			
21092	Thum, Charles D	Brush case, shoe	Aug. 3, 1858	XVII.
20744	Thurber, W	Propeller	June 29, 1858	VII.
	Tiffany, D. B. (See Farrington, George K., assignor.)			
	Tiffany, David B. (See Farrington & Brown.)			
21383	Tifft, John D	Grain-separator	Aug. 31, 1858	I.
20964	Tift, S. H	Clothes-dryer	July 20, 1858	XVII.
21035	Tift, S. H	Clothes-dryer	July 27, 1858	XVII.
19456	Tilton, Daniel L	Planter, seed	Feb. 23, 1858	I.
19725	Tilton, Daniel L	Plough	Mar. 23, 1858	I.
21384	Timby, E. R	Casket, travelling	Aug. 31, 1858	XXII.
21385	Tindall, Thomas J	Washing-machine	Aug. 31, 1858	XVII.
22096	Tingley, John	Hame-fastener	Nov. 16, 1858	XVI.
19217	Tinney, Joseph	Door, weather-strip for	Jan. 26, 1858	IX.
20103	Tittle, John	Straw-cutter	April 27, 1858	I.
20745	Titus, E. H., and John Sharp	Lumber, machine for resawing	June 29, 1858	XIV.
	Tobey, William. (See Pitcher, Benjamin, assignor.)			
21526	Tobey, William	Gate	Sept. 14, 1858	IX.
20104	Tobin, J	Smut and grain-cleaning machine	April 27, 1858	XIII.
	Todd, Scott, & Co. (See Black, James, assignor.)			
	Todd, Scott, & Co. (See Scott, George, assignor.)			
22248	Todd, George C	Boot's edge, keys for	Dec. 7, 1858	XVI.
20746	Todd, Hiram	Lamps, burning fluid	June 29, 1858	V.
	Todd, P. P. (See Stone, Harley, assignor.)			
	Todd, R. J. (See Randall, G. W., assignor,)			
21386	Todd, William	Logs, rolling and piling, implements for	Aug. 31, 1858	IX.
21527	Todd, William S	Bedstead	Sept. 14, 1858	XVII.
22206	Tolhurst, G. W	Corn-shelling machine	Nov. 30, 1858	I.
	Tolhurst, W. H. (See Daggett, W., assignor.)			
19108	Tom, John B, and Stephen D Tucker	Lubricating journals, &c., method of, by a pendulum-valve arrangement.	Jan. 12, 1858	XII.
21285	Tomlinson, M	Composition for miniature cases, &c	Aug. 24, 1858	IV.
	Tompkins, Clark. (See Delahanty, J. P., assignor.)			
21387	Tower, Samuel	Roasting coffee, apparatus for	Aug. 31, 1858	V.
21708	Town, Edward and Calvin E	Books, machine for numbering the pages of	Oct. 5, 1858	XVIII.
	Townsend, E. (See Lackey, L., assignor.)			
	Townsend, Elmer. (See Sturtevant, B. F., assignor.)			
	Townsend, Elmer, *et al.* (See Philbrick, David, assignor.)			
	Townsend, William I. (See Batchelder, W. W., assignor.)			
20670	Toy, P. W	Port-folio file	June 22, 1858	XVIII.
21728	Tozer, J. F., assignor to George W. Gregory	Gas-burner	Oct 5, 1858	V.
20105	Tracy, Edward H	Breakwaters, &c., frames or caissons of	April 27, 1858	IX.
21284	Trageser, John	Vats, apparatus attached to steam coils in	Aug. 24, 1858	IV.
	Treadwell, John G. (See Pepper, Calvin, assignor.)			
541	Treadwell, W. B	Car-wheels, railroad	Mar. 30, 1858	Reissue.
21707	Treadwell, W. B	Stoves and furnaces, coal, lining for	Oct. 5, 1858	V.
21785	Treat, Joseph A	Gate, farm	Oct. 12, 1858	IX.
21036	Trimmer, B. T	Grain, machine for cleaning	July 27, 1858	I.
21632	Trimmer, B. T	Pump, rotary	Sept. 28, 1858	XI.
21528	Tripp, Erwin B	Printing-press	Sept. 14, 1858	XVIII.
19052	Tripp, George W	Dentist's operating-chair	Jan. 5, 1858	XX.
19176	Troost, Lewis, assignor to John A. M. Battle	Electro-galvanic batteries, method of registering the speed back or forward, and distances passed over by railroad trains by means of.	Jan. 19, 1858	VIII.
21633	Trowbridge, William H.	Stand, embroidery and sewing	Sept. 28, 1858	XVII.
20227	Troxel, John S	Harvester	May 11, 1858	I.
	True, Lorenzo W. (See Lythe, Alston, & True.)			
21388	Truesdell, L. E	Bridge	Aug. 31, 1858	IX.
21093	Trump, J. V	Harvester	Aug. 3, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21786	Tucker, J. C., and L. Lanzweert	Sugar, manufacture of	Oct. 12, 1858	IV.
	Tucker, Stephen, D. (See Tom & Tucker.)			
21160	Tucker, W	Bit, variable boring	Aug. 10, 1858	XIV.
21787	Tucker, William	Cultivator	Oct. 12, 1858	I.
22388	Tucker, William	Dynamometer	Dec. 21, 1858	VIII.
19388	Turley, Marshall	Plough	Feb 16, 1858	I.
20596	Turnbull, A. E	Locomotive-signals	June 15, 1858	VI.
21389	Turner, Alexander, Redden Bess, and Hervy Sloan.	Seeding-machine	Aug. 31, 1858	I.
21642	Turner, Alexander, assignor to himself and Redden Bess and H. Sloan.	Drills, seed	Sept. 28, 1858	I.
	Turner, E. S. (See Stone, Draper, assignor.)			
19899	Turner, Josiah, assignor to himself and E. Burke.	Grain-separator	April 6, 1858	I.
21454	Turner, Rufus M	Trap for animals	Sept. 7, 1858	XXII.
	Turner, S. B. (See Ingersoll, S., assignor.)			
20228	Turner, S. S	Lasts	May 11, 1858	XVI.
22316	Turner, Thomas	Cultivator	Dec. 14, 1858	I.
	Tuska, P. H. (See Schroeder, C.)			
990	Tuttle, E A, and Thomas Barry	Compass-stand	Feb. 23, 1858	Design.
20106	Tuttle, Edward A	Register and ventilator, warm-air	April 27, 1858	V.
21582	Tuttle, John L	Gin, cotton	Sept. 21. 1858	III.
	Tylee, T. (See Pratt & Tylee.)			
20671	Tyler, C. N	Gas-retort	June 22, 1858	IV.
22463	Tyler, C. N	Gas, illuminating, apparatus for generating	Dec 28, 1858	IV.
20456	Tyler, John	Water-wheel	Dec 1, 1858	XI.
20685	Tyler, P. B., W. Jones, and B. Lathrop, assignors to P. B Tyler.	Riveting-machine	June 22, 1858	II.
22269	Tyler, S. G., assignor to himself and G. J. Laage and J. W. Barnum.	Sewing-machine	Dec. 7, 1858	III.
	Tyler, S. M (See Reeve & Tyler.)			
19218	Tyler, Samuel W	Harvester	Jan. 26, 1858	I.
19053	Tyng, Levi B	Rails for railroads	Jan. 5, 1858	IX.
	Tyrrell, Eliza C. (See Haskins & Macardle, assignors.)			
21224	Uhlinger, W. P	Sewing-machine	Aug. 31, 1858	III.
22464	Uhlinger, William P	Closet for sewing-machines	Dec. 28, 1858	XVII.
21455	Uhry, H., and H. A. Lutgens	Valves of steam-engines, operating	Sept. 7, 1858	VI.
19318	Underwood, Henry	Belting, lap-joints for	Feb. 9, 1858	XIII.
20309	Underwood, J. C, and T. J. Bargis	Fishing-rods, tips for	May 18, 1858	XXII.
	Union Sewing Machine Co. (See Hook, A. H., assignor.)			
19593	Urquhart, W	Life-preserving raft of buoyant mattresses	Mar. 9, 1858	VII.
20107	Ustick, S	Brick-machine	April 27, 1858	XV.
19658	Utley, G	Plough	Mar. 16, 1858	I.
20229	Utley, Grey	Ordnance, repeating	May 11, 1858	XIX.
20906	Vail, A. and T	Dishes, earthen ware	July 13, 1858	XVII.
19389	Vail, Charles M	Churn	Feb. 16, 1858	I.
	Valentine, A. A. (See Gale, W. S., assignor.)			
19960	Van Allen, C. D., and S. Avery	Soda-fountain	April 13, 1858	IV.
19803	Van Anden, William	Harvester	Mar. 30, 1858	I.
21456	Van Anden, William	Copying apparatus, portable	Sept. 7, 1858	XVIII.
20230	Van Anken, Minor	Washing-machine	May 11, 1858	XVII.
20597	Van Brunt, G. J	Gun-carriage	June 15, 1858	XIX.
20521	Vance, D M	Smut-machines	June 8, 1858	XIII.
20525	Vandegrift, A J	Grain-separator	June 8, 1858	I.
21529	Vandemark, A. B. and M	Fence, portable field	Sept. 14, 1858	IX.
21037	Van De Mark, C	Fences, field, triangular brace for locking the panels of.	July 27, 1858	IX.
19883	Vandenburg, W	Table, ironing	April 6, 1858	XVII.
19390	Vandenburg, William, and J. Harvey	Table, ironing	Feb. 16, 1858	XVII.
20231	Vandenburg, W	Table, ironing	May 11, 1858	XVII.
20108	Van Der Veer, B. M	Railroad stations, machinery for supplying tenders with water at.	April 27, 1858	IX.
20532	Vander Woerd, Charles, assignor to Alvan Clark & Sons.	Hose-coupling	June 8, 1858	XI.
22207	Vandesande, Peter, assignor to himself and Martin Vanderevert.	Straw cutter	Nov. 30, 1858	I.
20965	Van Deventer, T	Paper-hangings, apparatus for hanging up and carrying off.	July 20, 1858	XVIII.
22208	Van Diver, John W	Seeding-machine	Nov. 30, 1858	I.
19522	Van Doren, Isaac	Harvester	Mar. 2, 1858	I.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19523	Van Doren, Isaac	Harvesters, rake for	Mar. 2, 1858	I.
19594	Van Doren, Isaac	Valve for steam-engines	Mar. 9, 1858	VI.
19726	Van Doren, Isaac	Motion, reciprocating and rotary	Mar. 23, 1858	XIII.
19884	Van Doren, Isaac	Harvester	April 6, 1858	I.
	Van Doren, J. (See Glover, Carlos W., assignor.)			
	Van Doren, John. (See Murray & Van Doren.)			
22475	Van Doren, John, assignor to himself, B. Murray, and C. W. Glover.	Stacking agricultural products	Dec. 28, 1858	I.
19663	Van Doren, John, assignor to J. Van Doren and B. Murray.	Dumping-boxes for agricultural purposes	Mar. 16, 1858	I.
22209	Van Dusen, Washington	Propeller	Dec 1, 1858	VII.
22317	Van Dusen, Washington	Dry-dock and marine railways, adjustible cradles for.	Dec. 14, 1858	IX.
19319	Van Duzer, Aaron	Harvester, grain and grass	Feb. 9, 1858	I.
22211	Van Geison, William H	Nail-heads, machine for plating	Nov. 30, 1858	II.
20009	Van Hoevenburg, Adam V	Iron cooking utensils, hollow cast	April 20, 1858	II.
21583	Van Houten, Charles	Planter, corn	Sept. 21, 1858	I.
19391	Van Loan, W. W	Plough	Feb. 16, 1858	I.
22139	Van Oeckelen, Cornelius J	Musical instruments, wind	Nov. 23, 1858	XVIII.
22240	Van Steenburgh, Hiram, and Joel Egnor	Ice, apparatus for hoisting and storing	Nov. 30, 1858	XXII.
22260	Van Vleck, J. P	Saw set	Dec. 7, 1858	II.
21541	Van Vliet, Cornelius W., assignor to New England Pin Company.	Pin-sticking machine	Sept 14, 1858	II.
20232	Varney, Thomas	Lamp, vapor, burner for	May 11, 1858	V.
20310	Vascon, S., and A. Guirand	Mill, grinding	May 18, 1858	XIII.
	Vauclain, James. (See Lilly, Vauclain, & Lilly.)			
	Vaughn, A. (See Routh & Vaughn.)			
19804	Vaughn, Horace	Steel and iron, tempering and hardening	Mar. 30, 1858	II.
1038	Vedder, N. S	Stove, cooking	Aug. 10, 1858	Design.
1039	Vedder, N. S.	Stove, parlor	Aug. 10, 1858	Design.
1040	Vedder, N. S.	Stove, parlor	Aug. 10, 1858	Design.
973	Vedder, N. S., assignor to George W. Eddy	Stove	Jan. 5, 1858	Design.
1027	Vedder, N. S., assignor to George W. Eddy	Stove	July 13, 1858	Design.
1055	Vedder, N. S., assignor to George W. Eddy	Stove, cooks'	Oct. 5, 1858	Design.
982	Vedder, N. S., and Ezra Ripley, assignors to L. Potter & Co.	Stove	Jan. 12, 1858	Design.
992	Vedder, N. S., and Ezra Ripley, assignors to Lewis Potter.	Stove-plates	Feb. 23, 1858	Design.
1037	Vedder, N. S., and Ezra Ripley, assignors to N. S. Vedder.	Stove-box	Aug. 10, 1858	Design.
984	Vedder, N. S., and William L. Sanderson, assignors to George Warren.	Stove	Jan. 12, 1858	Design.
983	Vedder, N. S., and William L. Sanderson, assignors to L. Potter & Co.	Stove	Jan. 12, 1858	Design.
20747	Ventress, J. A	Gin, cotton	June 29, 1858	III.
20233	Very, Samuel, jr	Ships' lower sails or courses, working	May 11, 1858	VII.
19740	Vickerstaff, Joseph, assignor to Martin Landenberger.	Knitting-machine	Mar. 23, 1858	III.
19168	Vidal, Ulysses B	Sawing machine, scroll	Jan. 19, 1858	XIV.
	Vincent, I. J. (See Mann, R. J., assignor.)			
22398	Vincent, Reed	Plough	Dec. 21, 1858	I.
21161	Voelter, Henry	Paper-pulp, reducing wood fibres to	Aug 10, 1858	III.
20966	Von Schwarz, J.	Steatite articles, manufacture of.	July 20, 1858	IV.
19457	Von Unwerth, Hartwich	Garden tools	Feb. 23, 1858	I.
1065	Vose, Samuel D	Stove-plates	Nov. 23, 1858	Design.
1066	Vose, Samuel D.	Stove-plates	Nov. 23, 1858	Design.
1067	Vose, Samuel D	Stove-plates	Nov. 23, 1858	Design.
1068	Vose, Samuel D	Stove-plates	Nov. 23, 1858	Design.
22097	Vrooman, Daniel	Ship-building	Nov. 16, 1858	VII.
20184	Vrooman, H. S., assignor to Henry Albro	Sawing-machine	May 4, 1858	XIV.
20832	Wade, R. M	Trunk-protector	July 6, 1858	XVI.
20748	Wade, W. W.	Lamp-caps, method of fastening the neck-tube in	June 29, 1858	V.
19885	Wade, William W., and Charles Burnham	Lamp-attachment	April 6, 1858	V.
23390	Wade, William W., and Francis T. Cordis	Labels for trees, &c	Dec. 21, 1858	XXII.
	Wadsworth, S. (See Mackintosh & Wadsworth.)			
22212	Wagener, Elijah	Guano and other fertilizers, machine for distributing.	Nov. 30, 1858	I.
20109	Wagner, J. Z. A	Brick-machine	April 27, 1858	XV.
19054	Wainwright, H., and S. T. Williams	Planter, potato	Jan. 5, 1858	I.
21038	Wait, W. B	Car-brake, railroad	July 27, 1858	X.
583	Waite, Charles B., and Joseph W. Sener	Coffee-pot	Aug. 10, 1858	Reissue.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20457	Waite, D. B	Harvester	June 1, 1858	I.
19164	Wakefield, Charles A	Carpet-fastener	Jan. 19, 1858	XVII.
19165	Wakefield, Charles A	Tracks, joints of railroad	Jan. 19, 1858	IX.
21097	Waldron, M. J	Railroad-rails	Aug. 3, 1858	IX.
20749	Wales, A	Planter, seed	June 29, 1858	I.
22465	Wales, Sigourney	Lamp, vapor, burner	Dec. 28, 1858	V.
19269	Wales, Thomas C	Boots, gaiter shoes and, water-proof	Feb. 2, 1858	XVI.
21095	Walker, Andrew	Gas, apparatus for purifying	Aug. 3, 1858	IV.
22391	Walker, Andrew	Gas, apparatus for purifying	Dec. 21, 1858	IV.
19320	Walker, F. M	Corn husker	Feb. 9, 1858	I.
	Walker, G. (See Brooks & Walker.)			
22140	Walker, Henry	Sewing-needles, manufacture of	Nov. 23, 1858	III.
20833	Walker, R. P	Hulling rice, machine for	July 6, 1858	I.
21913	Walker, R. P	Rice, machinery for pearling, polishing, and finishing.	Oct. 26, 1858	XIII.
22042	Walker, Samuel	Loom, fringe	Nov. 9, 1858	III.
	Wall, Charles. (See Stewart, John, assignor.)			
20598	Wallace, Thomas, jr	Skirt-hoops, clasp for	June 15, 1858	XXI.
21995	Walton, Joseph	Seeding-machine	Nov. 2, 1858	I.
20908	Wampler, J. M	Surveyor's graphodometer, automatic mechanism for operating.	July 13, 1858	VIII.
	Ward, F. G. and F. T. (See Safford, George E., assignor.)			
21996	Ward, J. N	Car-brake	Nov. 2, 1858	IX.
19458	Ward, L. F	Corn-husker	Feb. 23, 1858	I.
	Ward, W. C. (See Stone & Ward.)			
19268	Ward, W. H	Railways, turning-tables for	Feb. 2, 1858	IX.
21094	Warden, W. R	Fire-place	Aug. 3, 1858	V.
	Warder, Brokaw, & Child. (See Harding, Thomas, assignor.)			
	Warder, Brokaw, & Child. (See Brokaw, John W., assignor.)			
22318	Ware, Elijah	Valve-gear, slide of steam-engines	Dec. 14, 1858	VI.
20834	Ware, W. P	Muff, ear, cheek, and chin	July 6, 1858	XXI.
20110	Warker, Thomas	Gas, carbonic-acid, apparatus for generating	April 27, 1858	IV.
21788	Warlick, F. C	Steam-generator	Oct. 12, 1858	VI.
22098	Warlick, Noah	Bed-bottom, spring	Nov. 16, 1858	XVII.
20458	Warner, C	Marble, machine for working	June 1, 1858	XV.
20750	Warner, C. A	Bedstead	June 29, 1858	XVII.
19063	Warner, Ezra J., assignor to himself, William H. Warner, and Rufus E. Hitchcock.	Cans, instrument for opening	Jan. 5, 1858	XVII.
	Warner, J. B. (See Davis & Warner.)			
19596	Warner, Joseph	Carpet-stretcher	Mar. 9, 1858	XI.
20523	Warner, Joseph F	Hydraulic-ram	June 8, 1858	XI.
20234	Warren, Alonzo, and E. Damon, jr	Water-wheel	May 11, 1858	
	Warren, Fuller, & Morrison. (See Hathway, David, assignor.)			
	Warren, George. (See Vedder & Sanderson, assignors.)			
21634	Warren, Owen G	Telegraph-cables, method of laying submarine	Sept. 28, 1858	VIII.
20835	Warren, S. W	Steam-alarm and safety apparatus	July 6, 1858	VI.
20968	Warren, W	Plough	July 20, 1858	I.
21709	Warren, William M	Skirt-hoops, slides for	Oct. 5, 1858	XXI.
22043	Warth, Albin	Lathe for turning wood	Nov. 9, 1858	XIV.
	Washington, Francis B. (See Snell, Edward S., assignor.)			
20836	Washington, B. H	Furnace	July 6, 1858	V.
2010	Waterbury, C. A	Paper, apparatus for damping	April 27, 1858	XVIII.
	Waterhouse, George B. (See Bowers, M., assignor.)			
21096	Waterhouse, John	Gas, apparatus for purifying	Aug. 3, 1858	IV.
	Waterman, Cornelia, administratrix. (See Russell & Waterman.)			
21039	Waterman, H	Steel rollers, making	July 27, 1858	II.
19219	Waterman, Henry	Car-springs, railroad	Jan. 26, 1858	X.
21286	Waterman, Henry	Wire and steel, tempering	Aug. 24, 1858	II.
1007	Waterman, N	Stand, towel	May 25, 1858	Design.
20907	Waterman, N	Refrigerator	July 13, 1858	XVII.
1032	Waterman, Nathaniel	Stands, towel	Aug. 3, 1858	Design.
1043	Waterman, Nathaniel	Roll-pans	Aug. 17, 1858	Design.
1046	Waterman, Nathaniel	Pans, bread	Aug. 31, 1858	Design.
19270	Waters, Elisha	Paper-boxes, manufacturing angular	Feb. 2, 1858	III.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
20967	Waters, G , and J. W. Harnett	Rectifying, apparatus for	July 20, 1858	IV.
19524	Waters, Harvey	Scythes, manufacture of	Mar. 2, 1858	II.
	Waters, J. M. (See Barrett, Lee, & Waters.)			
19972	Watson, John F., assignor through mesne assignments to Baldwin & Co.	Watch-cases	April 13, 1858	VIII.
587	Watson, John F., assignor to William E. Baldwin and E. Bliss.	Watch-cases	Aug. 17, 1858	Reissue.
586	Watson, John F., assignor to William E. Baldwin and E Bliss.	Watch-cases	Aug. 17, 1858	Division of reissue.
	Watson, W. H. (See Wolfe, H. R., assignor.)			
608	Watt & Burgess, through mesne assignments to William F. Ladd and Morris L. Keen.	Paper pulp, manufacture of	Oct. 5, 1858	Reissue.
19321	Watt, George	Plough	Feb. 9, 1858	I.
21710	Waugh, John	Paper hangings, machine for turning the edges of	Oct. 5, 1858	XVIII.
20979	Weatherbee, E. D., assignor to himself and L. Harding,	Meter, fluid	July 20, 1858	XI.
19900	Weatherhead, Davis L , and James T. Henry, assignors to themselves, John M. Smith, and William Campbell.	Gas-retort, portable	April 6, 1858	IV.
202	Webber, E	Shingle-machine	June 15, 1858	Add'l imp't.
20381	Webster, A. W	Doors and attachment for opening and closing	May 25, 1858	II.
20673	Webster, W	Vessels, masting and rigging	June 22, 1858	VII.
20751	Webster, W	Propellers, attaching and housing	June 29, 1858	VII.
20672	Webster, William	Gearing for machinery	June 22, 1858	XIII.
20909	Webster, William	Smoke-stack for steam-vessels	July 13, 1858	V.
	Weed, C. (See Cram & Weed.)			
21530	Weed, Charles	Tanks, water, mode of filling at railway-stations	Sept. 14, 1858	IX.
19525	Weeks, Abner B	Kiln, lime	Mar. 2, 1858	XV.
21392	Weeks, George W	Yokes, ox	Aug. 31, 1858	I.
20980	Weeks, J. J., assignor to Susan Weeks	Motion, converting rotary into reciprocating	July 20, 1858	XIII.
22044	Weimer, Peter L	Metal pipe, machine for coiling	Nov. 9, 1858	II.
19668	Weisman, Joseph	Graphite in reducing metals, using	Mar. 16, 1858	IX.

21162	Weldon, S. R	Seeding-machine	Aug. 10, 1858	I.
19970	Wellman, John T., assignor to Chas. O Thompson.	Signs, door-plate, &c	April 13, 1858	XVIII.
21225	Wells, Alexander	Potatoes, machine for digging	Aug. 17, 1858	I.
22392	Wells, David	Stove	Dec. 21, 1858	V.
22393	Wells, Ezra	Glass furnaces and pots, manufacture of	Dec. 21, 1858	XV.
20910	Wells, H	Saw-mill block	July 13, 1858	XIV.
19166	Wells, Hiram	Sawing machines, circular, arrangement of devices to feed and gig back the carriage in	Jan. 19, 1858	XIV.
19727	Wells, John	Mill-bushes	Mar. 23, 1858	XIII.
21457	Wells, Jonathan W	Alarm-lock	Sept. 7, 1858	XXII.
20179	Wells, L T	Printing-presses, tympans for	May 4, 1858	XVIII.
21859	Wells, Lemuel T	Printing-presses, paper feeder for	Oct. 19, 1858	XVIII.
19167	Wells, M. D. and A	Shingles, method of butting and pointing the bolt to be sawed into.	Jan. 19, 1858	XIV.
22141	Wells, M. D., and H. Hagans	Threshing-machine	Nov. 23, 1858	I.
19272	Wells, Morris	Belts, shifting	Feb. 2, 1858	XIII.
21789	Wells, Wallace	Engines, construction of cylinders and pistons for pumps and steam.	Nov. 2, 1858	VI.
20112	Wells, William	Mattress, folding	April 27, 1858	XVII.
20969	Welsh, Joseph	Loom	July 20, 1858	III.
21098	Welsh, Joseph	Loom	Aug. 3, 1858	III.
20752	Welte, Joseph	Fire-ladder	June 29, 1858	XXII.
19393	Wemple, Jacob, V. A., and Andrew	Harvesters, raking attachment for	Feb. 16, 1858	I.
19530	Wendell, Isaac P	Car-axles, railroad, boxes and journals for	Mar. 2, 1858	X.
	Wendell, Isaac P. and J. L. (See Howson, Henry, assignor.)			
20599	Wentworth, H. S	Fence, field	June 15, 1858	IX.
20911	Wentworth, J. B	Leather-shaving knife	July 13, 1858	XVI.
21711	Werk, M	Acids, fatty, apparatus for manufacturing	Oct. 5, 1858	IV.
	Wessan, Daniel B. (See Harrington, F. H., assignor.)			
20753	West, H. B., and H. F. Willson	Sewing-machine	June 29, 1858	III.
20837	West, H. E	Bonnets and other articles of varying thickness, machinery for pressing.	July 6, 1858	III.
	West, Thomas. (See Maliphant, C., assignor.)			
	Westbrook, Herringshaw, & Parker. (See Parker, Sidney, assignor.)			
22319	Westcott, Charles S	Lock	Dec. 14, 1858	II.
20459	Weston, C. H	Spoke-shave	June 1, 1858	XIV.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19271	Weston, James M	Garments, machine for drafting	Feb. 2, 1858	XXI.
19392	Wetmore J. W	Gravimotometer	Feb. 16, 1858	VIII.
20926	Wharton, J., and N. Bartlett, assignor to Joseph Wharton.	Furnace for manufacturing oxide of zinc	July 13, 1858	V.
	Wheat, C. (See Lewis, Dunning, & Wheat.)			
21790	Wheat, Corydon	Corn-eradicator	Oct. 12, 1858	XX.
22045	Wheeler, C. D	Sewing-machine	Nov. 9, 1858	III.
21100	Wheeler, Darius, and Luman Carpenter	Sewing-machine	Aug. 3, 1858	III.
21099	Wheeler, E	Cars, sleeping, for railroads	Aug. 3, 1858	X.
20382	Wheeler, E. D	Soda-water apparatus, portable	May 25, 1858	IV.
19526	Wheeler, Elbridge	Horse-shoes	Mar. 2, 1858	II.
19971	Wheeler, J. W., assignor to himself and C. D. Williams	Brooms, machine for manufacturing splints for	April 13, 1858	XVII.
19220	Wheeler, Norman W	Engine, steam, arrangement of passages and valves for cushioning the pistons of.	Jan. 26, 1858	VI.
22320	Wheeler, Norman W	Valves of steam-engines, apparatus for operating	Dec. 14, 1858	VI.
999	Wheeler, R., and S. A. Bailey	Stove, cooks'	May 4, 1858	Design.
	Wheeler, Robert. (See Lovejoy & Wheeler.)			
22321	Whetstone, John L	Valve gear of steam engines	Dec. 14, 1858	VI.
19669	Whinfield, Henry	Boiler, steam	Mar. 16, 1858	VI.
22213	Whipple, Asa L	Car-brake, railroad	Nov. 30, 1858	X.
19394	Whipple, Cullen	Cotton, &c., drawing	Feb. 16, 1858	III.
	Whipple, Milton D. (See Fitts & Whipple.)			
21931	Whipple, Milton D., assignor to Alfred B. Ely	Cloth, fulling in the piece, machinery for	Oct. 26, 1858	III.
21930	Whipple, Milton D., assignor to Alfred B. Ely	Cloth, felt, forming bats for	Oct. 26, 1858	III.
21932	Whipple, Milton D., assignor to Alfred B. Ely	Cotton, combing, machinery for	Oct. 26, 1858	III.
19599	Whipple, Stephen M	Car-brake, railroad	Mar. 9, 1858	X.
19273	Whissen, Isaac	Mill-stones, dressing	Feb. 2, 1858	XIII.
21860	Whitaker, S. H	Nut-machine	Oct. 19, 1858	II.
21531	Whitaker, Thomas	Screw cutter	Sept. 14, 1858	II.
21712	Whitcomb, George	Rake, hay	Oct. 5, 1858	I.
	White, C. N. (See Mitchell, V. N., assignor.)			
	White, Cyrus. (See Puffer, Milton G., assignor.)			
19395	White, Daniel, jr	Lathes, rest attachment for	Feb. 16, 1858	XIV.
19595	White, E. B	Bench hook	Mar. 9, 1858	XIV.
	White, Edward. (See Bishop, Gilbert, assignor.)			
21393	White, Franklin W	Planter, corn	Aug 31, 1858	I.
	White, H (See Calkins & White.)			
21458	White, Henry	Brick-machine	Sept. 7, 1858	XV.
20767	White, J P., assignor to himself and F. Fox	Heating tires, apparatus for	June 29, 1858	V.
20675	White, John	Cars on the track, machine for replacing	June 22, 1858	X.
21713	White, Joseph	Sewing-machine	Oct. 5, 1858	III.
	White, L. (See Bumgarner & White.)			
22046	White, L., and J. T. Bumgarner	Drills, rock	Nov. 9, 1858	IX.
21304	White, Le Roy, assignor to E. W. Sperry, E. Hurlbut, and J. H. Ashmead.	Burnishing-machine	Aug. 24, 1858	II.
22226	White, Luke	Potatoes, machine for digging	Aug. 17, 1858	I.
22394	White, Norman S., and Aaron Denio	Auger-shanks, method of attaching cutter-lips to	Dec. 21, 1858	XIV.
19819	White, O., assignor to Henry C. James	Lightning-conductor	Mar. 30, 1858	VIII.
19961	White, R	Fire-arm, revolving	April 13, 1858	XIX.
21542	White, Samuel, assignor to Harlow Herrick	Harrow	Sept. 14, 1858	I.
20011	White, T. B	Girders, truss, metallic shoes for the braces of	April 20, 1858	IX.
22466	White, William	Tools, making edge	Dec 28, 1858	II.
20113	White, W. B., and John A. Whitford	Bottles, machine for washing	April 27, 1858	XXII.
19055	Whitehead, Jessee	Harvester	Jan. 5, 1858	I.
19805	Whiting, J. M., and G. F. Wilson	Screws, wood	Mar. 30, 1858	II.
19820	Whiting, James M., assignor to himself, George F. Wilson, and Alfred Anthony.	Carriage-wheels, hubs of	Mar. 30, 1858	X.
20970	Whiting, William	Electro-magnetic house-alarm	July 20, 1858	VIII.
21791	Whitman, Alden	Water-wheel and chute	Oct 12, 1858	XI.
21287	Whitman, H	Planter, corn	Aug. 24, 1858	I.
20383	Whitmarsh, Samuel	Composition for artificial leather	May 25, 1858	IV.
21040	Whitmore, Joseph	Boilers, steam, alarm-gauge for	July 27, 1858	V.
20674	Whitmore, S. H	Lubricating engines, oil cups for	June 22, 1858	XII.
186	Whitney, Baxter D	Wooden surfaces, planed, machine for smoothing	Jan. 12, 1858	Add'l imp't.
19115	Whitney, Chauncey B., assignor to Phillip Case	Water-wheels, chute for	Jan 12, 1858	XI.
20524	Whitney, Sironia	Lock, door	June 8, 1858	II.
20853	Whittlesey, N. P., assignor to James A. Frary	Faucet	July 6, 1858	XI.
20010	Whittemore, David H	Bit-holder	April 20, 1858	XIV.
19322	Whyte, Thomas B	Planting potatoes, machine for	Feb. 9, 1858	I.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
22332	Wiard, Thomas, assignor to G. W. and H. W. Pitken, and W. L. P. Wiard.	Plough	Dec. 14, 1858	I.
	Wickersham, M. S. (See Eakins, Sanil, assignor.)			
22322	Wicks, H. D	Valves of steam-engines	Dec. 14, 1858	VI.
21288	Wicks, L. J	Corn-shelling machine	Aug. 24, 1858	I.
20533	Widmer, J., assignor to himself and H. Gilbert	Engine, steam, mode of applying the power of the	June 8, 1858	VI.
21399	Widmer, J., assignor to himself and H. Gilbert	Engines, steam, cut-off for	Aug. 31, 1858	VI.
20384	Wiegand, S. L	Motion, changing rotary into reciprocating	May 25, 1858	XIII
21101	Wiegand, S. L	Registering the motion of machinery, method of	Aug. 3, 1858	VIII.
	Wiggin, G. B. (See Heard, J. W., assignor.)			
19274	Wiggin, Joseph H	Planter, seed	Feb. 2, 1858	I.
20913	Wight, H. C	Clamp, floor	July 13, 1858	XIV.
19056	Wilcox, A. N	Lathe for turning wood	Jan. 5, 1858	XIV.
21227	Wilcox, L	Grain-separators	Aug. 17, 1858	I.
21289	Wilcox, O. D	Legs, artificial, attachment to	Aug. 24, 1858	XX.
	Wilcox, P. (See Hadcock & Wilcox.)			
	Wilcox, W. (See Michel, Wilcox, & Miller.)			
19221	Wilder, L. C	Harvester, corn	Jan. 26, 1858	I.
	Wildman, P. A. (See Hinkley, Jonas, assignor.)			
	Wiley, W. Y. (See Okey, J. B., assignor.)			
21915	Wilkins, John	Worts, apparatus for steaming	Oct. 26, 1858	IV.
19598	Wilkinson, F. L	Gin, cotton	March 9, 1858	III.
20460	Wilkinson, Henry	Pliers, manufacture of	June 1, 1858	II.
21103	Wilkinson, J. H	Stove	Aug. 3, 1858	V.
	Willard, C. W. (See Bonney & Willard.)			
1012	Willcox, J	Sewing-machine stand	June 1, 1858	Design.
21585	Williams, C. A., and R. & G. A. Morse	Skate irons	Sept. 21, 1858	XXII.
	Williams, C. D. (See Wheeler, J. W., assignor.)			
19459	Williams, Charles	Brush blocks, whitewash	Feb. 23, 1858	XVII.
21584	Williams, Charles	Paper, &c., coloring apparatus for	Sept. 21, 1858	XVIII.
20132	Williams, Charles, assignor to himself and Chas. J. Shepard.	Radiator, syphonic	April 27, 1858	V.

22270	Williams, E. M., assignor to himself and John Gable.	Lamp, vapor, burner for	Dec. 7, 1858	V.
22099	Williams, Irvin A	Lamp-case, locomotive	Nov. 16, 1858	V.
19323	Williams, J. B	Bottle-stopper	Feb. 9, 1858	XXII.
20012	Williams, L. W	Mill, quartz	April 20, 1858	XIII.
21459	Williams, Olly	Fences, wire, method of allowing for expansion and contraction of.	Sept. 7, 1858	IX.
20973	Williams, R. G	Press, cotton	July 20, 1858	XIII.
20600	Williams, S	Harvester	June 8, 1858	I.
	Williams, S. T. (See Wainright & Williams.)			
21916	Williams, T	Window stop	Oct. 26, 1858	IX.
22214	Williams, Thomas E	Hinge for window-blinds	Nov. 30, 1858	II.
19659	Williams, William	Anchor	March 16, 1858	VII.
21460	Williams, Ziba	Butter-worker	Sept. 7, 1858	XVII.
19886	Williamson, Joshua C	Plough	April 6, 1858	I.
22221	Willis, N. J., assignor to Chase & Fuller	Shuttles, weavers', manufacture of	Nov. 30, 1858	III.
569	Willis, William W	Stumps, mode of extracting	June 22, 1858	Reissue.
21715	Willits, W. Irvin	Drill, seed	Oct. 5, 1858	I.
22215	Willmot, William	Cultivator	Nov. 30, 1858	I.
20188	Willmott, W. W., assignor to himself and H. F. Gardner.	Boot-trees	May 4, 1858	XVI.
19222	Willoughby, J. D	Planters, seed	Jan. 26, 1858	I.
21102	Willoughby, J. D	Planters, seed	Aug. 3, 1858	I.
20610	Willoughby, W., assignor to himself and W. H. Wiseman.	Car-wheels	June 15, 1858	X.
19528	Wills, Harry A	Horse-shoe machine	March 2, 1858	II.
	Willson, H. F (See West & Willson.)			
19462	Willson, Thomas H. and Daniel F	Straw-cutter	Feb. 23, 1858	I.
19460	Wilson, A	Electro-galvanic batteries, method of lighting gas by.	Feb. 23, 1858	VIII.
21914	Wilson, A. E	Gas, apparatus for generating	Oct. 26, 1858	IV.
	Wilson, Ebenezer, Charles Wilson administrator of.	Lard, method of rendering	Oct. 8, 1858	Extension.
	Wilson, G. F. (See Whiting & Wilson.)			
	Wilson, George F. (See Whiting, James M., assignor.)			
	Wilson, Isaac. (See Haley, Wilson, & Lyon.)			
20120	Wilson, James N., and George W. Payne.	Gin, cotton	April 27, 1858	III.
20601	Wilson, John A	Dress, hulling-stone	June 15, 1858	XIII.

Patentees of inventions and designs, 1858.

No	Name of patentee.	Invention or discovery.	Date.	Class.
20235	Wilson, Robert	Nets, fly	May 11, 1858	XXII.
22323	Wilson, Robert	Drilling metals, machine for	Dec. 14, 1858	II.
20461	Wilson, T. H., J. E., J. F., and R. J	Horse-power	June 1, 1858	XIII.
19887	Wilmarth, S. W., S. L. Hay, and D. N. B. Coffin.	Propellers, coupling of, shafting for	April 6, 1858	VII.
19529	Wilton, Nathaniel	Lock, piano	March 2, 1858	II.
	Winans, H. N. (See Wood & Winans.)			
19890	Winans, Ross	Engines, steam, grates for	April 6, 1858	VI.
19888	Winans, Ross	Engines, steam, pistons for	April 6, 1858	VI.
19889	Winans, Ross	Locomotive engine	April 6, 1858	VI.
19962	Winans, Ross	Locomotive engine	April 13, 1858	VI.
20117	Winans, Ross	Locomotive boilers, furnaces of	April 27, 1858	VI.
20116	Winans, Ross	Locomotive engines, boilers for	April 27, 1858	VI.
20114	Winans, Ross	Locomotive engine boilers, fire-box of	April 27, 1858	VI.
20115	Winans, Ross	Locomotive boilers, fire-box of	April 27, 1858	VI.
21290	Winans, Ross	Locomotive engine	Aug. 24, 1858	VI.
21917	Winans, Ross and Thomas	Vessels, hulls of steam	Oct. 26, 1858	VII.
21918	Winans, Ross and Thomas	Vessels, steam	Oct. 26, 1858	VII.
21919	Winans, Ross and Thomas	Steamers, ocean, construction of	Oct. 26, 1858	VII.
21920	Winans, Ross and Thomas	Vessels, steam, connexion of steam-engines with propellers of.	Oct. 26, 1858	VII.
19396	Winans, Thomas	Carriage-spring guard	Feb. 16, 1858	X.
22001	Winant, D. D., assignor to W. R. Winant	Billiard table	Nov. 2, 1858	XXII.
21559	Winant, W. R.	Billiard cushions	Aug. 10, 1858	XXII.
20525	Windell, Thomas	Harvester	June 8, 1858	I.
21163	Windle, Thomas H.	Bee-hive	Aug. 10, 1858	I.
19223	Windsor, George W	Car-brake, railroad	Jan. 26, 1858	X.
	Windsor, I. H (See McClure & Marsh, assignors.)			
22261	Winegar, Caleb	Gates, farm, mode of opening and closing, by approaching vehicles.	Nov. 30, 1858	IX.
20676	Wingate, George	Paddle-wheel	June 22, 1858	VII.
21291	Wingo, C. C.	Obstetrical chair	Aug. 24, 1858	XX.
21532	Winham, Aldridge	Vessels, sunken, apparatus for raising	Sept. 14, 1858	VII.

21390	Winn, James H.	Valve, safety, and pressure-gauge	Aug. 31, 1858	VI.
21237	Winslow, J. L., assignor to J. N. Winslow	Steam-cock	Aug. 17, 1858	VI.
19531	Winslow, John B.	Spinning-machines, machinery for regulating the supply of roving to	Mar. 2, 1858	III.
20121	Winter, Benjamin	Mill, corn and cobb	April 27, 1858	XIII.
	Wintringham, David L. (See Chichester, Lewis J., assignor.)			
21643	Wise, Emanuel, assignor to himself and Charles L. Wood.	Roofing-machine	Sept. 28, 1858	IX.
19579	Wise, William	Trenching-plough	Mar. 9, 1858	IX.
20914	Wisner, A. J.	Boot-trees	July 13, 1858	XVI.
20526	Witherle, J. B.	Sash-fastener	June 8, 1858	II.
21714	Withers, A. Q.	Gin, cotton	Oct. 5, 1858	III.
22324	Withers, John	Fire-escape ladder	Dec. 14, 1858	V.
22222	Withington, Solander	Mortises, dove tail, machine for cutting	Nov. 30, 1858	XIV.
19399	Witting, F. W.	Press, cotton	Feb. 16, 1858	XII.
19109	Witting, L.	Creepers	Jan. 12, 1858	XXII.
	Wizeman, W. H. (See Willoughby, W., assignor.)			
21228	Wolfe, Daniel	Printing-press	Aug. 17, 1858	XVIII.
21729	Wolfe, H. R., assignor to himself, David Staples, and W. H. Watson.	Saw-gummer	Oct. 5, 1858	II.
19728	Wolfersberger, Frederic	Meat-cutting machine	Mar. 23, 1858	XVII.
20462	Wolff, S.	Millstone dress	June 1, 1858	XIII.
20972	Wolff, S.	Mill, flouring	July 20, 1858	XIII.
20838	Wolle, Francis	Paper bags, machine for making	July 6, 1858	XVIII.
	Wombaugh, Brothers, & Co. (See Russell, E. T., assignor.)			
	Wombaugh, M. M. (See Abernethy & Wombaugh.)			
	Wombaugh, Mahlon M. (See Feeger, Daniel H., assignor.)			
20677	Wood, A. A.	Cop-waste, machine for picking	June 22, 1858	III.
21586	Wood, A. H.	Gas-burner	Sept. 21, 1588	V.
642	Wood, A. H., assignor to I. R. Foster	Gas-burner	Dec. 28, 1858	Reissue.
19057	Wood, Adam	Engine, steam, oscillating	Jan. 5, 1858	VI.
	Wood, Charles L. (See Wise, Emanuel, assignor.)			
22052	Wood, George, and John King, assignors to themselves and William Lawrence.	Dredging-crane	Nov. 9, 1858	IX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
19397	Wood, Joseph	Switch, railroad safety	Feb. 16, 1858	IX.
19601	Wood, Joseph, and H. N Winans	Boiler, steam	Mar. 9, 1858	VI.
20395	Wood, O T., assignor to Thomas R. Wood	Casting faucets	May 25, 1858	II.
20118	Wood, S. W	Metallic nuts, making	April 27, 1858	II.
20602	Wood, S. W	Hat-bodies, machine for sizing	June 15, 1858	III.
19276	Wood, Simeon	Pumps, mode of operating pistons of	Feb. 2, 1858	XI.
	Wood, Stephen W. (See Bills & Wood.)			
1002	Wood, T. H., J. E. Roberts, and H. S. Hubbell	Stove, cooks'	May 11, 1858	Design.
22047	Wood, Timothy C	Grubbing-machine	Nov. 9, 1858	IX.
19275	Wood, Twentyman	Shingle-machines, method of feeding the bolt in	Feb. 2, 1858	XIV.
20119	Wood, W. A	Harvesters, raking and delivering attachment to	April 27, 1858	I.
22468	Wood, W. A	Harvesters, cutting apparatus for	Dec. 28, 1858	I.
	Wood, W. S. (See Shell, A. N., assignor.)			
21475	Wood, William W. W., assignor to John Rice	Governor for steam-engines	Sept. 14, 1858	VI.
	Woodbury, J. A. (See Thayer, H. H., assignor.)			
19806	Woodbury, James A	Tonguing and grooving, rotary cutters for	March 30, 1058	XIV.
20527	Woodbury, James A	Planing-machine	June 8, 1858	XIV.
20385	Woodman, Horace	Drill, power and hand	May 25, 1858	II.
21461	Woodruff, J. B	Sewing-machine	Sept. 7, 1858	III.
20014	Woodruff, Samuel	Planting hoe, seed	April 20, 1858	I.
22467	Woods, Oliver E	Life-preserving trunk	Dec. 28, 1858	VII.
	Woods, S. A. (See Thayer, H. H., assignor.)			
19461	Woodward, Abijah	Shoe-peg machine	Feb. 23, 1858	XVI.
19398	Woodward, Calvin, and George M	Hydraulic valve	Feb. 16, 1858	XI.
22395	Woodward, J. A	Smut-machine	Dec. 21, 1858	XIII.
21462	Woodward, Jabez M	Life-boat constructed of matresses	Sept. 7, 1858	VII.
19807	Woodward, Joel	Mill	March 30, 1858	XIII.
19892	Woodward, Joel	Bolting, dusting, and separating the ground material, machinery for.	April 6, 1858	XIII.
	Woodworth, Senter, and Goss. (See Sherwood, Allen.)			
19600	Woodworth, Oliver, jr., and John D. Page	Fibrous materials, machine for picking	March 9, 1858	III.
21792	Woody, John	Harvester	Oct. 12, 1858	I.
19891	Woolman, John	Bolt, door	April 6, 1858	II.
	Wooster, G. H. (See Peck, Russell.)			
	Worcester, L. (See Carlisle & Worcester.)			
19227	Worden, Leonard J., assignor to himself and Edward L. Swartwout.	Boot-legs, method of securing straps upon	Jan. 26, 1858	XVI.
20013	Work, Thomas K	Curtain-fixtures	April 20, 1858	XVII.
21104	Worth, I. G	Shoe-pegs, machine for manufacturing	Aug. 3, 1858	XVI.
20236	Worthen, W. E	Shutters, metallic rolling	May 11, 1858	IX.
22476	Wrangle, Moses, assignor to Hunter, Keller, & Co.	Iron, cast, mercury bottle	Dec. 28, 1858	II.
21716	Wright, Algernon S	Marks on cloth, &c., trade, machine for stamping	Oct. 5, 1858	XXII.
21391	Wright, D. B., and L. Sawyer	Carriage bows, attaching the props of	Aug. 31, 1858	X.
20839	Wright, E. S	Bedstead-fastening	July 6, 1858	XVII.
22325	Wright, Edward S., and Theodore P. Gould	Cannon, breach loading	Dec. 14, 1858	XIX.
	Wright, George F. (See Burt & Wright.)			
21229	Wright, W	Gas-burner	Aug. 17, 1858	IV.
19527	Wright, William D	Alarm, burglar's	March 2, 1858	XXII.
20754	Wright, William M	Plates, use of dentists' pattern	June 29, 1858	XX.
20912	Wust, John	Dumping coal-buckets, self	July 13, 1858	IX.
19664	Wyllys, Newell, assignor to himself and Charles Collins.	Looms, power, set-off motion for	Mar. 16, 1858	III.
21292	Wyman, James	Blind-slats, machine for setting the staples in	Aug. 24, 1858	IX.
21293	Wymblad, H	Lock	Aug. 24, 1858	II.
21041	Wythes, W. W	Drawing instruments	July 27, 1858	VIII.
21861	Yale, Linus, jr	Joiner's square, device for adjusting to a right-angle the.	Oct. 19, 1858	XIV.
22048	Yale, Linus, jr	Lock	Nov. 9, 1858	II.
22469	Yates, Gilbert	Fastener, door	Dec. 28, 1858	II.
20840	Yates, Henry	Boilers, steam, furnaces of	July 6, 1858	VI.
	Yates, J. J. (See Nevins & Yates.)			
19463	Yeakel, Benjamin	Harvesters	Feb. 23, 1858	I.
21105	Yeiser, F	Electro-magnetic engine	Aug. 3, 1858	VIII.
21042	Yerby, E	Batter-machine	July 27, 1858	XVII.
22002	Yerkes, S., assignor to himself and George Yerkes	Vessels, rudders for	Nov. 2, 1858	VII.
	Yocum, S. H. (See O'Byrne & Yocum.)			
19169	Yost, G. W. N	Collar and hames, horse, combined	Jan. 19, 1858	XVI.
20122	Yost, G. W. N	Plough, gang	April 27, 1858	I.
20123	Yost, Henry	Washing-machine	April 27, 1858	XVII.
21463	Young, Calvin	Bullet-machine	Sept. 7, 1858	XIX.

Patentees of inventions and designs, 1858.

No.	Name of patentee.	Invention or discovery.	Date.	Class.
21635	Young, Charles A. & Solomon W	Wire springs for furniture, machine for making	Sept. 28, 1858	II.
22142	Young, Edward	Umbrellas, parasols and	Nov. 23, 1858	XXI.
20974	Young, George, jr	Clothes-rack	July 20, 1858	XVII.
	Young, J. E. (See Darby & Young.)			
22326	Young, Joseph	Harvesters, raking attachment to	Dec. 14, 1858	I.
21587	Young, McClintock, jr	Harvester	Sept. 21, 1858	I.
19177	Young, Moses M., assignor to himself, Harvey T. Litchfield, and Joseph G. Hamblin.	Gauges, steam spring pressure	Jan. 19, 1858	VI.
21921	Young, Samuel S	Arithmetical proof-rule	Oct. 26, 1858	VIII.
20915	Young, W. J	Surveyor's tripod, head for	July 13, 1858	VIII.
20603	Younglove, M. C	Drill, seed	June 15, 1858	I.
20237	Zeigler, George W	Car-brake, railroad	May 11, 1858	X.
21043	Zeng, Henry	Pump	July 27, 1858	XI.
19602	Zimmerman, Charles M	Drums, military, construction of	Mar. 9, 1858	XVIII.
21997	Zuern, Daniel, and L. L. Bevan	Press, hand, self-inking	Nov. 2, 1858	XVIII.
20015	Zwart, B	Kiln, lime	April 20, 1858	XV.

CLASSIFIED LIST OF PATENTS FOR INVENTIONS AND DISCOVERIES GRANTED DURING THE YEAR 1858.

CLASS I—AGRICULTURE, *including implements and operations.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19520	Bee-hive	Solomon Stansberry	Knoxville, Tenn	Mar. 2, 1858.
19931	Bee-hive	K. P. Kidder	Burlington, Vt	April 13, 1858.
20202	Bee-hive	E. P. French	Nashua, N. H	May 11, 1858.
20417	Bee-hive	P. J. Furlong	Galen, N. Y	June 1, 1858.
20508	Bee-hive	Thomas Prosser	Birmingham, Pa	June 8, 1858.
21163	Bee-hive	Thomas H. Windle	Wagontown, Pa	Aug. 10, 1858.
21912	Bee-hive	Peter Taltavull	Washington, D. C	Oct. 26, 1858.
22030	Bee-hive	Ebenezer W. Phelps	Elizabeth, N. J	Nov. 9, 1858.
22059	Bee-hive	Asa Blood, sr	Norfolk, Va	Nov. 16, 1858.
22309	Bee-hive	Joseph D. Sanderson	Stetson, Me	Dec. 14, 1858.
19288	Cards for currying cattle	C. S. Dickerman	Lansingburgh, N. Y	Feb. 9, 1858.
19034	Churn	Silas F. Lefler	Racine, Wis	Jan. 5, 1858.
19117	Churn	Michael L. Bauder	Elyria, Ohio	Jan. 19, 1858.
19310	Churn	Enos Page	Streetsboro', Ohio	Feb. 9, 1858.
19334	Churn	H. D. Baker	Pittstown Corners, N. Y	Feb. 16, 1858.
19389	Churn	Charles M. Vail	Susquehanna Depot, Pa	Feb. 16, 1858.
19782	Churn	John A. Jordan	Shelbyville, Tenn	Mar. 30, 1858.
19828	Churn	Harvey Brown	New York, N. Y	April 6, 1858.
20025	Churn	James Macnish	Berlin, Wis	April 20, 1858; reissued Nov 30, 1858.
20062	Churn	T. B. Harper	Xenia, Ohio	April 27, 1858.
20089	Churn	G. S. Rarey	Columbus, Ohio	April 27, 1858.
20189	Churn	William Brown	Duncannon, Pa	May 11, 1858.
20740	Churn	W. H. Tambling	Berlin, Wis	June 29, 1858.
20730	Churn	Alfred Rose	Penn Yan, N. Y	June 29, 1858.
20803	Churn (A)	James Macnish	Berlin, Wis	July 6, 1858.
20804	Churn (B)	James Macnish	Berlin, Wis	July 6, 1858.
20898	Churn	N. H. Sherburne	Compton, Ill	July 13, 1858.
20878	Churn	James Hatfield and H. M. Goldsmith	Falmouth, Ind. / Burlington, Iowa	July 13, 1858.

List of patents for inventions, 1858—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21010	Churn	M. R. Marcell	Dansville, N. Y	July 27, 1858.
21176	Churn	James S. Appleton	White River Junction, Vt.	Aug. 17, 1858.
21374	Churn	John F. Smith and Wightman Brown	Galen, N. Y. and Rose, N. Y	Aug. 31, 1858.
21501	Churn	Daniel Johnson	New York, N. Y	Sept 14, 1858.
21575	Churn	Andrew Ralstone	West Middletown, Pa.	Sept. 21, 1858.
21637	Churn	George K. Farrington, assignor to D B. Tiffany.	Xenia, Ohio	Sept. 28, 1858.
21871	Churn	James H Bump	Morris, N. Y	Oct. 26, 1858.
22093	Churn	Charles W. Stafford	Burlington, Iowa	Nov. 16, 1848.
22090	Churn	Harry and Royal V. Roble	Eaton, N. Y	Nov. 16, 1858.
20545	Churns, operating	A. G. Brush	Great Bend, Pa.	June 15, 1858.
22022	Churns, operating	Joseph Forsyth	Wheeling, Va.	Nov. 9, 1858.
21221	Churns, &c., operating	Moses Swan	Potter Hill, N. Y.	Aug. 17, 1858.
20891	Coffee, apparatus for cleaning and polishing	William Newell	Philadelphia, Pa.	July 13, 1858.
19142	Corn-husker	John D Heaton and W. A. Clark	Dixon, Ill.	Jan. 19, 1858.
19325	Corn-husker	Abbott R. Davis, assignor to himself and B. D. Moody.	East Cambridge, Mass.	Feb. 9, 1858.
19326	Corn-husker	Daniel Lombard, assignor to himself and George F. Richardson.	Boston, Mass.	Feb. 9, 1858.
19320	Corn-husker	F. M. Walker	Greensboro', N. C.	Feb. 9, 1858.
19458	Corn-husker	L. F. Ward	Marathon, N. Y	Feb. 23, 1858.
19512	Corn-husker	Warner Pickett and Andrew Hills	Naugatuck, Conn.	Mar. 2, 1858.
19552	Corn-husker	Joseph and James L. Fagan	San Antonio, Texas	Mar. 9, 1858.
20163	Corn-husker	Charles N. Lewis	Seneca Falls, N. Y.	May 4, 1858.
20223	Corn-husker	Daniel C. Smith	Tecumseh, Mich	May 11, 1858.
20253	Corn-husker	Joseph Cawthra	Rochester, N. Y	May 18, 1858.
20360	Corn-husker	B. B. Meacham	Ridleysville, Fla.	May 25, 1858.
20568	Corn-husker	Lucius Leavenworth	Trumansburgh, N. Y	June 15, 1858.
20637	Corn-husker	Burton Hazen	Cincinnati, Ohio	June 22, 1858.
20653	Corn-husker	L. R. Mears	South Abington, Mass	June 22, 1858.

20849	Corn-husker	L. A. Grover, assignor to himself and N. T. Spear.	Roxbury, Mass	July 6, 1858.
21363	Corn-husker	C. J. C. Peterson	Davenport, Iowa	Aug. 31, 1858.
21522	Corn-husker	N. T. Spear	Boston, Mass,	Sept. 14, 1858.
22440	Corn, machine for picking	S. W. May	Galesburg, Ill.	Dec. 28, 1858.
19160	Corn-sheller	Jeremiah P. Smith	Hummelstown, Penn.	Jan. 19, 1858.
19253	Corn-sheller	Joseph R. Lindner	Cincinnati, Ohio.	Feb. 2, 1858.
19603	Corn-sheller	Daniel G. Greene, assignor to himself and George H. Greene.	North Bridgewater, Mass.	Mar. 9, 1858.
19809	Corn-sheller	Peter Bergen, assignor to Jane Ann Bergen.	New York, N. Y	Mar. 30, 1858.
19862	Corn-sheller	Thomas W. McFarlan and Lewis H. Davis	Salem, Ohio and Westchester, Penn.	April 6, 1858.
19915	Corn-sheller	A. B. Davis	Philadelphia, Penn	April 13, 1858.
20003	Corn-sheller	Elmon Parker	Baltimore, Md	April 20, 1858.
20266	Corn-sheller	Ray Green	Cussawago, Penn	May 18, 1858.
20650	Corn-sheller	W. H. Main	Liverpool, Ohio	June 22, 1858.
20831	Corn-sheller	P. P. Taft	Taftsville, Vermont	July 6, 1858.
21174	Corn-sheller	Calvin Adams	Pittsburg, Penn	Aug. 17, 1858
21594	Corn-sheller	A. Adams	Sandwich, Ill	Sept. 28, 1858.
21288	Corn-shelling machine	L. J. Wicks	Racine, Wis.	Aug 24, 1858.
22206	Corn-shelling machine	George W. Tolhurst	Liverpool, Ohio	Nov. 30, 1858.
21254	Corn-stalks in the field, machine for cutting up	Francis M. Green	Sullivan, Ill.	Aug. 24, 1858.
19651	Corn-stalks, machine for cutting and crushing	Henry and Amos Hersch	Lancaster county, Penn.	Mar. 9, 1858.
19311	Cotton fields, machine for cutting brush from	Elias Peck	Canton, Ill	Feb. 9, 1858.
21667	Cotton-scraper	C. A. Gaines	Watson, Miss	Oct. 5, 1858.
19151	Cranberry-separator	David Perham	Tyngsboro', Mass.	Jan. 19, 1858.
19248	Cultivator	James Houck	Clinton, Indiana	Feb. 2, 1858.
19584	Cultivator	D. B., S., and L. Rogers	Pittsburg, Penn	Mar. 9, 1858.
19742	Cultivator	Joseph Banks	Dadeville, Ala	Mar. 30, 1858.
20207	Cultivator	L. W. Kelley	Brunswick, Ohio	May 11, 1858.
20260	Cultivator	John Endsley and E. Fletcher	Abington, Indiana	May 18, 1858.
20712	Cultivator	W. A. Hopkins	Vicksburg, Miss	June 29, 1858.
20798	Cultivator	D. C. Hubbard	Okolona, Miss	July 6, 1858.
21055	Cultivator	William Adams	Detroit, Mich	Aug. 3, 1858.
21128	Cultivator	N W. Fraser and A. J. McLellan	Laporte, Indiana	Aug. 10, 1858.
21170	Cultivator	Robert Sawyer, assignor to Wm. G. Brown.	Wales, Maine	Aug. 10, 1858.
21377	Cultivator	Nathaniel S. Smith	Buffalo, N. Y	Aug. 31, 1858.
21428	Cultivator	Israel Long	Terre Haute, Indiana	Sept. 7, 1858.
21625	Cultivator	T. W. Poole	Brunswick, Ohio	Sept. 28, 1858.

List of patents for inventions, 1858.—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21690	Cultivator	B. S. Morgan	Delhi, Iowa	Oct. 5, 1858.
21739	Cultivator	C. H. and S. E. Carrington	Weymouth, Ohio	Oct. 12, 1858.
21787	Cultivator	William Tucker	Blackstone, Mass	Oct. 12, 1858.
21763	Cultivator	Thomas M. Lee	Broad Ford, Va	Oct. 12, 1858.
21857	Cultivator	Thomas S. Stevens	Pepperell, Mass	Oct. 19, 1858.
22215	Cultivator	William Willmot	Wilmington, Del	Nov. 30, 1858.
22316	Cultivator	Thomas Turner	Marysville, Ohio	Dec. 14, 1858.
22437	Cultivator	Howard Mann	East Attleboro' Mass.	Dec 28, 1858.
20823	Cultivator, cotton	Asberry Smith	Ashville, Ala	July 6, 1858.
20605	Cultivator, rotary	E. T. Bussell, assignor to Wambaugh Brothers & Co.	Shelbyville, Indiana	June 15, 1858.
19234	Cultivator-teeth	Moses Bucklin	Grafton, N. H	Feb. 2, 1858.
21212	Drill, grain	Adam Pritz	Dayton, Ohio	Aug. 17, 1858.
21736	Drill, grain	Samuel Binkley	Dublin, Indiana	Oct. 12, 1858.
19633	Drill, seed	Robert Hamilton	Franklin, Indiana	Mar. 16, 1858.
19617	Drill, seed	C. B. Brown	Alton, Illinois	Mar. 16, 1858.
19808	Drill, seed	Geo. S Ball, assignor to Benjamin Kuhns	Dayton, Ohio	Mar. 30, 1858.
19924	Drill, seed	John Harris	Shippensburg, Penn	April 13, 1858.
20377	Drill, seed	J. C. Stevens	Lee, Mass	May 25, 1858.
20003	Drill, seed	M. C. Younglove	Cleveland, Ohio	June 15, 1858.
20946	Drill, seed	Jacob W. Kirk	Rising Sun, Indiana	July 20, 1858.
21316	Drill, seed	O. H. S. Brumfield	Centrefield, Indiana	Aug. 31, 1858.
21642	Drill, seed	Alexander Turner, assignor to himself, Redden Bess, and H. Sloane.	Franklin, Indiana	Sept. 28, 1858.
21715	Drill, seed	W. Irvin Willits	Milton, Indiana	Oct. 5, 1858.
21018	Drill, wheat	E. O. Bryden	La Fayette, Ind	July 27, 1858.
19663	Dumping-boxes for agricultural purposes	John Van Doren, assignor to J. Van Doren and B. Murray.	Farm Ridge, Ill	Mar. 16, 1858.
22076	Feed-boxes for animals, automatic	Albert Goodyear, 2d	Hamden, Conn	Nov. 16, 1858.
19457	Garden tools	Hartwick Von Unwerth	Salem, Mass	Feb. 23, 1858.
21700	Grafts, root, machine for cutting	Sidney S. Rockwell	Vermontville, Mich	Oct. 5, 1858.
20196	Grain-cleaning machine	John De Rush	St. Mary's, Ohio	May 11, 1858.
20425	Grain-cleaning machine	Marquis L. Hall	Bridgeport, Conn	June 1, 1858.
20899	Grain-cleaning machine	N. H. Sherburne	Campton, Ill	July 13, 1858.
21662	Grain-cleaning machine	W. T. Fisher	Cleveland, Tenn	Oct. 5, 1858.
19643	Grain-cradle	John Leidy	Lamar, Penn	Mar. 16, 1858.
20809	Grain in bundles or sheaves, mode of securing	John P. Manny	Rockford, Ill	July 6, 1858.
20581	Grain, machine for cleaning	William Partridge, jr, and G. W. Shaw	Ellicott's Mills, Md	June 15, 1858.
20923	Grain, machine for cleaning	William H. Orr, assignor to William M. Griffiths & Co.	Martin's Ferry, Ohio	July 13, 1858.
21036	Grain, machine for cleaning	B. T. Trimmer	Rochester, N. Y	July 27, 1858.
	Grain, machine for fanning and assorting. (See Class XIII, letter G.)			
	Grain measurer, self-regulating. (See Class VIII, letter M.)			
19140	Grain-separator	Ashman Hall	Dansville, N. Y	Jan. 19, 1858.
19899	Grain-separator	Josiah Turner, assignor to himself and E. Burke.	Sunapee, N. H	April 6, 1858.
19877	Grain-separator	Francis Schunks	York, Penn	April 6, 1858.
20522	Grain-separator	A. J. Vandegrift	Lexington, Ky	June 8, 1858.
20735	Grain-separator	H H. Seely and P. Griswold	Hudson, Mich	June 29, 1858.
21227	Grain-separator	L. Wilcox	Hudson, Mich	Aug. 17, 1858.
21383	Grain-separator	John D. Tifft	Cuyahoga, Ohio	Aug. 31, 1858.
21877	Grain-separator	Aaron Foster	Quincy, Ill	Oct. 26, 1858.
21945	Grain-separator	William R. Cox	Delhi, Iowa	Nov. 2, 1858.
21573	Grass, &c., machine for cutting	Cyrus H. McCormick	Chicago, Ill	Sept. 21, 1858.
22212	Guano and other fertilizers, machine for distributing.	Elijah Wagner	Westminster, Md	Nov. 30, 1858.
19281	Harrow	Jabez Robins, assignor to himself, Daniel K. Haines, and S. Richardson.	Leominster, Mass	Feb. 2, 1858.
19259	Harrow	Samuel J. Orange	Grayville, Ill	Feb. 2, 1858.
19489	Harrow	Orman Coe	Port Washington, Wis	Mar. 2, 1858.
19494	Harrow	William De Witt and O. D. Barrett	Cleveland, Ohio	Mar. 2, 1858.
20195	Harrow	J. C. Conkey	Washington, Ohio	May 11, 1858.
20325	Harrow	V. M. Chaffee	Grayville, Ill	May 25, 1858.
20410	Harrow	John S. Davis	Washington, Ohio	June 1, 1858.
21113	Harrow	Addison Berdan	Macon, Mich	Aug. 10, 1858.
21153	Harrow	Jeremiah Routh and Abel Vaughn	Grayville, Ill	Aug. 10, 1858.
21269	Harrow	Daniel B. Neal	Mount Gilead, Ohio	Aug. 24, 1858.
21403	Harrow	David C. Ayres	Lumberland, N. Y	Sept. 7, 1858.
21439	Harrow	Samuel J. Orange and George Beidelman	Grayville, Ill	Sept. 7, 1858.

List of patents for inventions, 1858—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21542	Harrow	Samuel White, assignor to Harlow Herrick	Penfield, Ohio	Sept. 14, 1858.
19365	Harrow, revolving	W. A Horrall and R. G. Sirwell	Grayville, Ill	Feb. 16, 1858.
21265	Harrow, rotary	William H. Main	Liverpool, Ohio	Aug. 24, 1858.
21580	Harrow, rotary	Salathiel S. Thompson	Heller's Corners, Ind	Sept. 21, 1858.
21577	Harrow, rotary	Jabez Robins	Boston, Mass	Sept. 21, 1858.
22026	Harrow, rotary	William H. Main	Liverpool, Ohio	Nov. 9, 1858.
19055	Harvester	Jesse Whitehead	Manchester, Va	Jan. 5, 1858.
19137	Harvester	Ezra Emmert	Franklin Grove, Ill	Jan. 19, 1858.
19218	Harvester	Samuel W. Tyler	Greenwich, N. Y	Jan. 26, 1858.
19298	Harvester	M. G Hubbard	Penn Yan, N. Y	Feb. 9, 1858.
19377	Harvester	Frederick Nishwitz	Brookiyn, N. Y	Feb. 16, 1858.
19344	Harvester	Albert D. Briggs	Springfield, Mass	Feb. 16, 1858.
19447	Harvester	Charles Roberts	Livonia, N. Y	Feb. 23, 1858.
19411	Harvester	George S. Curtis	Chicago, Ill	Feb. 23, 1858.
19463	Harvester	Benjamin Yeakel	Allentown, Penn	Feb. 23, 1858.
19422	Harvester	Charles Howell	Cleveland, Ohio	Feb. 23, 1858.
19442	Harvester	H. A. Parkhurst	Fairfield, N. Y	Feb. 23. 1858.
19522	Harvester	Isaac Van Doren	Somerville, N. J	Mar. 2, 1858.
19486	Harvester	Willis L. Childs	Piermont, N. Y	Mar. 2, 1858.
19483	Harvester	J. S. Butterfield	Philadelphia, Pa	Mar. 2, 1858.
19590	Harvester	H. C. Smith	Cleveland, Ohio	Mar. 9, 1858.
19703	Harvester	J. M. Long, P. Black, and R. Allstatter	Hamilton, Ohio	Mar. 23, 1858.
19803	Harvester	William Van Anden	Poughkeepsie, N. Y	Mar. 30, 1858.
19749	Harvester	George E. Chenoweth	Baltimore, Md	Mar. 30, 1858.
19884	Harvester	Isaac Van Doren	Somerville, N. J	April 6, 1858.
19864	Harvester	W. K. Miller	Canton, Ohio	April 6, 1858.
19919	Harvester	D. W. Entrikin and L. H. Davis	West Chester, Penn	April 13, 1858.
19999	Harvester	Henry Marcellus	Amsterdam, N. Y	April 20, 1858.
20050	Harvester	R. Dutton	Dayton, Ohio	April 27, 1858.
20080	Harvester	J. B. McCormick	Versailles, Ky	April 27, 1858.
20152	Harvester	R. H. Fisher	Claremont, N. H	May 4, 1858.
20180	Harvester. (No. 1)	Lewis Miller, assignor to C. Aultman & Co.	Canton, Ohio	May 4, 1858.
20181	Harvester. (No. 2)	Lewis Miller, assignor to C. Aultman & Co.	Canton, Ohio	May 4, 1858.
20182	Harvester. (No. 3)	Lewis Miller, assignor to C. Aultman & Co.	Canton, Ohio	May 4, 1858.
20221	Harvester	Oren Stoddard	Busti, N. Y	May 11, 1858.
20225	Harvester	H. C. Smith	Cleveland, Ohio	May 11, 1858.
20227	Harvester	John S. Troxel	Mount Pleasant, Penn	May 11, 1858.
20191	Harvester	C. B. Brown	Alton, Ill	May 11, 1858.
20271	Harvester	Martin Hallenbeck	Albany, N. Y	May 18, 1858.
20272	Harvester	Martin Hallenbeck	Albany, N. Y	May 18, 1858.
20334	Harvester	J. H. Conklin	Rockford, Ill	May 25, 1858.
20394	Harvester	W. H. Seymour and H Pease, assignors to W. H. Seymour and Dayton S. Morgan.	Brockport, N. Y	May 25, 1858.
20416	Harvester	A. B. J. Flowers	Greenfield, Ind	June 1, 1858.
20457	Harvester	D. B. Waite	Spring Water, N. Y	June 1, 1858.
20525	Harvester	Thomas Windell	New Albany, Ind	June 8, 1858.
20600	Harvester	S. Williams	Stockton, Cal	June 15, 1858.
20593	Harvester	S H. Smith	Magnolia, Ill	June 15, 1858.
20719	Harvester	William F. Ketchum	Buffalo, N. Y	June 29, 1858.
20813	Harvester	Jeremiah Mitchell	Gosport, N. Y	July 6, 1858.
20806	Harvester	John P. Manny	Rockford, Ill	July 6, 1858.
21093	Harvester	J. V. Trump	Somerville, N. J	Aug. 3, 1858.
21125	Harvester	M. E. Ellsworth	Hudson, Ohio	Aug. 10, 1858.
21401	Harvester	R. L. Allen	New York, N. Y	Sept. 7, 1858.
21587	Harvester	McClintock Young, jr	Frederick, Md	Sept. 21, 1858.
21612	Harvester	David S. McNamara	North Hoosick, N. Y	Sept. 28, 1858.
21681	Harvester	George F. & Moses Jerome	Mineola, N. Y	Oct. 5, 1858.
21792	Harvester	John Woody	Mount Vernon, Ind	Oct. 12, 1858.
21741	Harvester	George E. Cooper	Baltimore, Md	Oct. 12, 1858.
21804	Harvester	John K. Harris	Allensville, Ind	Oct. 12, 1858.
21827	Harvester	Rosewell H. Fisher	Claremont, N. H	Oct. 19, 1858.
21854	Harvester	Joseph D. Smith	Lancaster, Ohio	Oct. 19, 1858.
21993	Harvester	Charles T. Stetson	Amherst, Mass	Nov. 2, 1858.
22032	Harvester	Hosea W. Read	West Windsor, Vt	Nov. 9, 1858.
22084	Harvester	James S. Marsh	Lewisburg, Pa	Nov. 16, 1858.
22077	Harvester	Stephen Hull	Poughkeepsie, N. Y	Nov. 16, 1858.
22163	Harvester	Nicholas Clute	Dunnsville, N. Y	Nov. 30, 1858.
22203	Harvester	William & Thomas Schnebly	Hackensack, N. J	Nov. 30, 1858.
22237	Harvester	Henry Opp	Belleville, Ill	Dec. 7, 1858.
22312	Harvester	Oren Stoddard	Busti, N. Y	Dec. 14, 1858.
22345	Harvester	Chester Bullock	Jamestown, N. Y	Dec. 21, 1858.

List of patents for inventions, 1858—Class II.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22341	Harvester	J. A Barrington	Fredericktown, Ohio	Dec. 21, 1858.
22074	Harvester, binding attachment to	William Grey	Nicholsville, Ohio	Nov. 16, 1858.
20215	Harvester, binding device for	George Notman	Deerfield, Ohio	May 11, 1858.
19224	Harvester, corn	L. C. Wilder	Lexington, N. C	Jan. 26, 1858.
19716	Harvester, corn	Thomas A. Risher	Circleville, Ohio	Mar. 23, 1858.
19822	Harvester, corn	J. V. Adair	Varick, N. Y	April 6, 1858.
20067	Harvester, corn	Adam Humberger	Somerset, Ohio	April 27, 1858.
20645	Harvester, corn	Darius Landon	Wyandotte, Ohio	June 22, 1858.
20628	Harvester, corn	R B. Corbin & James Morris	St. Augustine, Ill	June 22, 1858.
21031	Harvester, corn	Albert Stoddard	Tecumseh, Mich	July 27, 1858.
21516	Harvester, corn	Isaac Reamer & Henry Miller	Conrad's Store, Va	Sept 14, 1858.
22259	Harvester, corn	Bronson Murray and John Van Doren	Ottawa, Ill / Farm Ridge, Ill	Dec. 7, 1858.
20066	Harvester, cotton	M. Hosford & J. C. Avery	Macon, Miss	April 27, 1858,
19360	Harvester, cutter for	John Gore	Fredonia, N. Y	Feb. 10, 1858.
21499	Harvester, cutting apparatus for	Charles Howell	Cleveland, Ohio	Sept. 14, 1858.
22468	Harvester, cutting apparatus of	W. A Wood	Hoosick Falls, N. Y	Dec. 28, 1858.
19920	Harvester, cutting device for	D. W. Entrikin & L. H. Davis	West Chester, Pa	April 13, 1858.
21414	Harvester, cutting device for	C. P. Grouberg	Montgomery, Ill	Sept. 7, 1858.
20243	Harvester, finger or guard for	Lewis Miller, assignor to C. Aultman & Co.	Canton, Ohio	May 11, 1858.
19518	Harvester-finger	Henry C. Smith	Cleaveland, Ohio	Mar. 2, 1858.
20808	Harvester-finger	John P. Manny	Rockford, Ill	July 6, 1858.
19319	Harvester, grain and grass	Aaron Van Duzer	Goshen, N. Y	Feb. 9, 1858.
19938	Harvester, grain and grass	Henry Marcellus	Amsterdam, N. Y	April 13, 1858.
21063	Harvester, grain and grass	Robert Bryson	Schenectady, N. Y	Aug. 3, 1858.
22251	Harvester, grain and grass	M. G Hubbard	Penn Yan, N. Y	Dec. 7, 1858.
21533	Harvester, guard-finger for	John W. Brokaw, assignor to Warder, Brokaw, & Child	Springfield, Ohio	Sept. 14, 1858.
20618	Harvester, hemp	Thomas Berry	Louisburgh, Ky	June 22, 1858.
21840	Harvester, maize	C. B Matthews	Oquawka, Ill	Oct. 19, 1858.
19019	Harvester, rake for	Samuel Comfort, jr	Morrisville, Pa	Jan. 5, 1858.
19523	Harvester, rake for	Isaac Van Doren	Somerville, N. J	Mar. 2, 1858.
21540	Harvester, raking and binding apparatus for	Allen Sherwood, assignor to E. P. Senter, Albert Goss, & Daniel Woodworth.	Auburn, N. Y	Sept. 14, 1858.
20805	Harvester, raking and binding attachment to	John P. Manny	Rockford, Ill	July 6, 1858.
19212	Harvester, raking and binding device for	Allen Sherwood	Auburn, N. Y	Jan 26, 1858.
20119	Harvester, raking and delivering attachment to	W. A. Wood	Hoosick Falls, N. Y	April 27, 1858.
19085	Harvester, raking attachment for	James L. Fountain	Rockford, Ill	Jan. 12, 1858.
19378	Harvester, raking attachment for	James W. Patterson	Philadelphia, Pa	Feb. 16, 1858.
19593	Harvester, raking attachment for	Jacob V. A. & Andrew Wample	Chicago, Ill	Feb. 16, 1858.
20061	Harvester, raking attachment for	G V. Griffith	Sandusky, Ohio	April 27, 1858.
21552	Harvester, raking attachment for	Peter S. Crawford	Marengo, Ill	Sept 21, 1858.
19958	Harvester, raking attachment to	Oren Stoddard	Busti, N. Y	April 13, 1858.
20378	Harvester, raking attachment to	J. A. St. John	Janesville, Wis	May 25, 1858.
20411	Harvester, raking attachment to	D. O DeWolf	New York, N. Y	June 1, 1858.
20475	Harvester, raking attachment to	John A. Barrington	Fredericktown, Ohio	June 8, 1858.
21437	Harvester, raking attachment to	John Nelson	Rockford, Ill	Sept. 7, 1858.
21847	Harvester, raking attachment to	Adam R. Reese	Phillipsburg, N. J	Oct. 19, 1858.
21940	Harvester, raking attachment to	W. W. Burson	Yates City, Ill	Nov. 2, 1858.
22326	Harvester, raking attachment to	Joseph Young	Marshalltown, Pa	Dec. 14, 1858.
20807	Harvester, track-clearer for	John P. Manny	Rockford, Ill	July 6, 1858.
22368	Harvesters, method of gathering grain upon and discharging it from the platform of.	Obed Hussey	Baltimore, Md	Dec. 21, 1858.
20515	Harvesting-machine	W. H. Seymour and D. S. Morgan	Brockport, N. Y	June 8, 1858.
21343	Harvesting-machine	H. G. Kaufmann	St. Louis, Mo	Aug. 31, 1858.
21869	Harvesting-machine, grain-discharging attachment to.	J. F. Black	Lancaster, Ill	Oct. 26, 1858.
19689	Hay-cock protector	O R. Dinsmoor	Auburn, N. H	Mar. 23, 1858.
21150	Hay-elevator	E. M. Rees	Norristown, Pa	Aug. 10, 1858.
22062	Hay fed to stock, devices for saving the seed from.	Robert A. Campbell	Salem, Ind	Nov. 16, 1858.
20241	Hay, forks for elevating	C. E. and J. N. Gladding, assignors to Chas. E. Gladding.	Troy, Pa	May 11, 1858.
19921	Hay-knives	John Fasig	Jackson, Ohio	April 13, 1858.
20772	Hay, machine for raking and loading	J. B. Benton, J. F. Behn, and G. Bastian	Buffalo, N. Y	July 6, 1858.
19812	Hoes, manufacture of	Judson Knight, assignor to S. Boyd, assignor to R. W. Booth.	Newark, N. J	Mar. 30, 1858.
20030	Huller, rice	H N. Black	Philadelphia, Pa	April 27, 1858.
19745	Hulling and cleaning clover-seed, machine for	J. V. Blackwell	Ovid, N. Y	Mar. 30, 1858.
20971	Hulling and cleaning rice, machine for	D. Henwood and J. Stephens, assignors to themselves and Thomas F. Rowland.	Brooklyn, N. Y	July 20, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20249	Hulling and threshing clover, machine for	John C. Birdsell	Rush, N. Y	May 18, 1858.
20830	Hulling-machine, rice	J. F. Taylor	Charlestown, S. C	July 6, 1858.
19557	Hulling rice, machine for	A. M. George	Nashua, N. H	Mar. 9, 1858.
20138	Hulling rice, machine for	F. and L. Burdick	South East, N. Y	May 4, 1858.
20552	Hulling rice, machine for	Philip Dickenhof	Philadelphia, Pa	June 15, 1858.
20833	Hulling rice, machine for	R. P. Walker	New York, N. Y	July 6, 1858.
20860	Hulling rice, machine for	J. S. Bossard	Sumterville, S. C	July 13, 1858.
19018	Husking and shelling glove	Emil Cohen	Washington, D. C	Jan. 5, 1858.
	Manure-wagon. (See Class X, letter W.)			
19083	Mowing-machine	Henry Fisher	Canton, Ohio	Jan. 12, 1858.
19504	Mowing-machine	Charles Howell	Cleveland, Ohio	Mar. 2, 1858.
19913	Mowing-machine	William Crooke	New Hope, Pa	April 13, 1858.
20035	Mowing-machine	Thomas Burrall	Geneva, N. Y	April 27, 1858.
20164	Mowing-machine	Henry Marcellus	Amsterdam, N. Y	May 4, 1858.
20479	Mowing-machine	John Butter	Buffalo, N. Y	June 8, 1858.
21607	Mowing-machine	George F. and Moses Jerome	Mineola, N. Y	Sept. 28, 1858.
21777	Mowing-machine	Fisk Russell	South Boston, Mass	Oct. 12, 1858.
19936	Mowing-machine, track-clearer for	Abraham Marcellus	Amsterdam, N. Y	April 13, 1858.
19800	Peas, machine for shelling	William J. Stevenson	New York, N. Y	Mar. 30, 1858.
19198	Planter, corn	P. C. Mosier	Homer, Ill	Jan. 26, 1858.
19242	Planter, corn	Nathaniel Drake	Newton, N. J	Feb. 2; add'l imp't, Sept. 28; reissued, Dec. 14, 1858.
20024	Planter, corn	George Taylor, assignor to himself and John W. Free.	Richmond, Ind	April 20, 1858.
20074	Planter, corn	Oliver Lippincott	Camden, N. J	April 27, 1858.
20193	Planter, corn	R. J. Clay	St. Louis, Mo	May 11, 1858.
20297	Planter, corn	L. B. Phelps	Geneva, Ohio	May 18, 1858.
20467	Planter, corn	A. C. Carey, assignor to himself and A. B. Ely.	Ipswich, Mass	June 1, 1858.
20639	Planter, corn	Pascal Hatch	Norwich, Vt	June 22, 1858.
20781	Planter, corn	Warren Drummond	Woolbridge, N. J	July 6, 1858.

21180	Planter, corn	Thomas M. Bedgood	Cleveland, Ind	Aug. 17, 1858.
21187	Planter, corn	John S. Davis	Arcadia, Ohio	Aug. 17, 1858.
21287	Planter, corn	Horace Whitman	Kingsville, Ohio	Aug. 24, 1858.
21393	Planter, corn	Franklin W. White	Worcester, Mass	Aug. 31, 1858.
21404	Planter, corn	A. G. Babcock	Galesburg, Ill	Sept. 7, 1858.
21583	Planter, corn	Charles Van Houten	Sunbury, Ohio	Sept. 21, 1858.
22183	Planter, corn	Daniel Ladd	Dearborn, Mich	Nov. 30, 1858.
19438	Planter, cotton seed	Daniel R. Neal	Mount Gilead, Ohio	Feb. 23, 1858.
19874	Planter, cotton seed	James Ross	Midway, Alabama	April 6, 1858.
20049	Planter, cotton seed	J. T. Donovan and W. J. Fowler	Seguin, Texas	April 27, 1858.
20432	Planter, cotton seed	J. S. Higgins and R. Chapman	Darlington District, S. C	June 1, 1858.
20572	Planter, cotton seed	Arnold McDonald	Salem, Miss	June 15, 1858.
20694	Planter, cotton seed	E. T. Boatrom	Newnan, Ga	June 29, 1858.
21308	Planter, cotton seed	Horatio P. Allen	Bowling Green, Ky	Aug. 31, 1858.
19329	Planter, hand corn	John B. Fairbank deceased Joshua Fairbank & Ed'n C. Durfee, adm'rs.	New York, N. Y Leon, N. Y	Feb. 9, 1858.
19540	Planter, hand corn	H. F. Batcheller	Sterling, Ill	Mar. 9, 1858.
19833	Planter, hand corn	D. G. Coppin	Cincinnati, Ohio	April 6, 1858.
19054	Planter, potato	H. Wainwright and S. T. Williams	Farmingdale, N. J	Jan. 5, 1858.
19178	Planter, potato	John R. Albertson	Allegheny, Penn	Jan. 26, 1858.
19294	Planter, potato	Edward E. Hawley	New Haven, Conn	Feb. 9, 1858.
20001	Planter, potato	F. S. McWhorter	Smyrna, Del	April 20, 1858.
19010	Planter, seed	Henry F. Baker	Centreville, Ind	Jan. 5, 1858.
19026	Planter, seed	M. J. Hunt and J. H. Haines	Rising Sun, Md	Jan. 5, 1858.
19122	Planter, seed	Samuel Baker	Mount Pulaski, Ill	Jan. 19, 1858.
19126	Planter, seed	John A. Brown	Richmond, Ind	Jan. 19, 1858.
19222	Planter, seed	J. D. Willoughby	Pleasant Hall, Penn	Jan. 26, 1858.
19274	Planter, seed	Joseph H. Wiggin	Boston, Mass	Feb. 2, 1858.
19456	Planter, seed	Daniel L. Tilton	Mount Carmel, Ill	Feb. 23, 1858.
19404	Planter, seed	L. A. Butts	Cuba, N. Y	Feb. 23, 1858.
19579	Planter, seed	Joseph Redhead	Woodville, Miss	Mar. 9, 1858.
19549	Planter, seed	William C. Doss	Texana, Texas	Mar. 9, 1858.
19818	Planter, seed	Samuel Thompson, assignor to himself and A. W. Taggart.	Hopedale, Ohio	Mar. 30, 1858.
19953	Planter, seed	Thomas Russell	Waldoboro', Maine	April 13, 1858.
20158	Planter, seed	James J. Johnston	Allegheny, Penn	May 4, 1858.
20143	Planter, seed	James Charlton	Allegheny, Penn	May 4, 1858.
20440	Planter, seed	Elmore Parker	Baltimore, Md	June 1, 1858.
20651	Planter, seed	Joseph McKown	Gardstown, Va	June 22, 1858.

List of patents for inventions, 1858—CLASS I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20749	Planter, seed	Augustus Wales	Pontiac, Ill	June 29, 1858.
20738	Planter, seed	G. Smith and A. G Perry	Clyde, Ohio	June 29, 1858.
20709	Planter, seed	R. B. Ground	Marine Town, Ill	June 29, 1858.
21034	Planter, seed	J. H. Thomas and P. P. Mast	Springfield, Ohio	July 27, 1858.
21102	Planter, seed	J. D. Willoughby	Carlisle, Penn	Aug. 3, 1858.
21112	Planter, seed	Addison Berdan	Macon, Mich	Aug. 10, 1858.
21127	Planter, seed	H. C Fairchild	Brooklyn, Penn	Aug. 10, 1858.
21137	Planter, seed	E. W. Kimball	Ottawa, Ill	Aug. 10, 1858.
21217	Planter, seed	Jonathan H. Rose	Versailles, Ill	Aug. 17, 1858.
21397	Planter, seed	W. A. Mahaffy, assignor to John Greek	Carimona, Min Evansville, Ind	Aug. 31, 1858.
21440	Planter, seed	Benjamin Owen	Dayton, Ohio	Sept. 7, 1858.
22156	Planter, seed	J. F. Beckwith and A. G. Gage	Alabama, N. Y	Nov. 30, 1858.
22228	Planter, seed	Jarvis Case, assignor to himself and Wm. Baldwin.	Bloomington, Ill	Dec. 7, 1858.
22438	Planter, seed	F. M. Marshall	Seguin, Texas	Dec. 28, 1858.
20014	Planting hoes, seed	Samuel Woodruff	Sparta, N. J	April 20, 1858.
19322	Planting potatoes, machine for	Thomas B. Whyte	Greenwich, N. Y	Feb. 9, 1858.
19869	Planting potatoes, machine for	Jesse W. Pelletreau	East Moriches, N. Y	April 6, 1858.
19163	Plough	Thomas Thompson	Thompsonville, N. C	Jan. 19, 1858.
19125	Plough	Samuel R. Borum and William McClean	Norfolk, Va	Jan. 19, 1858.
19179	Plough	Joseph Banks	Dadeville, Ala	Jan. 26, 1858.
19262	Plough	Joseph O. Ramage	Lafayette, Ala	Feb 2, 1858.
19321	Plough	George Watt	Richmond, Va	Feb. 9, 1858.
19388	Plough	Marshall Tuley	Galesburg, Ill	Feb. 16, 1858.
19391	Plough	W. W. Van Loan	Catskill, N. Y	Feb. 16, 1858.
19401	Plough	Elijah Bloodworth	Thomaston, Ga	Feb. 16, 1858.
19455	Plough	Turney Sanford	Redding Ridge, Conn	Feb. 23, 1858.
19563	Plough	David Hoke	Byhalia, Miss	Mar. 9, 1858.
19658	Plough	Grey Utley	Louisburg, N. C	Mar. 16, 1858.
19725	Plough	Daniel L. Tilton	Mount Carmel, Ill	Mar. 23, 1858.
19706	Plough	Thomas McConaughy	Barnesville, Ala	Mar. 23, 1858.

19856	Plough	Joshua C. Williamson	Washington, Ga	April 6, 1858.
19878	Plough	Thaddeus S. Scoville	Elmira, N. Y	April 6, 1858.
19909	Plough	Thomas E. C. Brinley	Simpsonville, Ky	April 13, 1858.
20269	Plough	John M. Hall	Warrenton, Ga	May 18, 1858.
20659	Plough	Henry M. Platt	Darien, Ct	June 22, 1858.
20633	Plough	Alexander Dickson	Hillsboro', N. C	June 22, 1858.
20790	Plough	J. P. Harris	Byhalia, Miss	July 6, 1858.
20935	Plough	G. D. Colton	Galesburg, Ill	July 20, 1858.
20968	Plough	Walter Warren	Penn Yan, N. Y	July 20, 1858.
20984	Plough	S. R. Bliven	McDonough, N. Y	July 27, 1858.
21167	Plough	Joseph Jones, assignor to Edmund Jones and Joseph Jones, jr.	New Castle, Del	Aug. 10, 1858.
21182	Plough	William Black	Manchester, Pa	Aug. 17, 1858.
21423	Plough	Samuel Hulbert	Ogdensburg, N. Y	Sept. 7, 1858.
21598	Plough	David Cockley	Lancaster, Pa	Sept. 28, 1858.
21630	Plough	B. B Scofield	Andover, Ill	Sept. 28, 1858.
21824	Plough	John Dickson	New Castle, Pa	Oct. 19, 1858.
21846	Plough	William Beany	Berzelia, Ga	Oct. 19, 1858.
21953	Plough	John Gehr	College of St. James, Md	Nov. 2, 1858.
21975	Plough	A. A. McMahen	Oxford, Miss	Nov. 2, 1858.
22013	Plough	John M. Burke	Dansville, N. Y	Nov. 9, 1858.
22332	Plough	Thomas Wiard, assignor to O. W. and H. W. Pitken and W. L P. Wiard.	Louisville, Ky	Dec. 14, 1858.
22389	Plough	Reed Vincent	Rockton, Ill	Dec. 21, 1858.
	Plough, bending mould-boards for. (See Class II, letter B.)			
20689	Plough, drain	Moses Barrowman	Buffalo, N. Y	June 29, 1858.
19077	Plough, gang	M A. Cravath	Lodi, Ill	Jan. 12, 1858.
19652	Plough, gang	Lewis Roach	Covington, Ky	Mar. 16, 1858.
20122	Plough, gang	G. W. N. Yost	Cincinnati, Ohio	April 27, 1858.
20342	Plough, gang	Jesse Frye	Mendota, Ill	May 25, 1858. Antedated Mar. 18, 1858.
20647	Plough, gang	Don C. Matteson	Stockton, Cal	June 22, 1858.
19496	Plough, hill-side	Samuel Dennis, jr	Jasper, N. Y	Mar. 2, 1858.
20812	Plough, hill-side	Modest Merk	Rochester, N. Y	July 6, 1858.
21306	Plough, hill-side	Henry S. Akins	Speedsville, N. Y	Aug. 31, 1858.
	Plough, mole. (See Class IX, letter P.)			
21547	Plough, press and drill	T. E. C. Brinly	Simpsonville, Ky	Sept 21, 1858.
19412	Plough, shovel	Paul Dennis	Remus Heights, N. Y	Feb. 23, 1858.

List of patents for inventions, 1858—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19427	Plough, steam	Peirce Klingle	Linnæan Hill, D. C	Feb. 23, 1858. Add'l imp't Mar. 9, '58.
21661	Plough, steam	James W. Evans	New York, N. Y	Oct. 5, 1858.
	Plough, trenching. (See Class IX, letter T.)			
19215	Ploughing-machine	William Stoddard	Lowell, Mass	Jan. 26, 1858.
19189	Ploughing, machine for	Joseph W. Fawkes	Christiana, Pa	Jan. 26, 1858.
20300	Ploughs, apparatus for cleaning the coulters of Ploughs, moulds for casting. (See Class II, letter C.)	Abner Reeder	Wrightstown, Pa	May 18, 1858.
19849	Potato-digger	L. W. Harris	Waterville, N. Y	April 6, 1858.
20949	Potatoes, machine for digging	Malcom Little	Clyde, N. Y	July 20, 1858.
21226	Potatoes, machine for digging	Luke White	Essex, Vt	Aug. 17, 1858.
21225	Potatoes, machine for digging	Alexander Wells	Brooklyn, N. Y	Aug. 17, 1858.
21413	Potatoes, machine for digging	Nathaniel Gear	Zanesville, Ohio	Sept. 7, 1858.
21664	Rake, hay	Peter Fitzgerald	Constantine, Ohio	Oct. 5, 1858.
21712	Rake, hay	George Whitcomb	Port Chester, N. Y	Oct. 5, 1858.
21698	Rake, hay	Mathias Raezer	Reading, Pa	Oct. 5, 1858.
19420	Rake, horse	William Horning	New Lebanon, Ohio	Feb. 23, 1858.
21268	Rake, horse	Mirick Morgan	Lancaster, Pa	Aug. 24, 1858.
21358	Rake, horse	L. H. Parson and George Houston	Middletown, N. Y	Aug. 31, 1858.
22235	Rake, horse	George W. Hadcock and Parker Wilcox	Norway, N. Y	Dec. 7, 1858.
22232	Rake, horse	Christian Garver	Londonderry, Pa	Dec 7, 1858.
19753	Rake, horse hay	Asahel Cowley	Harpersfield, N. Y	Mar. 30, 1858.
19975	Rake, horse hay	N. E. Allen	Trenton, Wis	April 20, 1858.
20844	Rake, horse hay	John F. Faust, assignor to himself and Richard M. Ross.	Lebanon, Ohio	July 6, 1858.
19687	Reaper, binding attachment to	A. F. French, assignor to George J. Stannard.	Franklin, Vt	Mar. 23, 1858.
19118	Reaper, hand	John W. Baltzly and W. Hobson	Pana, Ill	Jan. 19, 1858.
19367	Reaping and mowing machine	Charles Howell	Cleveland, Ohio	Feb. 16, 1858.
19904	Reaping and mowing machine	Charles Beach	Penn Yan, N. Y	April 13, 1858.
20212	Reaping and mowing machine	L. J. Williams and C. H. McCormick	Chicago, Ill	May 11, 1858.

20251	Reaping and mowing machine	J. W. Brokaw, assignor to Warder, Brokaw, & Child.	Springfield, Ohio	May 18, 1858.
20275	Reaping and mowing machine	Charles Howell	Cleveland, Ohio	May 18, 1858.
20887	Reaping and mowing machine	C. Moul	Hanover, Pa	July 13, 1858.
19894	Reaping and mowing machine, cutting device for.	Thomas Harding, assignor to Warder, Brokaw, & Child.	Springfield, Ohio	April 6, 1858.
20017	Reaping-machine	J. W. Brokaw, assignor to Warder, Brokaw, & Child.	Springfield, Ohio	April 20, 1858.
21207	Reaping-machine	C. W. and W. W. Marsh	Shabbona, Ill	Aug. 17, 1858.
21434	Reaping-machine, binding attachment to	James Mitchell	Osceola, Iowa	Sept. 7, 1858.
19020	Seeding-machine	Isaac H. Conklin	Rockford, Ill	Jan. 5, 1858.
19144	Seeding-machine	John Huston	Ottawa, Ill	Jan. 19, 1858.
19333	Seeding-machine	Chester Barton	Savoy, Mass	Feb. 16, 1858.
19423	Seeding-machine	G. W. Hildreth	Lockport, N. Y	Feb. 23, 1858.
19514	Seeding-machine	Aaron Ring	Westbrook, Me	Mar. 2, 1858.
19859	Seeding-machine	J. B. Lutz	Lafayette, Ind	April 6, 1858.
19839	Seeding machine	Joseph Frey	Battle Creek, Mich	April 6, 1858.
19871	Seeding-machine	Thomas A. Risher	Circleville, Ohio	April 6, 1858.
19872	Seeding-machine	Thomas A. Risher	Circleville, Ohio	April 6, 1858.
19902	Seeding-machine	Charles F. Anderson	Charlestown, N. H	April 13, 1858.
20162	Seeding-machine	James F Kierstead	Laporte, Ind	May 4, 1858.
20301	Seeding-machine	Luther Robinson	Melrose, Mass	May 18, 1858.
20357	Seeding-machine	Joseph McCammon	Dayton, Ohio	May 25, 1858.
20358	Seeding-machine	G. M L. McMillen	Dayton, Ohio	May 25, 1858.
20366	Seeding-machine	A. M. Pratt	Lowell, N Y	May 25, 1858.
20575	Seeding-machine	Daniel B Neal	Mount Gilead, Ohio	June 15, 1858.
20547	Seeding-machine	Samuel Burnside	Reading, Ohio	June 15, 1858.
20643	Seeding-machine	Samuel F. Jones	St. Paul, Ind	June 22, 1858.
20656	Seeding-machine	William Morehouse	Davenport, Iowa	June 22, 1858.
21162	Seeding-machine	S. R. Weldon	Winnebago Station, Ill	Aug. 10 1858.
21152	Seeding-machine	T. R. Richmond	Masillon, Ohio	Aug. 10, 1858.
21252	Seeding-machine	Joseph Fowler and F. M. Bacon	Ripon, Wis	Aug. 24, 1858.
21273	Seeding-machine	D B Keiper and A. C. Fox	Texana, Texas	Aug. 24, 1858.
21257	Seeding-machine	Paul Hildreth	Beloit, Wis	Aug. 24, 1358.
21354	Seeding-machine	Lewis Moore	Ypsilanti, Mich	Aug. 31, 1858.
21389	Seeding-machine	Alexander Turner, Redden Bess, and Hervey Sloan.	Franklin, Ind	Aug. 31, 1858.
21375	Seeding-machine	J. D. Smith	Lancaster, Ohio	Aug. 31, 1858.

List of patents for inventions, 1858—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21349	Seeding-machine	J. B. McCormick and W. R. Baker	Versailles, Ky. / Boston, Mass.	Aug. 31, 1858.
21350	Seeding-machine	E. L Lyon	East Randolph, N. Y.	Aug. 31, 1858.
21314	Seeding-machine	Thomas J. Bottoms	Thomasville, Ga.	Aug. 31, 1858.
21323	Seeding-machine	S. Conklin and G. Newton	Sterling, Ill.	Aug. 31, 1858.
21452	Seeding-machine	Samuel Staubro	Salem, Mich	Sept. 7, 1858.
21595	Seeding-machine	George C. Bunsen and Cyrus Roberts	Belleville, Ill	Sept. 28, 1858.
21780	Seeding-machine	Andrew Simmons	Nora, Ill	Oct. 12, 1858.
21850	Seeding-machine	M. S. Root	Medina, Ohio	Oct. 19, 1858.
21807	Seeding-machine	A. G. Babcock	Galesburg, Ill.	Oct. 19, 1858.
21995	Seeding-machine	Joseph Walton	Delavan, Wis	Nov. 2, 1558.
21969	Seeding-machine	Hermann Kaller	Perry, Ill.	Nov. 2, 1858.
21958	Seeding-machine	Aaron Hatfield	Petersburg, Ill.	Nov. 2, 1858.
21959	Seeding-machine	W. Y Henry	Monmouth, Ill.	Nov. 2, 1858.
22208	Seeding-machine	John W. Vandiver	Shelbyville, Mo	Nov. 30, 1858.
22184	Seeding machine	Daniel and Austin S. Markham and David Eldred.	Monmouth, Ill.	Nov. 30, 1858.
22180	Seeding-machine	R. W. Hunt and M. Kennedy	Galesburg, Ill.	Nov. 30, 1858.
22171	Seeding-machine	Warren Drummond	Woodbridge, N. J.	Nov. 30, 1858.
22339	Seeding-machine	John Badger	Baileyville Ill	Dec. 21, 1858.
22374	Seeding-machine	Albert W. Morse	Eaton, N Y.	Dec. 21, 1858.
22418	Seeding-machine	Joseph Fowler and F. M. Bacon	Ripon, Wis.	Dec. 28, 1858.
22190	Sheep, apparatus for holding	S. Minnich	Hopewell, Ohio	Nov. 30, 1858.
20585	Sheep while being sheared, device for holding	D. R. Reed and J. E. Chapman	Castile, N. Y.	June 15, 1858.
19431	Sowing fertilizers, machine for	William H. May and Charles W. Coontz	Alexandria, Va. / Winchester, Va.	Feb. 23, 1858.
21181	Sowing fertilizers, machine for	Lyman Bickford	Macedon, N. Y.	Aug. 17, 1858.
21803	Spading-machine	Judd Stevens, assignor to himself and John L. Beadle.	Marengo, N. Y.	Oct. 12, 1858.
22473	Stacking agricultural products	Carlos W. Glover, assignor to himself, Bronson Murray, and J. Van Doren.	Farm Ridge, Ill	Dec. 28, 1858.
22475	Stacking agricultural products	John Van Doren, assignor to himself, B. Murray, and C. W. Glover.	Farm Ridge, Ill	Dec. 28, 1858.
19430	Stones, machine for gathering	James H. Maydole	Eaton, N. Y.	Feb. 23, 1858.
20774	tones, machine for gathering	G. W. Bishop	Brooklyn, N. Y	July 6, 1858.
20038	Straw and stalk cutter	P. S. Clinger and C. Cremer.	Conestoga, Penn	April 27, 1858.
22117	Straw-carrier	Carlos W Glover	Farm Ridge, Ill	Nov. 23, 1858.
19200	Straw-cutter	J. H. Mumma	Harrisburg, Penn	Jan 26, 1858.
19462	Straw-cutter	Thomas H. and Daniel T. Wilson	Harrisburg, Penn	Feb. 23, 1858.
19425	Straw-cutter	W. O. Hickock	Harrisburg, Penn	Feb. 23, 1858.
19779	Straw-cutter	W. W. Hollman	Eddyville, Ky.	Mar. 3, 1858.
19895	Straw-cutter	J. B. Okey, assignor to himself and W. Y. Wiley.	Indianapolis, Ind.	April 6, 1858.
19952	Straw-cutter	E. P. Russell	Manlius, N. Y.	April 13, 1858.
19935	Straw-cutter	John K. Landis	Lancaster, Penn	April 13, 1858.
20103	Straw-cutter	John Tittle	Johnstown, Penn	April 27, 1858.
20224	Straw-cutter	Solomon P. Smith	Crescent, N. Y.	May 11, 1858.
20361	Straw-cutter	Oren Moses	Malone, N. Y.	May 25, 1858.
20582	Straw cutter	C. P Perry	Norristown, Penn	June 15, 1858.
20958	Straw-cutter	Robert Sinclair, jr.	Baltimore, Md.	July 20, 1858.
21110	Straw-cutter	Darius Babcock	Dryden, N. Y.	Aug. 10, 1858.
21954	Straw-cutter	Oliver C. Green	Dublin, Ind	Nov. 2, 1858.
21970	Straw-cutter	James Lashbrooks	Rockport, Ind	Nov. 2, 1858.
22072	Straw-cutter	Wilson Green and Malcom McFisher	Chattanooga, Tenn.	Nov. 16, 1858.
22207	Straw-cutter	Peter Vandesande, assignor to himself and Martin Vanderwerf.	Rochester, N. Y.	Nov. 30, 1858.
22336	Straw-cutter	Olive Ann Brooks, administratrix of Lebbeus Brooks, deceased	Somersworth, N. H. / Great Falls, N. H.	Dec. 14, 1858.
20976	Straw-shaker	Leonard Ellig, assignor to Andrew Garret.	Mill Creek, Penn	July 20, 1858.
21111	Threshing and separating grain, machine for	N. J Becker and J. M. Harvey	Amsterdam, N. Y.	Aug. 10, 1858.
19148	Threshing-machine	P. W. Mills	Conneaut, Ohio	Jan. 19, 1858.
19865	Threshing-machine	John R. Moffitt	St Louis, Mo	April 6, 1858.
20449	Threshing-machine	H. E Smith	Philadelphia, Penn.	June 1, 1858.
21214	Threshing-machine	Samuel D Reynolds	Lane, Ill.	Aug. 17, 1858.
21963	Threshing-machine	Abram Jackson	Lebanon, Tenn.	Nov. 2, 1858.
22141	Threshing-machine	M. D. Wells and H. Hagans	Morgantown, Va. / Brandonville, Va.	Nov. 23, 1858.
20892	Threshing-machine, endless chain for	J. E. Owens, C. Lane, and E. G. Dyer	Hamilton, Ohio	July 13, 1858.
20474	Threshing-machines, machine for measuring, registering, and receiving grain direct from.	Peleg Barker	Moscow, Mich	June 8, 1858.

List of patents for inventions, 1858—Class I.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21628	Threshing-machines, riddles for	F. W. Robinson	Richmond, Ia	Sept. 28, 1858.
21367	Threshing-machines, straw-carriers of	F. W. Robinson	Richmond, Ia	Aug. 31, 1858.
19357	Tree-protector	Josiah Foster	Sandwich, Mass	Feb. 16, 1858.
	Trees from insects, compound for protecting. (See Class IV, letter C.)			
21057	Wheat-separator	W. H. Angel and M. Coffeen	Watertown, N. Y	Aug 3, 1858.
19615	Winnower, grain	Henry H. Beach	Philadelphia, Penn	Mar 16, 1858.
19905	Winnowing-machines, chaff screens for	Alfred Belchamber	Ripley, Ohio	April 13, 1858.
21087	Yoke, ox	Joseph H. Riggs	Gloucester, Mass	Aug. 3, 1858.
21392	Yoke, ox	George W. Weeks	Boston, Mass	Aug 31, 1858.

Class II.—Metallurgy, *and manufacture of metals, and instruments therefor.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22245	Amalgamator	Lewis Solomon	New York, N. Y	Dec 7, 1858.
19246	Amalgamator, gold	Joseph H. Fisher	Placerville, Cal	Feb 2, 1858.
21204	Amalgamating gold and silver	Samuel Longman	Brooklyn, N. Y	Aug. 17, 1858.
19901	Awls and tools	Herrick Aiken	Franklin, N. H	April 13, 1858.
20957	Axe-polls, machine for making	George Reynolds	Manchester, N. H	July 20, 1858.
20780	Axles, carriage, machine for upsetting	Zina Doolittle	Perry, Ga	July 6, 1858.
19940	Bar for securing bank-vaults	William Maurer	New York, N. Y	April 13, 1858.
19261	Bars, making railway	Thomas E. Purchase	Reading, Pa	Feb 2, 1858.
20128	Bending mould-boards for ploughs	Benjamin Pitcher, assignor to himself, W. Tobey, and John Anderson.	Peoria, Ill	April 27, 1858.
21638	Blind-operator	James A. Dorman and Joseph E. Stearns, assignors to James A. Dorman.	Worcester, Mass	Sept. 28, 1858.

22172	Blind-operator	L. N. Fay and William Mason	West Warren, Mass	Nov. 30, 1858.
19751	Blinds, outside, opening and closing	John E. Clokey	Washington, D. C	Mar. 30, 1858.
19891	Bolt, door	John Woolman	Philadelphia, Pa	April 6, 1858.
19485	Bolt-machine	Henry Carter	Pittsburg, Pa	Mar. 2, 1858.
21279	Bolt-machine	Elisha Simkins	Allegheny, Pa	Aug. 24, 1858.
20149	Bolt, ring	George W. Devin	Ottumwa, Iowa	May 4, 1858.
20940	Bolt, spring	Edward Doen	New Britain, Ct	July 20, 1858.
21910	Bolts, machine for drawing	C. L. Stevenson	Charlestown, Mass	Oct. 26, 1858.
22470	Buckles, turn, for window-blinds	Joseph L. Chapman, assignor to himself and George Chapman.	Philadelphia, Pa	Dec. 28, 1858.
19988	Burnisher	Charles Frampton	Brooklyn, N. Y	April 20, 1858.
22452	Burnishing attachment for lathes	James S. Ray	East Haddam, Ct	Dec. 28, 1858.
21304	Burnishing machine	Leroy White, assignor to E. W. Sperry, E. Hurlbut, and J. H. Ashmead.	Hartford, Ct	Aug. 24, 1858.
22459	Burring machine	O. W. Stow	Southington, Ct	Dec. 28, 1858.
21796	Cans for preserving paint	Edward Clark, assignor to W. H. Dolson	New York, N. Y	Oct. 12, 1858.
20635	Cast iron cylinders, repairing	Samuel Falkenbury	Susquehanna Depot, Pa	June 22, 1858.
20022	Casting car-wheels	Robert Poole, assignor to himself and German H. Hunt.	Baltimore, Md	April 20, 1858.
20151	Casting car-wheels	David Finley	Champlain, N. Y	May 4, 1858.
20395	Casting faucets	O. T. Wood, assignor to Thomas R. Wood	Pittsburg, Pa	May 25, 1858.
20948	Casting hinges	Conrad M. Lane	Cincinnati, Ohio	July 20, 1858.
20951	Casting iron kettles	Cornelius McGinnis	Chicago, Ill	July 20, 1858.
19258	Casting wheels, flasks for	F. Nishwitz	Brooklyn, N. Y	Feb. 2, 1858.
20955	Chain, machine for making	E. H. Perry	Providence, R. I	July 20, 1858.
21362	Chain, machine for making	E. H. Perry	Providence, R. I	Aug. 31, 1858.
19094	Chain-making machine	William J. Lewis	Pittsburg, Pa	Jan. 12, 1858.
19955	Chain shackle	Joseph Snelling	East Boston, Mass	April 13, 1858.
21088	Chucks for centreing, &c	Daniel N. Smith	Boston, Mass	Aug. 3, 1858.
19918	Cop-tube	James Eaton	Townsend Harbor, Mass	April 13, 1858.
19188	Currycomb	E. L. Evans	Providence, R I	Jan. 26, 1858.
19937	Door-fastener	George W. McGill	Buffalo, N. Y	April 13, 1858.
22469	Door-fastener	Gilbert Yates	West Dresden, N. Y	Dec. 28, 1858.
22234	Door-latch	Henry Hackman, jr	Paque, Pa	Dec. 7, 1858.
20570	Doors, double fastening for	G. H. Lindner	Hoboken, N. J	June 15, 1858.
20381	Doors, &c, attachment for opening and closing	A. W. Webster	Waterbury, Ct	May 25, 1858.
20469	Drill for gas-pipe	William Daggett, assignor to A. B. Davis and W. H. Tolhurst.	Troy, N. Y	June 1, 1858.
20728	Drill, hand	Henry H. Packer	Boston, Mass	June 29, 1853.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22085	Drill, hand	Frederick McNair	Fultonham, Ohio	Nov. 16, 1858.
20385	Drill, power and hand	Horace Woodman	Biddeford, Me	May 25, 1858.
22323	Drilling metals, machine for	Robert Wilson	Milton, Pa	Dec. 14, 1858.
22446	Fastener, blind	John Murphy	Boston, Mass	Dec. 28, 1858.
19501	Fastener, sash	William H. Forbes	New York, N. Y	Mar. 2, 1858.
20238	Fastener, sash	F. W. Brecksieper and J. B. Sargent, assignors to Joseph B. Sargent.	New Britain, Ct	May 11, 1858.
20405	Fastener, sash	Oliver Charter	Bristol, Ct	June 1, 1858.
20526	Fastener, sash	J. B. Witherle	Upton, Mass	June 8, 1858.
20759	Fastener, sash	S. Carhart and W. Moore, assignors to themselves and J. H. McWilliams	Brooklyn, N. Y	June 29, 1858.
21328	Fastener, sash	Ralph J. Falconer	Washington, D. C	Aug. 31, 1858.
21968	Fastener, sash	Edward M. Judd	New Britain, Conn	Nov. 2, 1858.
22105	Fastener, sash	John Bestwick, jr	Dedham, Mass	Nov. 23, 1858.
22421	Fastener, sash	Porter A Gladwin	Pawtucket, Mass	Dec. 28, 1858.
22187	Fastener, shutter	John McGerrah	Philadelphia, Penn	Nov. 30, 1858.
19588	Fastener, window	E S Scripture	New Haven, Conn	Mar. 9, 1858.
21370	Fastener, window	Irving Root	Austin Texas	Aug. 31, 1858.
19143	File	Joseph N Houston	West Meriden, Conn	Jan. 19, 1858.
22329	File-cutting machine	George W. Fogg, assignor to himself and D. S Fogg.	South Dedham, Mass	Dec. 14, 1858.
20286	File-machine	F. M. Mattice	Buffalo, N. Y	May 18, 1858.
19854	Files, machine for cutting	J. Nelson Jacobs	Worcester, Mass	April 6, 1858.
	Forceps for fastening clasps on hoop-skirts. (See Class XXI, letter S.)			
22034	Forging metals, drop for	E. K. Root	Hartford, Conn	Nov. 9, 1858.
19930	Gold, machine for excavating and washing	Solomon Johnson	New York, N. Y	April 13, 1858.
19337	Gold-washer	Henry Barnard	Morristown, N. Y	Feb. 16, 1858.
21820	Hammer	Josiah P. Clark	Portland, Maine	Oct. 19, 1858.
21691	Hammer and anvil, trip	David A. Morris	Pittsburg, Penn	Oct. 5, 1858.
22092	Hammer, forge	Benjamin Shiverick	Pittsburg, Penn	Nov. 16, 1858.
22073	Hammer, hand	Alfred Gregory	Washington, D. C	Nov. 16, 1858.

21823	Hammer head	Rufus Dawes	Washington, D. C	Oct. 19, 1858.
19997	Hammers, operating blacksmiths'	J. W. Kerr	Rochester, N. Y	April 20, 1858.
21981	Handles, lifting	Joseph B. Sargent	New Britain, Conn	Nov. 2, 1858.
20052	Hatchet	N. F. English	Hartland, Vt	April 27, 1858.
19374	Hinge	John C Mason	New Hartford Centre, Conn	Feb. 16, 1858.
21124	Hinge	William H. Elliott	Pittsburg, Penn	Aug. 10, 1858.
21735	Hinge	Matthias Bettinger and A. Boos	Cincinnati, Ohio	Oct. 12, 1858.
21925	Hinge	R. Hart, assignor to Theodore F. Hall	Washington county, Ohio	Oct. 26, 1858.
19076	Hinge-eye for shutters	John B. Cornell	New York, N. Y	Jan. 12, 1858.
21347	Hinge for window-blinds	John Loudon and Hans Iverson	New York, N. Y	Aug. 31, 1858.
22214	Hinge for window-blinds	Thomas E. Williams	Washington, D. C	Nov. 30, 1858.
21496	Hinge, gate	A. T. Hendrick	Clyde, N. Y	Sept. 14, 1858.
21939	Hinge, gate	C. E. Burnham	Binghamton, N. Y	Nov. 2, 1858.
	Hoes, manufacture of. (See Class I)			
19526	Horse-shoe	Elbridge Wheeler	Marlboro', Mass	Mar. 2, 1858.
20713	Horse-shoe	W. E. Hubbard	Randolph, N. Y	June 29, 1858.
21571	Horse-shoe	John Maddock	Bloomington, Illinois	Sept. 21, 1858.
1[illegible]528	Horse-shoe machine	Harry A. Wilis	Keeseville, N. Y	Mar. 2, 1858.
19957	Horse-shoe machine	George Stiles, jr., and Strickland Kneass	Philadelphia, Penn	April 13, 1858.
20023	Horse-shoe machine	E. Shaw and C. Carpenter, jr assignors to themselves and G. B. Justram	Providence, R I / Pawtucket, Mass	April 20, 1858.
20646	Horse-shoe machine	W. W. Lewis	Cincinnati, Ohio	June 22, 1858.
21779	Horse-shoe machine	T. H. Russell and Amos Morrill	Northfield, Vt / Strafford, Vt	Oct. 12, 1858.
20079	Horse-shoes, machine for making	John McCarty	Philadelphia, Penn	April 27, 1858.
20441	Horse-shoes, machine for making	C. H. Perkins	Putnam, Conn	June 1, 1858.
	Iron and steel, compounds for hardening. (See Class IV, letter C.)			
19836	Iron and steel, hardening	George J. Farmer	Birmingham, England	Apl. 6, 1858. England Aug. 23, 1856.
21863	Iron, cast, manufacturing car-wheels of	George S. Bosworth, assignor to Anson Atwood.	Troy, N. Y	Oct. 19, 1858.
22476	Iron, cast, mercury bottle	Moses Wrangle, assignor to Hunter, Keller, & Co.	New York, N. Y	Dec. 28, 1858.
	Iron, cast or wrought, preserving surfaces of. (See Class IV, letter P.)			
20009	Iron cooking utensils, hollow cast	Adam V. Van Hoevenbergh	South Side, N. Y	April 20, 1858.

List of patents for inventions, 1858—CLASS II.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Iron, furnace for melting (See Class V, letter F.)			
	Iron railroad chairs, manufacture of wrought. (See Class X, letter C.)			
	Iron railing, construction of. (See Class IX.)			
21844	Iron, rolls for planishing	James Noble	Monongahela borough, Pa.	Oct. 19, 1858.
19799	Iron shafts, wrought, manufacture of tubular	W. A. Stephens and R. Jenkins	Covington, Ky	Mar. 30, 1858.
21772	Iron, sheet, manufacture of	David A. Morris	Pittsburg, Penn	Oct. 12, 1858.
21817	Iron, sheet, manufacture of	Josephus Chandler	Attica, Ohio	Oct. 19, 1858.
21692	Iron, sheet, rolls for making	David A. Morris	Pittsburg, Pa	Oct. 5, 1858.
21616	Key-hole stock	John Moulson	Philadelphia, Pa	Sept. 28, 1858.
20280	Keys, safety drop for	R. K. Lee	Brooklyn, N. Y	May 18, 1858.
19017	Knives, plated table, bolster for	Orestes Cleveland	New York, N. Y.	Jan. 5, 1858.
19641	Knives while grinding, holder for planing	Lyman Jennings	Erving, Mass	Mar. 16, 1858.
19614	Latch for doors	Thomas C. Ball, assignor to A. S. Davis and H. C. Hanierson.	Keene, N. H.	Mar. 16, 1858.
19786	Lathe, chuck	John L. Mason	New York, N. Y.	Mar. 30, 1858.
19533	Lock	John M. Perkins, assignor to Robert M. Patrick.	New York, N. Y.	Mar. 2, 1858.
19564	Lock	Abraham Hoagland	Jersey City, N. J.	Mar 9, 1858.
19628	Lock	William Denney	Philadelphia, Pa	Mar. 16, 1858.
19879	Lock	E. M Shaw	Baltimore, Md	April 6, 1858.
20027	Lock	Ludwig Baier	Cincinnati, Ohio	April 27, 1858.
20476	Lock	J. A. Braden	La Grange, Ga	June 8, 1858.
20850	Lock	J. P. Lipps, assignor to George D. Baldwin	Newark, N. J.	July 6, 1858.
21193	Lock	Fayette Gould	Huntington, N. Y	Aug 17, 1858.
21293	Lock	Hjalmar Winblad	West Hoboken, N. J.	Aug. 24, 1858.
21346	Lock	John P. Lord	Manchester, N. H.	Aug. 31, 1858.
21543	Lock	Christian Ackerman	Newark N. J.	Sept. 21, 1858.
21636	Lock	Thomas L. Pye	New York, N. Y.	Sept. 28, 1858.
21994	Lock	O. B. Thompson	Hudson, Ohio	Nov. 2, 1858.
22048	Lock	Linus Yale, jr	Philadelphia, Pa	Nov. 9, 1858.

22146	Lock	William Moore, assignor to George L. Cameron	Brooklyn, N. Y Chester C. H., S. C.	Nov. 23, 1858.
22319	Lock	Charles S. Westcott	New York, N. Y.	Dec. 14, 1858.
22425	Lock	Spencer Hiatt	Indianapolis, Ind	Dec. 28, 1858.
	Lock, alarm. (See Class XXII, letter A.)			
21962	Lock and key	Joseph Hoffacker	New York, N. Y.	Nov. 2, 1858.
21689	Lock, bank	L. H. Miller	Providence, R. I.	Oct. 5, 1858.
21862	Lock, bank	Stephen C. Burlingame, assignor to himself and William Taylor.	Warwick, R. I.	Oct. 19, 1858.
21947	Lock, bank	Lyman Derby	New York, N. Y.	Nov. 2, 1858.
20716	Lock, bank and other	William Johnson	Milwaukie, Wis	June 29, 1858.
19927	Lock, chronometric	Amos Holbrook	Milford, Mass	April 13, 1858.
20658	Lock, combination	Stuart Perry	Newport, N. Y	June 22, 1858.
20524	Lock, door	Livonia Whitney	Toledo, Ohio	June 8, 1858.
20571	Lock, door	John R. Marston	New York, N. Y.	June 15, 1858.
21504	Lock, door	Jacob Kinzer	Pittsburg, Pa.	Sept. 14, 1858.
20063	Lock for doors	James J. Hamilton	New Castle, Ind	April 27, 1858.
19208	Lock, pad	John Schneider	Chicago, Ill.	Jan. 26, 1858.
22000	Lock, pad	E. M. and J. E. Mix, assignors to themselves and C. D. Johnson.	Ithaca, N. Y.	Nov. 2, 1858.
19815	Lock, permutation	J. H. Morse, assignor to himself and L. Patee.	Peoria, Ill	Mar. 30, 1858.
19529	Lock, piano	Nathaniel Wilton	Boston, Mass.	Mar. 2, 1858.
22057	Lock, safe	Obadiah Bayly, jr	Dearborn, Ind.	Nov. 16, 1858.
22068	Lock, safe	Leger Diss	Utica, N. Y.	Nov. 16, 1858.
21655	Locks, cam for throwing bolts in	Henry W. Covert	Rochester, N. Y.	Oct. 5, 1858.
21567	Metal bars, machine for cutting	Daniel R Knowles	Centre Groton, Conn.	Sept. 21, 1858.
19945	Metal beams, connecting rigidly the ends of	Samuel Nowlan	New York, N. Y.	April 13, 1858.
19517	Metal pans, sheet, machine for forming	E. A. Smead	Tioga, Pa.	Mar. 2, 1858.
22044	Metal pipe, machine for coiling	Peter L. Weimer	Lebanon, Pa	Nov. 9, 1858.
19090	Metal plates, bending, machine for	David Howell	Louisville, Ky.	Jan. 12, 1858.
19866	Metal plates, coated	Edmund Morewood and George Rogers	Enfield, Great Britain	April 6, 1858; England, July 27, 1855.
20846	Metal, punch for perforating	W. I. Granger, assignor to D. I. Lake and C. B. Brown.	Chicago, Ill.	July 6, 1858.
20446	Metal shafting, lathe for turning	William Sellers	Philadelphia, Pa	June 1, 1858.
21749	Metal, sheet, machine for cross seaming	Lucien Fay	Cincinnati, Ohio	Oct. 12, 1858.
19677	Metallic cheese-hoop, casting	Timothy Brown	Georgetown, N. Y.	Mar. 23, 1858.
20118	Metallic nuts, making	S. W. Wood	Washington, D. C.	April 27, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Metallic surfaces, coating. (See Class IV, letter C)			
20165	Metallic tubes, punching	Benjamin Mackerley	New Petersburg, Ohio	May 4, 1858.
20794	Metals, lathe for turning in	G. Henderson and J. Steet	Allegheny, Pa	July 6, 1858.
19498	Metals, shaping and punching	Julius C. Dickey	Saratoga Springs, N. Y	Mar. 2, 1858.
	Metals, using graphite in reducing. (See Class IV, letter G.)			
22211	Nail-heads, machine for plating	William H. Van Gieson	Newark, N. J	Nov. 30, 1858.
20126	Nail-machine	H. Green and W. J. Gordon, assignors to Henry Green.	Philadelphia, Pa	April 27, 1858.
20312	Nail-machine	John L. Krauser, assignor to John L. Krauzer and James Harper.	Reading, Pa	May 18, 1858.
20829	Nail-machine	H. W. Taylor	Birmingham, Pa	July 6, 1858.
19631	Nail-machine, cut	G. C. Grodhaus	Jamestown, Ohio	Mar. 16, 1858.
21198	Nail-plate feeder	John W. Hoard and Thomas A. Searle	Providence, R. I	Aug. 17, 1858.
21222	Nail-plate feeder	James H. Swett	Pittsburg, Pa	Aug. 17, 1858.
22238	Nail, wrought, machine	Adrian V. B. Orr and Gideon Bantz	Frederick, Md.	Dec. 7, 1858.
19993	Nails, clenching horse-shoe	James Houck	Green Castle, Ind.	April 20, 1858.
20141	Nails, horse-shoe, machine for making	Tisdale Carpenter	Providence, R. I	May 4, 1858.
21213	Nails, machine for forging	S. S. Putnam	Boston, Mass	Aug. 17, 1858.
21005	Nails, manufacturing	John L. Krauser	Reading, Pa	July 27, 1858.
19364	Nails, tools for clenching	Darius J. Hendrickson	Otego, N. Y	Feb. 16, 1858.
19123	Nails, trunk, machine for covering the heads of	James P. Blake	Waterbury, Conn	Jan. 19, 1858.
21812	Nails, wrought, manufacture of	Otis Breden	St. Louis, Mo.	Oct. 19, 1858.
	Needles, sewing. (See Class III, letter S)			
	Needles, sewing, manufacture of. (See Class III, letter S.)			
21599	Nut-blanks, making	R. H. Cole	St. Louis, Mo	Sept. 28, 1858.
20145	Nut-machine	R. H. Cole	St. Louis, Mo	May 4, 1858.
21551	Nut-machine	R. H. Cole	St. Louis, Mo	Sept. 21, 1858.
21860	Nut-machine	S. H. Whitaker	Cincinnati, Ohio	Oct. 19, 1858.
22310	Nut-machine	Julius B. Savage	Southington, Conn.	Dec. 14, 1858.

21574	Nuts from unscrewing, mode of preventing	Samuel Noblet	Halifax, Pa	Sept. 21, 1858.
19670	Ore, machine for crushing	Nathaniel Conkling	Brooklyn, N. Y	Mar. 16, 1858.
20666	Ore-separator	H. P. Russ	Russville, Cal	June 22, 1858.
20756	Ore separator	Hezekiah Bradford, assignor to Horatio Bogert.	New York, N. Y.	June 29, 1858.
22138	Ore-separator	L. Stadtmüller	Bristol, Conn	Nov. 23, 1858.
19338	Ore-washer	Henry Barnard	Morristown, N. Y	Feb. 16, 1858.
19556	Pin-sticking machine	Thaddeus Fowler	Waterbury, Conn	Mar. 9, 1858.
21541	Pin-sticking machine	Cornelius W. Van Vliet, assignor to the New England Pin Company.	Winsted, Conn	Sept 14, 1858.
20171	Pipe, cast-iron	Clifford Pomroy	Pottsville, Pa	May 4, 1858.
19852	Pipe, coupling	W. Hudgin	Washington, D. C	April 6, 1858.
20717	Pipe, coupling	David Kahnweiler	Wilmington, N. C	June 29, 1858.
19944	Pipe, gas, conduit joint for	Charles Monson	New Haven, Conn	April 13, 1858.
19313	Pipe, lead, machine	Charles E. Rockwell	New York, N. Y	Feb. 9, 1858.
20387	Pipe, machine for cutting	M. Bowes, assignor to himself and George B. Waterhouse.	Charlotte, N. C	May 25, 1858.
20407	Pipe-tongs	A. G Coes	Worcester, Mass	June 1, 1858.
22157	Pipe-tongs	James R. Brown	Boston, Mass	Nov. 30, 1858.
21525	Pliers, making	Chester W. Sykes	New York, N. Y	Sept. 14, 1858.
20460	Pliers, manufacture of	Henry Wilkinson	Collinsville, Conn	June 1, 1858.
19843	Puddling-furnace	John P. and John Grove	Montour county, Pa	April 6, 1858.
20743	Punch, brad	John Thorndike	North Weare, N. H.	June 29, 1858.
20516	Punching-machine	David S. Sherman	Lowell, Mass.	June 8, 1858.
20157	Quartz crusher	William H. Howland	Sacramento, Cal	May 4, 1858.
21248	Quartz-crusher	A. J. Doolittle	Nevada township, Cal.	Aug. 24, 1858.
	Quartz-mills. (See Class XIII, letter M.)			
	Quartz, &c., feeding to machines for crushing and grinding the same. (See Class XIII, letter C)			
20685	Riveting-machine	P. B. Tyler and W. Jones, and B Lathrop, assignors to P. B. Tyler	Springfield, Mass. / Sandusky, Ohio	June 22, 1858.
19963	Rolling-mill	John A Bailey, assignor to James Horner and James Ludlum.	Boston, Mass.	April 13, 1858.
20702	Rolling railway bars	Giles Edwards	Johnstown, Pa.	June 29, 1858.
20901	Rolling railway chairs	J. H. Snyder	Troy, N. Y.	July 13, 1858.
21666	Rolling railway iron	John Fritz	Johnstown, Pa.	Oct. 5, 1858.
20736	Safe, fire and burglar proof	Theodore Sharts	Albany, N. Y	June 29, 1858.
21427	Safe, iron	Lewis Lillie	Troy, N. Y.	Sept. 7, 1858.

List of patents for inventions, 1858—CLASS II.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Safe, plates for burglar-proof. (See Class V, letter S.)			
20544	Sash-holder	S. R. Brown	East Kingston, N. H.	June 15, 1858.
20822	Sash-holder	E. S Scripture	New Haven, Conn	July 6, 1858.
21483	Saw-filer	A. H. Burdine	Chulahoma, Miss	Sept. 14, 1858.
20945	Saw-filing machine	Heman How	Georgetown, Mass	July 20, 1858.
19265	Saw-gummer	N. F. Stone & W. C. Ward	Menard county, Ill	Feb. 2, 1858.
19835	Saw-gummer	M. Ernsberger	Bremen, Ohio	April 6, 1858.
21729	Saw-gummer	H. R. Wolf, assignor to himself, David Staples, & W. H. Watson.	Consolation, Ky	Oct. 5, 1858.
21935	Saw gummer	Nelson Barlow	New York, N. Y	Nov. 2, 1858.
22260	Saw-set	J. P. Van Vleck	Cooksville, Wis	Dec. 7, 1858.
22256	Saw-set	Edward Marshall	New York, N. Y	Dec. 7, 1858.
	Saws, dressing. (See Class XIV.)			
20933	Saws, gin, machine for sharpening	A. H. Burdine	Chulahoma, Miss	July 20, 1858.
19244	Saws, gumming and jointing	Hosea O. Elmer	Mexico, N. Y	Feb. 2, 1858.
22040	Saws, machine for filing	Calvin & Byron D. Tabor	Ischua, N. Y	Nov. 9, 1858.
20330	Saws, machine for grinding	William Clemson	East Woburn, Mass	May 25, 1858.
22367	Scissors, manufacture of	Henry Havell	Newark, N. J	Dec. 21, 1858.
21531	Screw cutter	Thomas Whitaker	Cincinnati, Ohio	Sept. 14, 1858.
0168	Screw-cutting, chuck for	Richard Nuttall & John Kirkpatrick	Allegheny, Pa	May 4, 1858.
19752	Screw-cutting machine	R. H. Cole	St. Louis, Mo	Mar. 30, 1858.
20619	Screwdriver, handle for	Oliver Bond	Buffalo, N. Y	June 22, 1858.
19162	Screwdriver, ratchet movement for	G. H. Talbot	Boston, Mass	Jan. 19, 1858.
19805	Screw, wood	J. M. Whiting and G. F. Wilson	New Bedford, Mass Providence, R. I.	Mar. 30, 1858.
21864	Screws from wire, lathe for cutting	G. W. Daniels, assignor to himself and A. Fuller.	Waltham Mass	Oct. 19, 1858.
20036	Screws, machine for cutting	Philip Chapin	Baltimore, Md	April 27, 1858.
20789	Screws, machine for turning the heads and for nicking.	Ira Griggs, assignor to the Utica Screw Manufacturing Company.	Utica, N. Y	July 6, 1858.

21641	Screws, wood, cutting threads of	Henry L. Kendall & Homer P. Hunt, assignors to the New England Screw Co.	Providence, R. I	Sept. 28, 1858.
21438	Scythe-blade	S. D. Nelson	Pittsburg, Pa	Sept. 7, 1858.
19524	Scythes, manufacture of	Harvey Waters	Northbridge, Mass	Mar. 2, 1858.
19152	Seaming-machine, double	Luther E. Porter	Lake Mills, Wis	Jan. 19, 1858.
21546	Shears	Joseph A. Braden	La Grange, Ga	Sept. 21, 1858. Reissued Dec. 28, 1858.
22028	Shears for cutting sheet metal	Daniel Newton	Southington, Conn	Nov. 9, 1858.
21319	Shears, manufacturing	W. S. Butler	Rocky Hill, Conn	Aug. 31, 1858.
	Shovel-handles, bending. (See Class XIV, letter B.)			
21368	Shutter-operator	Isaac Rogers	Owego, N. Y	Aug. 31, 1858.
20975	Soldering-iron	H. I. Behrens, assignor to C. S. Pomeroy	New York, N. Y	July 20, 1858.
21972	Soldering, machine for	E. Manley	Marion, N. Y	Nov. 2, 1858.
19452	Spike-machine	Leander Shearer	Duncannon, Pa	Feb. 23, 1858.
20076	Spike-machine	Michael Loughran	Pittsburg, Pa	April 27, 1858.
22060	Spoons, machine for making	John P. Brinkerhoff	Brooklyn, N. Y	Nov. 16, 1858.
22441	Spring, door	Thomas J. Mayall	Roxbury, Mass	Dec. 28, 1858.
20338	Spring, window	Edward Doen	New Britain, Conn	May 25, 1858.
19747	Staple for blind slats	Byron Boardman	Norwich, Conn	Mar. 30, 1858.
19804	Steel and iron, tempering and hardening	Horace Vaughn	Providence, R. I	Mar. 30, 1858. England, Dec. 29, 1856.
	Steel car-springs, tempering. (See Class X, letter C.)			
	Steel, furnace for tempering. (See Class V, letter F.)			
21948	Steel, manufacturing	Joseph Dixon	Jersey City, N. J	Nov. 2, 1858.
21039	Steel rollers, making	Henry Waterman	Brooklyn, N. Y	July 27, 1858.
19038	Tin, machine for bending	George W. Merk	Leavenworth, Kan	Jan. 5, 1858.
	Tire, apparatus for heating. (See Class V, letter H.)			
20700	Tire, upsetting	G. W. Cooper	Morenci, Mich	June 29, 1858.
21327	Tire, upsetting carriage	E. J. Dodge	Port Washington, Wis	Aug. 31, 1858.
20559	Tire, wheel, reducing	Iris Hobson	Stout's Grove, Ill	June 15, 1858.
19842	Tongs, pipe	Henry H. Gilmore	Boston, Mass	April 6, 1858.
19416	Tool, expanding	James Greenhalgh, jr	Burville, R. I	Feb. 23, 1858.
22155	Tool for cutting key-seats in wheels and pulleys.	James Barton	Cleveland, Ohio	Nov. 30, 1858.
22466	Tools, making edge	William White	Newark, N. J	Dec. 28, 1858.

List of patents for inventions, 1858—CLASS II.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19606	Tools to handles, attaching	J. Henn, assignor to himself, Anton Daul, & Leopold Lankan.	New Britain, Conn	Mar. 9, 1858.
19150	Tube-joint, gas	Charles Monson	New Haven, Conn	Jan. 19, 1858. Reissued Mar. 9, 1858.
20529	Tubing, soldered, machine for finishing	E. Jordan, assignor to Benedict & Burnham Manufacturing Company.	Waterbury, Conn	June 8, 1858.
20051	Tuyere	George W. Finch	Gibraltar, Wis	April 27, 1858.
22012	Tuyere, blacksmith's	Harvey S. Berry	Rutland, Vt	Nov. 9, 1858.
22111	Tuyere, blacksmith's	Benjamin E. Dixon	Marshall, Mich	Nov. 23, 1858.
19622	Vice	Charles B. Clark	Oriskany Falls, N. Y	Mar. 16, 1858.
19861	Vice-anvil for repairing T rails	S. Mason & E. M. Davis	Michigan City, Ind	April 6, 1858.
24961	Vice, gas-fitter's	Joseph S. Ford	Philadelphia, Pa	Nov. 2, 1858.
20043	Washers, machine for making	R. H. Cole	St. Louis, Mo	April 27, 1858.
21359	Welding bellows-pipe	A. Pearsall	Nashville, Tenn	Aug. 31, 1858.
21286	Wire and steel, tempering	Henry Waterman	Brooklyn, N. Y	Aug. 24, 1858.
21866	Wire-riddles, tools for manufacturing	Sanford Adams	Boston, Mass	Oct. 26, 1858.
21635	Wire-springs for furniture, machine for making.	Charles A. & Solomon W. Young	Providence, R. I	Sept. 28, 1858.
19790	Wrench	Archibald Murray	Troy, N. Y	Mar. 30, 1858.
19954	Wrench	E. S. Scripture	New Haven, Conn	April 13, 1858.
20211	Wrench	James McKenzie	Green Island, N. Y	May 11, 1858.
20379	Wrench	George C. Taft	Worcester, Mass	May 25, 1858.
21196	Wrench	F. D. Haywood	Malden, Mass	Aug. 17. 1858.
22122	Wrench, screw	Joseph Hyde	Troy, N. Y	Nov. 23, 1858.
20291	Zinc, metallic, manufacture of	Alfred Monnier	Camden, N. J	May 18, 1858.

CLASS III—MANUFACTURES OF FIBROUS AND TEXTILE SUBSTANCES, *including machines for preparing fibres of wool, cotton, silk, fur, paper, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19647	Bobbins, spinning	Alfred E. Nichols	Lowell, Mass	Mar. 16, 1858.
19231	Bonnet frames, machine for forming	Sewall H. Bowker	Worcester, Mass	Feb. 2, 1858.
20837	Bonnets and other articles of varying thickness, machinery for pressing straw.	H. E. West	Norton, Mass	July 6, 1858.
22100	Braiding-machine	Andrew B. Clemons, assignor to Birmingham Iron Foundry Company.	Derby, Conn	Nov. 16, 1858.
21568	Brush-cylinders for spreaders, cotton-gins, &c.	A. M. Laupher	Gloucester, N. J	Sept. 21, 1858.
21685	Card, clothing	Richard Kitson	Lowell, Mass	Oct. 5, 1858.
19585	Carding-cylinders, clothing for	Charles G. Sargent and Francis A. Calvert	Lowell, Mass	Mar. 9, 1858.
21364	Carding-machine	C. E. Price and J. Haythorne	Thompsonville, Conn	Aug. 31, 1858.
20037	Cloth, elastic, device for turning down the edges of.	Gilbert H. Chesbro	Stafford, Conn	April 27, 1858.
21930	Cloth, felt, forming bats for	Milton D. Whipple, assignor to Alfred B. Ely	Charlestown, Mass	Oct. 26, 1858.
19235	Cloth, felt, mode of forming the bat for making	Thomas B. Butler	Norwalk, Conn	Feb. 2, 1858.
21931	Cloth, fulling, in the piece, machinery for	Milton D. Whipple, assignor to Alfred B. Ely	Charlestown, Mass	Oct. 26, 1858.
20695	Cloth, machine for turning selvages in	John T. Boyd.	Charlestown, Mass	June 29, 1858.
20677	Cop-waste, machine for picking	A. A. Wood	Jersey City, N. J	June 22, 1858.
19554	Cord, plaited, machinery for manufacturing	Charles Feickert	New York, N. Y	Mar. 9, 1858.
20690	Cordage, braiding, machinery for	J. A. Bazin	Canton, Mass	June 29, 1858.
20691	Cordage, webbing, &c., manufacturing braided	J. A. Bazin	Canton, Mass	June 29, 1858.
19394	Cotton, &c., drawing	Cullen Whipple	Providence, R. I	Feb. 16, 1858.
21932	Cotton, combing, machinery for	Milton D. Whipple, assignor to Alfred B. Ely	Charlestown, Mass	Oct. 26, 1858.
20270	Cotton, machine for cleaning	Thomas Oliver	Yazoo City, Miss	May 18, 1858.
21270	Fabrics, elastic	John W. Newell	New Brunswick, N. J	Aug. 24, 1858.
20267	Fabrics, thick woven	John Gujer	Philadelphia, Penn	May 18, 1858.
20263	Fabrics, woven, tucked	Thomas France	New York, N. Y	May 18, 1858.
21164	Felting, machinery for forming bats for	Thomas B. Butler, assignor to Lounsberry, Bissell, & Co.	Norwalk, Conn.	Aug. 10, 1858.
21771	Fibre from the pulp in hemp leaves, machines for separating the.	S. S. Mills	Charleston, S. C	Oct. 12, 1858.
21077	Fibre of wood, separating the	A. S. Lyman	New York, N. Y	Aug. 3, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date
19600	Fibrous materials, machines for picking	Oliver Woodworth, jr., and John D. Page	East Hartford, Conn	Mar. 9, 1858.
21659	Folding guides	Alexander Douglas	New York, N. Y	Oct. 5, 1858.
19041	Gin, cotton	James F. Orr	Orrville, Ala	Jan. 5, 1858.
19097	Gin, cotton	David G. Olmstead	Vicksburg, Miss	Jan. 12, 1858.
19324	Gin, cotton	Lewis J. Chichester, assignor to Henry G. Evans, Samuel Barstow, and Daniel Wintringham.	New York, N. Y	Feb. 9, 1858.
19415	Gin, cotton	T. C. Garlington	La Fayette, Ala	Feb. 23, 1858.
19417	Gin, cotton	B. D. Gullett	Aberdeen, Miss	Feb. 23, 1858.
19598	Gin, cotton	F. L. Wilkinson	Adam's Run, S. C	Mar. 9, 1858.
19679	Gin, cotton	Hiram W. Brown	Millville, N. J	Mar. 23, 1858.
20120	Gin, cotton	James N. Wilson and George W. Payne	Memphis, Tenn	April 27, 1858.
20051	Gin, cotton	John Du Bois	Greensboro', Ala	April 27, 1858.
20086	Gin, cotton	S. R. Parkhurst	New York, N. Y	April 27, 1858.
20216	Gin, cotton	Enoch Osgood	Boston, Mass?	May 11, 1858.
20747	Gin, cotton	J. A. Ventress	Woodville, Miss	June 29, 1858.
20904	Gin, cotton	Joshua Tetlow	Taunton, Mass	July 13, 1858.
21357	Gin, cotton	H. C. Parkhurst	New York, N. Y	Aug. 31, 1858.
21582	Gin, cotton	John L. Tuttle	Bridesburg, Pa	Sept. 21, 1858.
21714	Gin, cotton	A. Q. Withers	Byhalia, Miss	Oct. 5, 1858.
21795	Gin, cotton	Lewis S. Chichester, assignor to Henry G. Evans.	New York, N. Y	Oct. 12, 1858.
22288	Hat-bodies, machinery for forming	Michael Hardy	New York, N. Y	Dec. 14, 1858.
20602	Hat-bodies, machine for sizing	S. W. Wood	Washington, D. C	June 15, 1858.
21382	Hat-body machinery	Alva B. Taylor	Newark, N. J	Aug. 31, 1858.
19138	Hats, felt, machinery for forming brims of	William A. Fenn	Brookfield, Conn	Jan. 19, 1858.
19616	Hats, ventilating	James W. Beebe	New York, N. Y	Mar. 16, 1858.
19255	Hem pbrake	Solomon P. Moore	Arrow Rock, Mo	Feb. 2, 1858.
20890	Hem pbrake	George M. Newell	Lexington, Mo	July 13, 1858.
21513	Hem pbrake	H. D. McGeorge	Morgantown, Va	Sept. 14, 1858.
21680	Hem pbrake	William C. Hutchinson	St. Joseph's, Mo	Oct 5, 1858.
21983	Hem pbrake	William Shelby	Waverley, Mo	Nov. 2, 1858.

22399	Hemp, rake	Robert Heneage, assignor to himself and Edward O. Ball.	Buffalo, N. Y	Dec. 21, 1858.
21264	Hemp, machine for breaking	Samuel H. Little	St. Louis, Mo	Aug. 24, 1858.
20827	Hemp, Tampico, treatment of fibre of	Werner Staufen	London, England	July 6, 1858.
19625	Hose, textile, manufacture of	L. B. Cooley and James C. Cooke	Middletown, Conn	Mar. 16, 1858; reissued Aug. 31, 1858.
20893	Knit gloves, manufacturing	James Peatfield	Ipswich, Mass	July 13, 1858.
19370	Knitting-machine	Joseph K. and Edward E. Kilbourn	Norfolk, Conn	Feb. 16, 1858.
19740	Knitting machine	Joseph Vickerstaff, assignor to Martin Landenberger.	Philadelphia, Pa	Mar. 23, 1858.
20854	Knitting-machine	N. P. Aiken	Troy, N. Y	July 13, 1858.
21045	Knitting-machine	J. P. Delahunty, assignor to himself and E. S. Ells, and E. S. Ells, assignor to Clark Tompkins.	Cohoes, N. Y	July 27, 1858.
21396	Knitting-machine	T. Lovelidge, assignor to himself and William Fulfirth.	Germantown, Pa	Aug. 31, 1858.
21762	Knitting-machine	Joseph K., and Edward E. Kilbourn	Norfolk, Conn	Oct. 12, 1858.
22004	Knitting-machine	Walter Aiken	Franklin, N. H	Nov. 9, 1858.
22135	Knitting-machine	Frederick Schott	Brooklyn, N. Y	Nov. 23, 1858.
21566	Knitting-machines, needles for	Joseph K. Kilbourn and Edward E. Kilbourn	Pittsfield, Mass. Norfolk, Conn	Sept. 21, 1858.
20044	Loom	George Crompton	Worcester, Mass	April 27, 1858.
20969	Loom	Joseph Welsh	Philadelphia, Pa	July 20, 1858.
21098	Loom	Joseph Welsh	Philadelphia, Pa	Aug. 3, 1858.
21448	Loom	E. M. Scott	Auburn, N. Y	Sept. 7, 1858.
21793	Loom for weaving hair-cloth	S. B. Chaffee, for himself and as administrator of S. M. Chaffee, deceased.	Providence, R. I	Oct. 12, 1858.
21312	Loom for weaving skirt-fringe	James Beck	New York, N. Y	Aug. 31, 1858.
22042	Loom, fringe	Samuel Walker	Roxbury, Mass	Nov. 9, 1858.
19719	Loom, hair-cloth, stop-motion for	R. J. Stafford	Smithfield, R. I	Mar. 23, 1858.
19428	Loom, picker for	Zebulon Lyford	Lowell, Mass	Feb. 23, 1858.
22114	Loom, picker-staff for	Samuel Estes	Newburyport, Mass	Nov. 23, 1858.
22065	Loom, power	John Crawshaw	Rochester, N. Y	Nov. 16, 1858.
19073	Loom, power, set-off motion for	Stephen O. Colvin	Coventry, R. I	Jan. 12, 1858.
19664	Loom, power, set-off motion for	Newell Wyllys, assignor to himself and Charles Collins.	South Glastonbury, Conn	Mar. 16, 1858.
19698	Loom, ribbon	William J. Hartmann	Philadelphia, Pa	Mar. 23, 1858.
22420	Looms, shuttle-boxes for	A. F. Gibboney	Union Township, Pa	Dec. 28, 1858.
21515	Looms, temples for	Robert Pilson	Laurel, Md	Sept. 14, 1858.

List of patents for inventions, 1858.—CLASS III.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Paper and other fabrics incorrodible, rendering. (See Class IV, letter P.)			
19270	Paper boxes, manufacturing angular	Elisha Waters	Troy, N. Y	Feb. 2, 1858.
19045	Paper, machinery for manufacturing	Stephen Rossman	Stuyvesant, N. Y.	Jan. 5, 1858.
21004	Paper, machinery for piling	J. C. Kneeland	Northampton, Mass.	July 27, 1858.
21768	Paper making cylinders, constructing frames for wire-cloth.	John and Robert McMurray	New York, N. Y	Oct. 12, 1858.
21008	Paper-making machine	T. Lindsay and W. Geddes	Westfield, Conn Seymour, Conn	July 27, 1858.
20355	Paper-pulp from reeds, preparing	Henry Lowe	Baltimore, Md	May 25, 1858.
22401	Paper-pulp from wood, manufacture of	Charles Marzoni, assignor to J. Gandolfo	New York, N. Y	Dec. 21, 1858.
20277	Paper-pulp, machine for grinding and sizing.	Joseph Jordan, jr , and Thomas Eustice	East Hartford, Conn Hartford, Conn	May 18, 1858.
20294	Paper-pulp, preparation of fibre for	Martin Nixon	Philadelphia, Penn.	May 18, 1858.
1161	Paper-pulp, reducing wood fibre to.	Henry Voelter	Heidenheim, Wurtemberg, Germany. Foreign patent	Aug. 10, 1858. Aug. 29, 1856.
20884	Paper-stock, from reeds	Henry Lowe	Baltimore, Md.	July 13, 1858.
20020	Pasteboard and paper, manufacture of leather	Adolphe Nicolas Mathieu, assignor to M. J. A. Guiet	Paris, France France	April 20, 1858. April 13, 1855.
20766	Rollers, drawing	Seth P. Spencer, assignor to himself, S. S Spencer, and Harris Boardman.	Lancaster, Penn	June 29, 1858.
19623	Rolls, calendar	Gardner G. Clark	Providence, R. I.	Mar. 16, 1858.
21238	Rope, machinery for making	Newton Adams	Lansingburg, N. Y.	Aug. 24, 1858.
19133	Rope-machine	William Coutie	Troy, N. Y	Jan. 19, 1858.
22150	Rope-yarn, machine for tarring	JohnStewart , assignor to Charles Wall	Brooklyn, N Y	Nov. 23, 1858.
19015	Sewing-machine	D. W. Clark	Bridgeport, Conn.	Jan. 5, 1858.
19059	Sewing-machine	George Felter, assignor to himself and Edward Jones.	Philadelphia, Penn	Jan. 5, 1858.
19080	Sewing-machine	Alexander Douglas	New York, N. Y.	Jan. 12, 1858.
19072	Sewing-machine	D. W. Clark	Bridgeport, Conn	Jan. 12, 1858.
19129	Sewing-machine	D. W. Clark	Bridgeport, Conn	Jan. 19, 1858.
19171	Sewing-machine	Amos H. Boyd, assignor to Oliver D. Boyd.	Saco, Maine	Jan. 19, 1858.
19141	Sewing-machine	Daniel Harris	Boston, Mass	Jan. 19, 1858.
19155	Sewing-machine	James and Amos W. Sangster	Buffalo, N. Y	Jan. 19, 1858.
19135	Sewing-machine	Martial Dimock and Nathan Rixford	Mansfield Centre, Conn	Jan. 19, 1858.
19285	Sewing-machine	Benjamin J. Angell	Attleborough, Mass	Feb. 9, 1858.
19409	Sewing-machine	D. W. Clark	Bridgeport, Conn	Feb. 23, 1858.
19439	Sewing-machine	Abner N. Newton	Richmond, Ind	Feb. 23, 1858.
19535	Sewing-machine	Amos W. Sangster, assignor to V. M. Rice, James Sangster, and Eliza Remington.	Buffalo, N. Y	Mar. 2, 1858.
19532	Sewing-machine	Joshua Gray, assignor to himself and George O. Brastow	Medford, Mass Somerville, Mass.	Mar. 2, 1858.
19612	Sewing-machine	Charles Raymond, assignor to Willford H. Nettleton.	Bristol, Conn	Mar. 9, 1858.
19660	Sewing-machine	Joseph E. Hendrick, assignor to himself and William Holmes.	Brooklyn, N. Y	Mar. 16, 1858.
19662	Sewing-machine	Sidney Parker, assignor to himself, Leonard Westbrook, and Hugh Herringshaw.	New York, N. Y.	Mar. 16, 1858.
19665	Sewing-machine	Joshua Gray, assignor to himself and T. B. Mackay.	Boston, Mass	Mar. 16, 1858.
19684	Sewing-machine	Fayette S. Coates	New York, N. Y.	Mar. 23, 1858.
19732	Sewing-machine	D. W. Clark, assignor to H. L. Clark	Bridgeport, Conn	Mar. 23, 1858.
19723	Sewing-machine	James and Amos W. Sangster	Buffalo, N. Y	Mar. 23, 1858.
19793	Sewing-machine	O. L. Reynolds	Dover, N. H.	Mar. 30, 1858.
19823	Sewing-machine	Abraham Bartholf	New York, N. Y.	April 6, 1858.
19876	Sewing-machine	Elliot Savage	Berlin, Conn	April 6, 1858.
19903	Sewing-machine	J. E. and J. C. and O. Atwood	Mansfield Centre, Conn.	April 13, 1858.
19979	Sewing-machine	Charles F. Bosworth	Petersham, Mass	April 20, 1858.
20175	Sewing-machine	E. Harry Smith	New York, N. Y.	May 4, 1858.
20471	Sewing-machine	C. A. Shaw, J. Clark, and D. T. Giveen, assignors to said Shaw & Clark.	Biddeford, Me Saco, Me	June 1, 1858.
20413	Sewing-machine	Martial Dimock	Mansfield, Conn	June 1, 1858.
20481	Sewing-machine	D. W. Clark	Bridgeport, Conn	June 8, 1858.
20531	Sewing-machine	A. W. Sangster, assignor to V. M. Rice, J. Thayer, J. Sangster, and Eliza Remington.	Buffalo, N. Y	June 8, 1858.
20557	Sewing-machine	A. C. Herron	Remsen, N. Y	June 15, 1858.
20686	Sewing-machine	Albert F. Johnson, assignor to himself and Francis F. Emery.	Boston, Mass.	June 22, 1858.
20684	Sewing-machine	Heman S. Snow, assignor to himself and G. F. Snow.	Meriden, Conn	June 22, 1858.

List of patents for inventions, 1858.—CLASS III.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20688	Sewing-machine	W. T. Barnes	Buffalo, N. Y	June 29, 1858.
20763	Sewing-machine	W. Miller, assignor to himself and W. P. Prescott.	Cambridge, N. Y	June 29, 1858.
20761	Sewing-machine	Thomas A. Dugdale, assignor to himself and John A. Burbank.	Richmond, Ia	June 29, 1858.
20699	Sewing-machine	Samuel Comfert, jr	Morrisville, Pa	June 29, 1858.
20753	Sewing-machine	H. B. West and H. F. Willson	Elyria, Ohio	June 29, 1858.
20739	Sewing-machine	E. Harry Smith	New York, N. Y	June 29, 1858.
20742	Sewing-machine	John Thomson	Worcester, Mass	June 29, 1858.
20773	Sewing-machine	R. M. Berry	New York, N. Y	July 6, 1858.
20775	Sewing-machine	L. R. Blake	South Abington, Mass	July 6, 1858.
21015	Sewing-machine	Charles Moore	Buffalo, N. Y	July 27, 1858.
21049	Sewing-machine	A. H. Hook, assignor to Union Sewing Machine Company.	New York, N. Y	July 27, 1858.
20994	Sewing-machine	Cornelius Donovan	Abington, Mass	July 27, 1858.
20990	Sewing-machine	Luman Carpenter	Oswego, N. Y	July 27, 1858.
21089	Sewing-machine	E Harry Smith	New York, N. Y	Aug. 3, 1858.
21100	Sewing-machine	Darius Wheeler and Luman Carpenter	Oswego, N. Y	Aug. 3, 1858.
21129	Sewing-machine	J. E. A. Gibbs	Mill Point, Va	Aug. 10, 1858.
21230	Sewing-machine	J. S. Buell and W. T. Barnes, assignors to J. Forsyth, R. D. Rockwell, V. M. Rice, and W. T. Barnes.	Buffalo, N. Y	Aug. 17, 1858.
21224	Sewing-machine	P. P. Uhlinger	Philadelphia, Pa	Aug. 17, 1858; antedated May 3, 1858
21234	Sewing-machine	Timothy D. Jackson, assignor to Joseph W. Bartlett.	New York, N. Y	Aug. 17, 1858.
21250	Sewing-machine	R. B. Fitts and Milton D. Whipple	Charlestown, Mass	Aug. 24, 1858.
21299	Sewing-machine	Timothy D. Jackson, assignor to Joseph W. Bartlett.	New York, N. Y	Aug. 24, 1858.
21258	Sewing-machine	Elias Howe, jr	Brooklyn, N. Y	Aug. 24, 1858.
21322	Sewing-machine	D. W. Clark	Bridgeport, Conn	Aug. 31, 1858.
21310	Sewing-machine	Solomon Andrews	Perth Amboy, N. J	Aug. 31, 1858.

21465	Sewing-machine	S. C. Blodgett, assignor to G. B. Sloat & Co.	Philadelphia, Pa	Sept. 7, 1858.
21402	Sewing-machine	Bryan Atwater	Berlin, Conn	Sept. 7, 1858.
21461	Sewing-machine	J. B. Woodruff	Washington, D. C	Sept. 7, 1858.
21466	Sewing-machine	Miles L. Clinton, assignor to H. F. Hibbard.	Ithaca, N. Y	Sept. 7, 1858.
21537	Sewing-machine	G. W. Hubbard, assignor to himself, W. Hubbard, and W. L. and N. S. Bradley.	Meriden, Conn	Sept. 14, 1858.
21592	Sewing-machine	Jonas Hinkley, assignor to himself and F. A. Wildman.	Huron, Ohio	Sept. 21, 1858.
21722	Sewing-machine	Joseph E Hendrick, assignor to himself, W. H. Nettleton, and George Stevens.	Bristol, Conn	Oct. 5, 1858.
21713	Sewing-machine	Joseph White	Troy, N. Y	Oct. 5, 1858.
21672	Sewing-machine	Daniel Harris	Boston, Mass	Oct. 5, 1858.
21669	Sewing-machine. (No. 4)	William O. Grover	Boston, Mass	Oct. 5, 1858.
21670	Sewing-machine. (No. 1)	William O. Grover	Boston, Mass	Oct. 5, 1858.
21671	Sewing-machine. (No. 5)	William O. Grover	Boston, Mass	Oct. 5, 1858.
21751	Sewing-machine	James E. A. Gibbs	Mill Point, Va	Oct. 12, 1858.
21800	Sewing-machine	W. Millar, assignor to himself and John Nutt.	Chicago, Ill	Oct. 12, 1858.
21752	Sewing-machine. (No. 3)	William O. Grover	Boston, Mass	Oct. 12, 1858.
21745	Sewing-machine	Chauncey O. Crosby	New Haven, Conn	Oct. 12, 1858.
21833	Sewing-machine	George W. Hubbard	West Meriden, Conn	Oct. 19, 1858.
21929	Sewing-machine	A. W. Sangster, assignor to V. M. Rice, J. Thayer, J. Sangster, and E. Remington.	Buffalo, N. Y	Oct. 26, 1858.
22050	Sewing-machine	Samuel Comfort, jr., assignor to himself and Francis H. Jackson.	Morrisville, Pa	Nov. 9, 1858.
22007	Sewing-machine	O. and Z. W. Avery	Bethany, Pa	Nov. 9, 1858.
22045	Sewing-machine	Calvin D. Wheeler	New York, N. Y	Nov. 9, 1858.
22148	Sewing-machine	James Perry, assignor to J. C. Noe	New York, N. Y	Nov. 23, 1858.
22137	Sewing-machine	James H. Spencer and Thomas Lamb	Philadelphia, Pa	Nov. 23, 1858.
22143	Sewing-machine	Hiram W. Harkness, assignor to himself and Willford H. Nettleton.	Bristol, Conn	Nov. 23, 1858.
22179	Sewing-machine	Albert H. Hook	New York, N. Y	Nov. 30, 1858.
22160	Sewing-machine	Serrington S. Burnet and William Broderick, assignors to themselves and Robert H. Morford.	Chicago, Ill	Nov. 30, 1858.
22220	Sewing-machine	Charles Raymond, assignor to W. H. Nettleton	Brattleboro', Vt Bristol, Conn	Nov. 30, 1858.
22269	Sewing-machine	S. G. Tyler, assignor to himself, G. J. Laage, and J. W. Barnum.	Quincy, Ill	Dec. 7, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22225	Sewing-machine	Robert M. Berry	New York, N. Y	Dec. 7, 1858.
22240	Sewing-machine	Samuel F. Pratt	Roxbury, Mass	Dec. 7, 1858.
22264	Sewing-machine	John First, assignor to himself and James Frost.	New York, N. Y	Dec. 7, 1858.
22255	Sewing-machine	John Mackenzie	Cleveland, O	Dec. 7, 1858.
22226	Sewing-machine	Robert H. Bishop	Bristol, Conn	Dec. 7, 1858.
22273	Sewing-machine	J. E. Atwood	Mansfield Centre, Conn	Dec. 14, 1858.
22275	Sewing-machine	Amos H. Boyd	Saco, Me	Dec. 14, 1858.
20664	Sewing-machine, cabinet for	F. A. Ross and W. H. Marshall	New York, N. Y	June 22, 1858.
20245	Sewing-machines, guides for	L. W. Serrell, assignor to John Harold	Brooklyn, N. Y	May 11, 1858.
21355	Sewing machines, hemming guides for	Henry B. Odiorne	Philadelphia, Pa	Aug. 31, 1858.
21361	Sewing-machines, oiling the thread for	T. W. Pepper	New York, N. Y	Aug. 31, 1858.
20006	Sewing-machines, operating	Phineas J. Steer	Washington, D. C	April 20, 1858.
21398	Sewing-machines, regulating the tension of the thread in.	John T. B. Rogers, assignor to George B. Sloat.	New York, N. Y	Aug. 31, 1858.
20409	Sewing-needles	James Cottrill	Studley, England	June 1, 1858; England, Dec. 28, 1857.
22140	Sewing-needles, manufacture of	Henry Walker	London, England	Nov. 23, 1858; England, May 19, 1858.
19283	Sewing-silk, manufacturing	H. Relsea, assignor to himself and Henry Dunklee, assignors to D. B. and J. C. Fuller	Antrim, N. H / New York, N. Y	Feb. 2, 1858.
	Shirred goods, machinery for manufacturing. (See Class IV, letter S.)			
21068	Shuttles, cop tubes for	James Eaton	Townsend Harbor, Mass	Aug. 3, 1858.
22221	Shuttles, weavers', manufacture of	N. J. Willis, assignor to S. Chase and George A. Fuller.	Lawrence, Mass	Nov. 30, 1858.
	Silk for use with felting substances, preparing. (See Class IV, letter P.)			
21556	Silk or other thread according to its size, machine for sorting.	Ira Dimock	Mansfield Centre, Conn	Sept. 21, 1858.
21481	Skirting material, manufacture of	Ernest Bredt	New York, N. Y	Sept. 14, 1858.

22262	Spindles for throstle spinning	Cyriel E. Brown, assignor to himself, John Tenney, and John Rhodes.	Millbury, Mass	Dec. 7, 1858.
20285	Spindles, machine for applying cop tubes to	John Marland	Lawrence, Mass	May 18, 1858.
20920	Spinning-frame	A. Houghton, assignor to himself and E. D. and G. Draper.	Putnam, Conn	July 13, 1858.
19161	Spinning-machine	William W. Spafford	Peterboro, N. H	Jan. 19, 1858.
21333	Spinning-machine, top rollers for	Charles Green	Salem, Mass	Aug. 31, 1858.
19531	Spinning-machines, machine for regulating the supply of roving to.	John B. Winslow	New Bedford, Mass	Mar. 2, 1858.
21242	Spinning-mules	J. H. Brickill	Taunton, Mass	Aug. 24, 1858.
19011	Spinning oakum	Smith Baldwin	St. Louis, Mo	Jan. 5, 1858.
20925	Thread, machinery for polishing	B. Richardson, assignor to himself and the Hayden Manufacturing Company.	Haydenville, Mass	July 13, 1858.
21487	Warp-dresser guides of glass or other plastic anti-corrosive material, moulds for making.	Alfred B. Carey	Franklin, Conn	Sept. 14, 1858.
21488	Warp-dressing guides	Alfred B. Carey	Franklin, Conn	Sept. 14, 1858.
20190	Warp, dressing and sizing	William Bradley	Manchester, Va	May 11, 1858; additional improvement Dec. 21, 1858.
21988	Wool and other fabrics for spinning, preparing.	Waterman Smith	Manchester, N. H	Nov. 2, 1858.
19816	Wool, machine for burring	T. Musgrave, assignor to Anna L. Musgrave.	Leeds, Mass	Mar. 30, 1858.
21538	Wool, machinery for drawing and twisting	John W. Kennedy and John T. Plummer, assignors to themselves and John Batchelder	Plainfield, Conn / Lisbon, Conn	Sept. 14, 1858.
21116	Wool, &c., operating the teeth of cylinders for burring.	Thomas B. Butler	Norwalk, Conn	Aug. 10, 1858.
	Woollens, &c., solutions for cleansing. (See Class IV, letter C.)			
19690	Yarn, roving or, regulators for	Daniel Dermond	Philadelphia, Pa	Mar. 23, 1858.

CLASS IV.—CHEMICAL PROCESSES, MANUFACTURES, AND COMPOUNDS, *including medicines, dyeing, color-making, distilling, soap and candle making, mortars, cements, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20755	Acid, obtaining pure sulphurous	Joseph Albrecht, assignor to Charles E. Ruth.	New Orleans, La	June 29, 1858.
21711	Acids, fatty, apparatus for manufacturing	M. Werk	Cincinnati, Ohio	Oct. 5, 1858.
21922	Aluminum, preparation of	Luigi Ferrari Corbelli and Vincent Riatti, assignors to L. F. Corbelli	Florence, Tuscany Duchy of Modena	Oct. 26, 1858.
21923	Aluminum and calomel, manufacture of	Luigi Ferrari Corbelli and Vincent Riatti, assignors to L. F. Corbelli	Florence, Tuscany Duchy of Modena	Oct. 26, 1858.
20488	Beer, manufacture of, apparatus for	George Habich	Roxbury, Mass	June 8, 1858.
21882	Candles, machine for making	John Jones	Baltimore, Md	Oct. 26, 1858.
21706	Candles, manufacture of	Joel H. Tatum	New York, N. Y	Oct. 5, 1858.
21697	Caoutchouc, tools for manufacturing goods of	Dubois D. Parmelee	New York, N. Y	Oct. 5, 1858.
21122	Caoutchouc, treatment of	Austin G. Day	Seymour, Conn	Aug. 10, 1858; reissued Nov. 9, 1858.
22115	Carbon, mode of baking articles composed of	De Grasse B. Fowler	New York, N. Y	Nov. 23, 1858.
20047	Carbon, sulphuret of, apparatus for manufacturing.	Edouard Deiss	Paris, France	Apr. 27, 1858; France, Nov. 13, 1855.
21158	Cement for roofing purposes	Joseph Thompson	North Wrentham, Mass	Aug. 10, 1858.
20985	Cement, water-proof	Abraham Brower	New York, N. Y	July 27, 1858.
20758	Charcoal, converting peat into	J. Burrows Hyde, assignor to Anna M. Hyde.	New York, N. Y	June 29, 1858.
20661	Cleansing woollens, &c., solutions for	E. F. Prentiss	Philadelphia, Pa	June 22, 1858.
20697	Coating metallic surfaces	William and William A. Butcher	Philadelphia, Pa	June 29, 1858.
21797	Coating metals	Selah Hiler, assignor to John M. and Cornelius A. Berrian.	Haverstraw, N. Y	Oct. 12, 1858.
20383	Composition for artificial leather	Samuel Whitmarsh	Northampton, Mass	May 25, 1858.
19778	Composition for coating telegraph wires	J. Burrows Hyde	New York, N. Y	Mar. 30, 1858.
21285	Composition for miniature cases, &c	Mark Tomlinson	Birmingham, Conn	Aug. 24, 1858.
22233	Composition for purifying gas	Paul B. Goddard	Philadelphia, Pa	Dec. 7, 1858.
19756	Composition for tanning leather	Clinton Daniels	Elkhorn, Wis	Mar. 30, 1858.
22285	Composition for tanning leather	William W. Garge	Rochester, N. Y	Dec. 14, 1858.
20320	Composition for varnishing leather	O. S. Boyden and M. C. Frederick	Newark, N. J	May 25, 1858.

20569	Composition ivory fram e	J. M. Legare	Aiken, S. C	June 15, 1858.
19802	Composition, mastic	Joseph Thompson	North Wrentham, Mass	Mar. 30, 1858.
	Composition roofing cement. (See Class IX, letter R.)			
22246	Composition, water-proof cork	Andrew Stevens	New York, N. Y	Dec. 7, 1858.
21778	Compositions used as building materials	N. C. Raymond	Austin, Texas	Oct. 12, 1858.
19710	Compounds for hardening iron and steel	Charles Pauvert	Targé, France	Mar. 23, 1858.
21033	Compounds for protecting trees from insects	W. W. Taylor	Dartmouth, Mass	July 27, 1858.
21023	Compounds for treating potato rot	Lyman Reed	Baltimore, Md	July 27, 1858.
22407	Distillation, destructive, apparatus for	Luther Atwood	Brooklyn, N. Y	Dec. 28, 1858.
21693	Distillation of fresh water from salt water	A. Normandy	London, England	Oct. 5, 1858.
22408	Distillation of wood, &c., destructive, apparatus for.	Luther Atwood	Brooklyn, N. Y	Dec. 28, 1858.
19210	Distillation, preparing mash for	George Seitz	Easton, Pa	Jan. 26, 1858.
20026	Distilling coal, &c., revolving retorts for	David Alter and Samuel A. Hill	Freeport, Pa	April 27, 1858.
20562	Distilling oil, apparatus for	John Howarth	Salem, Mass	June 15, 1858.
20587	Distilling oil from coal, retorts for	T. D. Sargent	Washington, D. C	June 15, 1858.
21143	Distilling oil from coal, retorts for	J. and W. B. McCue	Freeport, Pa	Aug. 10, 1858.
20371	Distilling spirit of turpentine, apparatus for	Daniel Reid	Washington, N. C	May 25, 1858.
20465	Distilling turpentine, apparatus for	Leonard Bellingrath, jr., assignor to D. and W. McLaurin and James W. Strange.	Fayetteville, N. C	June 1, 1858.
	Dough, raising. (See Class XVII, letter D.)			
19184	Dyeing yarn in the skein, apparatus for	Mathew Delany	Clinton, Mass	Jan. 26, 1858.
19701	Dyeing yarn parti-colored	David B. Kerr	New York, N. Y	Mar. 23, 1858.
20034	Evaporating brine, apparatus for	Dennis Brigham	New York, N. Y	April 27, 1858.
20631	Evaporating cane-juice, pans for	D. M. Cook	Mansfield, Ohio	June 22, 1858.
20687	Evaporating vessels, arrangement of steam-coils in.	H. O. Ames	New Orleans, La	June 29, 1858.
	Fluids, burning, manufacture of. (See Class V, letter B.)			
	Fuel, artificial, manufacture of. (See Class V, letter F.)			
20438	Gas-apparatus	E. J. Mannville and S. G. Blackman	Waterbury, Conn	June 1, 1858.
21072	Gas, apparatus for condensing and purifying	A. Hendrickx, assignor to Victoria Hendrickx.	New York, N. Y	Aug. 3, 1858.
21142	Gas, apparatus for generating	Henry Lyles	Washington, D. C	Aug. 10, 1858.
21914	Gas, apparatus for generating	Allen B. Wilson	Waterbury, Conn	Oct. 26, 1858.
20534	Gas, apparatus for manufacturing	John Absterdam	Boston, Mass	June 15, 1858.
20541	Gas, apparatus for manufacturing	William Beaumont	Paterson, N. J	June 15, 1858.

List of patents for inventions, 1858.—CLASS IV.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21095	Gas, apparatus for purifying	Andrew Walker	Claremont, N. H	Aug. 3, 1858.
21096	Gas, apparatus for purifying	John Waterhouse	Little Falls, N. Y	Aug. 3, 1858.
21121	Gas, apparatus for purifying	W. F. Danowsky	Allentown, Pa	Aug. 10, 1858.
22391	Gas, apparatus for purifying	Andrew Walker	Claremont, N. H	Dec. 21, 1858.
21001	Gas apparatus, valves of	August Hendrickx	New York, N. Y	July 27, 1858.
20110	Gas, carbonic acid, apparatus for generating	Thomas Warker	New York, N. Y	April 27, 1858.
19777	Gas-generator	John G. Hock	Newark, N. J	Mar. 30, 1858.
20177	Gas-generator	William N. Taylor	Philadelphia, Pa	May 4, 1858.
20897	Gas-generator	G. W. R. Seal	Winchester, Va	July 13, 1858.
19686	Gas-generators, method of cleansing	Saunders Coates	New York, N. Y	Mar. 23, 1858.
22463	Gas, illuminating, apparatus for generating	Charles N. Tyler	Washington, D. C	Dec. 28, 1858.
21027	Gas, illuminating, production of	J. Milton Sanders	Cincinnati, Ohio	July 27, 1858.
19575	Gas, manufacture of	David C. Knab	Paris, France	Mar. 9, 1858; France, Mar. 30, 1849.
20453	Gas, manufacture of	John L. Stewart	East Boston, Mass	June 1, 1858.
20130	Gas-metre	Thomas Shaw, assignor to himself and C. S. Patterson.	Philadelphia, Pa	April 27, 1858.
21663	Gas-metre	Joseph E. Fisk	Salem, Mass	Oct. 5, 1858.
20680	Gas-metre, dry, valves for	C. C. Lloyd, assignor to W. Hopper and R. H. Gratz.	Philadelphia, Pa	June 22, 1858.
20058	Gas-metre, liquids for	H. P. Gengembre	Rock Island, Ill	April 27, 1858.
22267	Gas-metre, valves for	Robert M. Potter	New York, N. Y	Dec. 7, 1858.
20625	Gas-regulator	John H. Cooper	Philadelphia, Pa	June 22, 1858.
21048	Gas-regulator	Charles F. Holzer, assignor to William B. Smith and William Bromwell.	Philadelphia, Pa	July 27, 1858.
21022	Gas-regulator	J. H. Powers	Newark, N. J	July 27, 1858.
21281	Gas-regulator	W. G. Sterling	Bridgeport, Conn	Aug. 24, 1858.
21544	Gas-regulator	Salmon Bidwell, assignor to the New York Car and Steamboat Gas Company.	Chicago, Ill	Sept. 21, 1858.
21765	Gas-regulator	William Mallerd	Bridgeport, Conn	Oct. 12, 1858.
20375	Gas-retort	J. T. Sloan, Volney Smith, Manuel Hoover, and R. M. Briggs.	Jackson, Cal	May 25, 1858.
20448	Gas-retort	W. A. Simonds	Chelsea, Mass	June 1, 1858.
20671	Gas-retort	C. N. Tyler	Washington, D. C	June 22, 1858.
21169	Gas-retort	Alfred Marsh, assignor to himself, E. H. Covell, J. Q. Dudley, and R. Holmes.	Detroit, Mich	Aug. 10, 1858.
22434	Gas-retort	William H. Laubach	Philadelphia, Pa	Dec. 28, 1858.
20567	Gas, retort for generating	W. H. Laubach	Philadelphia, Pa	June 15, 1858.
19655	Gas-retort, portable	John W. Smith	Washington, D. C	Mar. 16, 1858.
19900	Gas-retort, portable	Davis L. Weatherhead and J. T. Henry, assignors to themselves, John M. Smith, and William P. Campbell.	Philadelphia, Pa	April 6, 1858.
21887	Gasometer	G. W. Kraft	Philadelphia, Pa	Oct. 26, 1858.
20988	Gasometers, method of counterpoising	P. T. Burtis	Chicago, Ill	July 27, 1858.
19668	Graphite in reducing metals, using	Joseph Weisman	Philadelphia, Pa	Mar. 16, 1858.
	Lubricating car-axles. (See Class X, letter A.)			
21761	Malt liquors, apparatus for preserving	John Keane	New York, N. Y	Oct. 12, 1858.
19974	Manure-beds, preparing	Charles Spieker	New York, N. Y	April 13, 1858; England, Aug. 19, 1857.
	Mash-tubs, heating, apparatus for. (See Class V, letter H.)			
21835	Mercury, bottles for containing	Isaac G. Johnson	Spuyten Duyvel, N. Y	Oct. 19, 1858.
22152	Oils, kettles for trying	J. L. Alberger	Buffalo, N. Y	Nov. 30, 1858.
22406	Oils, pyrogenic, manufacture of	Luther Atwood	Brooklyn, N. Y	Dec. 28, 1858.
21805	Oils, &c., volatile, extraction of, from coal	Luther Atwood	Brooklyn, N. Y	Oct. 19, 1858.
20205	Paint-compound	William G. Huyett	Williamsburgh, Pa	May 11, 1858.
19014	Paint-vehicles	A. C. Church	Union City, Mich	Jan. 5, 1858.
20993	Paints	J. S. D'Orsey	New York, N. Y	July 27, 1858.
21810	Paints, composition for	James H. Beardsley	New York, N. Y	Oct. 19, 1858.
22015	Paper and other fabrics incorrodible, rendering	Thomas G. Chase	Philadelphia, Pa	Nov. 9, 1858.
19657	Preparing silk for use with felting substances	Anson Taylor	Brooklyn, N. Y	Mar. 16, 1858.
22185	Preservation of flesh for food	Nathan B. Marsh	Cincinnati, Ohio	Nov. 30, 1858.
	Preserving fruit. (See Class XVII, letter F.)			
22132	Preserving surfaces of cast or wrought iron	Charles Francis Leopold Oudry	Paris, France	Nov. 23, 1858.
22249	Preventing incrustation of steam-boilers	John Warren Harnett	Cincinnati, Ohio	Dec. 7, 1858.
19036	Process of dyeing silk, &c	Nicholas Mary Ainé	Philadelphia, Pa	Jan. 5, 1858.
19948	Process of extracting fat oils from seeds	John Preston	Dorchester, Mass	April 13, 1858.
20048	Processes for extracting fatty matters	Edouard Deiss	Paris, France	April 27, 1858; France, Nov. 13, 1855.
20353	Production of electrotype-plates	Silas P. Knight	New York, N. Y	May 25, 1858.
20760	Rectifying, apparatus for	Ethan Campbell, assignor to Henry Thayer	Cambridgeport, Mass	June 29, 1858.
20967	Rectifying, apparatus for	G. Waters and J. W. Harnett	Cincinnati, Ohio	July 20, 1858.

List of patents for inventions, 1858.—CLASS IV.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Rendering lard, kettles for. (See Class V, letter K.)			
20938	Rubber goods, hard, manufacture of	Gustavus Cuppers	College Point, N. Y	July 20, 1858; reissued, Aug. 24, 1858.
22265	Rubber goods, vulcanized, manufacture of	Hiram L. Hall, assignor to Beverly Rubber Company.	Beverly, Mass	Dec. 7, 1858.
22218	Rubber, hard, manufacture of	Thomas J. Mayall, assignor to himself and G. N. Davis.	Roxbury, Mass	Nov. 30, 1858.
19172	Rubber, restoring waste vulcanized	Hiram L. Hall, assignor to Beverly Rubber Company.	Beverly, Mass	Jan. 19, 1858.
20678	Rubber, restoring waste vulcanized	Francis Baschnagel, assignor to himself and Beverly Rubber Company.	Beverly, Mass	June 22, 1858.
22217	Rubber, restoring waste vulcanized	Hiram L. Hall, assignor to Beverly Rubber Company.	Beverly, Mass	Nov. 30, 1858.
20242	Rubber, utilizing waste vulcanized	Hiram L. Hall, assignor to Beverly Rubber Company.	Beverly, Mass	May 11, 1858.
22038	Shirred goods, machinery for manufacturing	Richard Solis	New Brunswick, N. J	Nov. 9, 1858.
	Skins, artificial, manufacture of. (See Class XVI, letter S.)			
22330	Soap, machine for cutting	William H. Manning, assignor to himself and Lucius H. Olmsted.	Owego, N. Y	Dec. 14, 1858.
19754	Soap, manufacture of	Dalrymple Crawford	Toronto, Canada	Mar. 30, 1858; reissued, Dec. 14, 1858.
19667	Soap, process of making	Campbell Morfit	Baltimore, Md	Mar. 16, 1858.
19960	Soda-fountain	C. D. Van Allen and S. Avery	Baldwinsville, N. Y	April 13, 1858.
20382	Soda-water apparatus, portable	E. D. Wheeler	Murfreesborough, Tenn	May 25, 1858.
22460	Starch, manufacture of	Samuel T. Stratton	Philadelphia, Pa	Dec. 28, 1858.
20966	Steatite articles, manufacture of	J. Von Schwarz	Nuremberg, Bavaria	July 20, 1858; Bavaria, May 22, 1854.
	Sugar-cane, Chinese, mill for treating. (See Class XIII, letter M.)			
22126	Sugar-juices, furnace for evaporating	Louis Lefebvre	New Orleans, La	Nov. 23, 1858
22307	Sugar-juices, furnace for evaporating	F. Roy	Parish of St. Bernard, La	Dec. 14, 1858.

19515	Sugar-kettles, method of setting	Honoré Roth	Iberville, La	Mar. 2, 1858.
21786	Sugar, manufacture of	J. C. Tucker and L. Lanzweert	San Francisco, Cal	Oct. 12, 1858.
20347	Sugar, manufacture of dextrine and	Theodore A. Hoffman	Beardstown, Ill	May 25, 1858.
19743	Sugar-mould carriages	C. E. Bertrand	Williamsburg, N. Y	Mar. 30, 1858.
20655	Sulphurets, metallic, treatment of	Alfred Monnier	Camden, N. J	June 22, 1858.
19991	Sulphuretted ores, treatment of	Isaac Gattman	Philadelphia, Pa	April 20, 1858.
	Vapor-burner, hydro-carbon. (See Class V, letter B.)			
19729	Varnishes, composition for	Damon R. Averill, assignor to himself and James F. Davis.	Pulaski, N. Y	Mar. 23, 1858.
21284	Vats, apparatus attached to steam-coils in	John Trageser	New York, N. Y	Aug. 24, 1858.
19771	White lead, apparatus for manufacturing	Henry Hannen	Dubuque, Iowa	Mar. 30, 1858.
20731	White lead, apparatus for manufacturing	Robert Rowland	New York, N. Y	June 29, 1858.
22036	White lead, manufacture of	Benjamin F. Smith	New York, N. Y	Nov. 9, 1858.
21915	Worts, apparatus for cooling	John Wilkins	Troy, N. Y	Oct. 26, 1858.
	Zinc, furnaces for manufacturing oxide. (See Class V, letter F.)			
	Zinc, metallic, manufacture of. (See Class II.)			

CLASS V.—CALORIFICS, *comprising lamps, fire places, stoves, grates, furnaces for heating buildings, cooking apparatus, preparation of fuel, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20304	Baking and cooking, apparatus for	W. G. Ruggles	Worcester, Mass	May 18, 1858.
19636	Blow-pipe	Joseph Hollely	New York, N. Y	Mar. 16, 1858.
20546	Boilers, rotary, mode of heating	C. S. Buchanan	Ballston, N. Y	June 15, 1858.
21085	Boiling furnace and cooking-range, combined	William Resor	Cincinnati, Ohio	Aug. 3, 1858.
21297	Broiling, toasting, &c., apparatus for	H. W. Harkness and W. A. Terry, assignors to themselves and Joseph Sigourney.	Bristol, Conn	Aug. 24, 1858.
20305	Burners, devices for regulating by electricity the issue of gas from.	Charles W. Smith	Evans, N. Y	May 18, 1858.
21893	Burners, hydro-carbon vapor	A. M. Mace	Springfield, Mass	Oct. 26, 1858.
20558	Burning fluids, manufacture of	Levi L. Hill	Greenport, N. Y	June 15, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21987	Candlesticks, &c	Samuel Slocomb	Cambridge, Mass	Nov. 2, 1858.
21884	Chimney-caps	Bernhard Kihlholz	St. Louis, Mo	Oct. 26, 1858.
22112	Chimney-caps	Charles Douglas	Cleveland, Ohio	Nov. 23, 1858.
21115	Chimneys, wind-guard for	Frederick M. Butler	New York, N. Y	Aug. 10, 1858.
20662	Coal ashes, &c., apparatus for sifting	L. H. Proctor	East Saugus, Mass	June 22, 1858.
19481	Coal, machine for breaking	Aquila Bolton	Port Carbon, Pa	Mar. 2, 1858.
19429	Coal, machine for splitting	John H. Lyon	Baltimore, Md	Feb. 23, 1858.
21559	Coal, machine for washing	Joseph P. Evans	Hazleton, Pa	Sept. 21, 1858.
19175	Coal-screens	George E. Hoyt and Frederick Nishwitz, assignors to George E. Hoyt.	Brooklyn, N. Y	Jan. 19, 1858.
20000	Coal-scuttle and ash-sifter, combined	Archibald McNeill	Washington, D. C	April 20, 1858.
19768	Coal, slating, machine for	T. Garretson	Pottsville, Pa	Mar. 30, 1858.
19249	Damper regulator	James How and Charles Copeland	Brooklyn, N. Y	Feb. 2, 1858.
22144	Dryer, grain and fruit	Charles A. Haskins and George Macardle, assignors to Joshua A. French and Eliza C. Tyrrell.	New York, N. Y	Nov. 23, 1858.
	Fire-alarm apparatus, electro-magnetic. (See Class VIII, letter E.)			
	Fire and burglar proof safes. (See Class II, letter S.)			
19358	Fire-box and grate	Jacob J. Folts	Buffalo, N. Y	Feb. 16, 1858.
22162	Fire-engine	Lysander Button and Robert Blake	Waterford, N. Y	Nov. 30, 1858.
20867	Fire-engines, force-pumps for	John N. Dennisson	Newark, N. J	July 13, 1858.
20875	Fire-escape ladder	Joseph H. Grimsley	New Lexington, Ohio	July 13, 1858.
22324	Fire-escape ladder	John Withers.	Collinsville, Ill	Dec. 14, 1858.
	Fire-ladder. (See Class XXII, letter F.)			
21094	Fireplaces	W. R. Warden	Boston, Mass	Aug. 3, 1858.
22410	Fuel, artificial, manufacture of	William A. Bradley and Jacob Bigelow	Washington, D. C	Dec. 28, 1858.
19942	Furnace	James McCracken	Bloomfield, N. J	April 13, 1858.
20836	Furnace	B. H. Washington	Hannibal, Mo	July 6, 1858.
19781	Furnace, air-heating	T. Dwight Ingersoll	Monroe, Mich	Mar. 30, 1858.
20640	Furnace, air-heating	John P. Hayes	Philadelphia, Pa	June 22, 1858.
22353	Furnace, bagasse	Felix Dounoy	Carrollton, La	Dec. 21, 1858.
22382	Furnace boiler	Evan Skelly	Plaquemine, La	Dec. 21, 1858.
20591	Furnace for burning bagasse, &c	Evan Skelly	Plaquemine, La	June 15, 1858.
22067	Furnace for burning coal-dust	G. B. Deppen and E. Levengood	Myerstown, Pa	Nov. 16, 1858.
22424	Furnace for burning lime	Thomas R. Hartell	Philadelphia, Pa	Dec. 28, 1858.
	Furnace for evaporating sugar juices. (See Class IV, letter S.)			
21724	Furnace for heating buildings	John Plant, assignor to himself and George H. Plant.	Washington, D. C	Oct. 5, 1858.
20616	Furnace for heating steam-boilers, &c	Gideon Bantz	Frederick, Md	June 22, 1858.
19277	Furnace for locomotives	O. W. Bayley, assignor to the Boston Locomotive Works.	Boston, Mass	Feb. 2, 1858.
20926	Furnace for manufacturing oxide of zinc	J. Wharton and N. Bartlett, assignors to Joseph Wharton	Philadelphia, Pa / Bethlehem, Pa	July 13, 1858.
22257	Furnace for melting iron	William McFarland	St. Louis, Mo	Dec. 7, 1858.
21828	Furnace for tempering steel	Perry G. Gardiner	New York, N. Y	Oct. 19, 1858.
22041	Furnace for tempering steel	Joseph Thomas	New York, N. Y	Nov. 9, 1858.
20316	Furnace grates	A. J. Allen and W. S. Hudson	Paterson, N. J	May 25, 1858.
19239	Furnace, hot air	George Darby	Augusta, Me	Feb. 2, 1858.
19683	Furnace, hot-air	John Child	Elyria, Ohio	Mar. 23, 1858.
20454	Furnace, hot-air	J. Stuber and F. Frank	Utica, N. Y	June 1, 1858.
22173	Furnace, hot-air	John R. Fergusson	Brooklyn, N. Y	Nov. 30, 1858.
19502	Furnace, hot-air, register for	James W. Geddes	Baltimore, Md	Mar. 2, 1858.
19678	Furnace, hot-air, self-adjusting damper for	Ebenezer Barrows, jr	Brooklyn, N. Y	Mar. 23, 1858.
	Furnace of steam-boilers. (See Class VI, letter B.)			
21644	Furnace, steam-boiler	James Alcorn, jr	Charlestown, Mass	Oct. 5, 1858.
20667	Furnaces of boilers and stoves	Silas T. Savage	Albany, N. Y	June 22, 1858.
20351	Furnaces, &c, apparatus for separating the combustible from the incombustible gases or products of combustion in.	William D. Jones	Hagaman's Mills, N. Y	May 25, 1858.
19720	Gas-burner	D. Sullivan and M. McIntyre	Cincinnati, Ohio	Mar. 23, 1858.
19959	Gas-burner	William Tallman	Cincinnati, Ohio	April 13, 1858.
20584	Gas-burner	Amos H. Ray	Boston, Mass	June 15, 1858.
20626	Gas-burner	Robert Cornelius	Philadelphia, Pa	June 22, 1858.
21076	Gas-burner	F. C. Krause	New York, N. Y	Aug. 3, 1858.
21229	Gas-burner	William Wright	St. Louis, Mo	Aug. 17, 1858.
21497	Gas-burner	Lucien E. Hicks,	New York, N. Y	Sept. 14, 1858.

List of patents for inventions, 1858—Class V.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21586	Gas-burner	A. H. Wood	Boston, Mass	Sept. 21, 1858. Reissued Dec. 28, 1858.
21728	Gas-burner	J. F. Tozer, assignor to George W. Gregory	Binghamton, N. Y	Oct. 5, 1858.
21733	Gas-burner	Yarnall Bailey	Philadelphia, Pa	Oct. 12, 1858.
20604	Gas-burner, Argand	W. W. Batchelder, assignor to William J. Townsend.	New York, N. Y	June 15, 1858.
21090	Gas-burner, Argand	J. E. Stanwood	Malden, Mass	Aug. 3, 1858.
22331	Gas for heating and illuminating purposes, method of applying.	Calvin Pepper, assignor to himself and John G. Treadwell.	Albany, N. Y	Dec. 14, 1858.
19185	Gas-heating apparatus	P. S. Devlan	Camden, N. J	Jan. 26, 1858.
22134	Grate-bars	Silas T. Savage	Albany, N. Y	Nov. 23, 1858.
21157	Gridiron, folding	J. H. Thomas	Newark, N. J	Aug. 10, 1858.
	Heater cover, sad-iron. (See Class XVII, letter S.)			
20939	Heater, steam	Chauncey A. Dickerman	New Haven, Ct	July 20, 1858.
19197	Heaters or coolers	John C. Hoadley	Lawrence, Mass	Jan. 26, 1858.
22109	Heating and ventilating buildings, apparatus for.	William H. Churchman	Janesville, Wis	Nov. 23, 1858.
19775	Heating apparatus	Francis L. Hedenberg	New York, N. Y	Mar. 30, 1858.
	Heating apparatus for the manufacture of cemented shoe-soles. (See Class XVI, letter S.)			
21185	Heating apparatus, steam	Henry G. Bulkley	Kalamazoo, Mich	Aug. 17, 1858.
20917	Heating buildings by combustion of gas or alcohol, radiators for.	J. H. Chester, assignor to M. A. Chester	Cincinnati, Ohio	July 13, 1858.
21195	Heating mash-tubs, apparatus for	Adolph Hammer	Reading, Pa	Aug. 17, 1858.
20767	Heating tire, apparatus for	J. P. White, assignor to himself and F. Fox	Philadelphia, Pa	June 29, 1858.
20856	Kettles for rendering lard	John J. Bate	Brooklyn, N. Y	July 13, 1858.
19266	Lamp	John Stuber and Richard Hughes	Utica, N. Y	Feb. 2, 1858.
19896	Lamp	P. Plant, assignor to himself and P. Hannay	Washington, D. C	April 6, 1858.
19898	Lamp	Robert Steinman, assignor to himself and N. S. Wax.	Boston, Mass	April 6, 1858.
20159	Lamp	Edward F. Jones	Boston, Mass	May 4, 1858.
20134	Lamp	L. Bailey and R. Thayer	Charlestown, Mass; Boston, Mass	May 4, 1858.
21069	Lamp	William Fulton	Cranberry, N. J	Aug. 3, 1858.
21344	Lamp	James P. and Ellen Kenyon	Brooklyn, N. Y	Aug. 31, 1858.
21576	Lamp	Christian Reichmann	Philadelphia, Pa	Sept. 21, 1858.
21627	Lamp	W. H. Racey	St. Augustine, Fla	Sept. 28, 1858.
21617	Lamp	William Mulholland	Brooklyn, N. Y	Sept. 28, 1858.
22327	Lamp	Nathaniel Cradit, assignor to Chester G. Robinson.	Ripley, Ohio	Dec. 14, 1858.
22409	Lamp	William W. Batchelder	New York, N. Y	Dec. 28, 1858.
20289	Lamp, aero-vapor burner for	Oscar F. Morrill	Boston, Mass	May 18, 1858.
19885	Lamp attachment	William W. Wade and Charles Burnham	Long Meadow, Mass; Springfield, Mass	April 6, 1858.
20178	Lamp attachment for preventing smoke, &c	Ralph Thomas	Hoboken, N. J	May 4, 1858.
20977	Lamp, burner and wick-tube for vapor	M. Safford, assignor to himself and G. P. Kinney.	Boston, Mass	July 20, 1858.
22253	Lamp, burner for	Josee Johnson and Frederick Bailey	New York, N. Y	Dec. 7, 1858.
22230	Lamp, burner for	M. B. Dyott	Philadelphia, Pa	Dec. 7, 1858.
20232	Lamp, burner for vapor	Thomas Varney	San Francisco, Cal	May 11, 1858.
20296	Lamp, burner for vapor	John K. O'Neil	Kingston, N. Y	May 18, 1858.
20498	Lamp, burner for vapor	C. B. Loveless	Syracuse, N. Y	June 8, 1858.
21053	Lamp, burner for vapor	G. W. Randall, assignor to R. J. Todd	Boston, Mass	July 27, 1858.
21166	Lamp, burner for vapor	F. Heidrick, assignor to C. F. Clothier	Philadelphia, Pa	Aug. 10, 1858.
22270	Lamp, burner for vapor	E. M. Williams, assignor to himself and John Gabel.	Philadelphia, Pa	Dec. 7, 1858.
22465	Lamp, burner for vapor	Sigourney Wales	Boston, Mass	Dec. 28, 1858.
20153	Lamp-burner, vapor	C. A. Greene	Boston, Mass	May 4, 1858.
20324	Lamp-burn r, vapor	Daniel H. Carpenter	New York, N. Y	May 25, 1858.
20648	Lamp-burner, vapor	A. M. Mace	Springfield, Mass	June 22, 1858.
21239	Lamp-burner, vapor	Solomon Andrews	Perth Amboy, N. J	Aug. 24, 1858.
20746	Lamp, burning-fluid	Hiram Todd	Columbus, Ohio	June 29, 1858.
20641	Lamp, camphene	Elias J. Hale	Foxcroft, Me	June 22, 1858.
20748	Lamp caps, method of fastening the wick-tube in	W. W. Wade	Long Meadow, Mass	June 29, 1858.
22099	Lamp-case, locomotive	Irvin A. Williams	Utica, N. Y	Nov. 16, 1858.
20255	Lamp, electric	H. M. Collier and H. N. Baker	Binghampton, N. Y; New York, N. Y	May 18, 1858.
20373	Lamp for burning coal-oil, &c	George Rimmington	South Booklyn, N. Y	May 25, 1858.
20573	Lamp for lighting gas	Charles McIntosh	Jersey City, N. J	June 15, 1858.

List of patents for inventions, 1858—CLASS V.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19287	Lamp, hydro-carbon vapor	Robert R. Crosby	Boston, Mass	Feb. 9, 1858.
19158	Lamp or candlestick and match-box combined	Thomas Shanks	Baltimore, Md	Jan. 19, 1858.
22311	Lamp-shade supporter	William F. Shaw	Boston, Mass	Dec. 14, 1858.
20283	Lamp, vapor	H. N. Macomber	Kingston, N. Y	May 18, 1858.
20386	Lamp, vapor	Horatio Bateman, assignor to William F. Bateman.	Boston, Mass	May 25, 1858.
20649	Lamp, vapor	A. M. Mace	Springfield, Mass	June 22, 1858.
20729	Lamp, vapor	W. H. Racey	St. Augustine, Fla	June 29, 1858.
20952	Lamp, vapor-burning	Nicholas Mason	Chelsea, Mass	July 20, 1858.
21890	Lamp-wicks	J. Y. Leslie	Brooklyn, N. Y	Oct. 26, 1858.
20785	Lamps to lanterns, method of attaching	John Fleming	Pittsburg, Pa	July 6, 1858; add'l imp't Nov. 2, 1858.
19207	Lantern	Jacob H. Reighard	Birmingham, Pa	Jan. 26, 1858.
19897	Lantern	Jacob H. Reighard, assignor to himself, John Bird, and David Challiner.	Birmingham, Pa	April 6, 1858.
19845	Lantern	A. H. Golden	Lafayette, Ia	April 6, 1858.
21521	Lantern	Stillman C. Spaulding	Rutland, Vt	Sept. 14, 1858.
21485	Lantern attachment to caps	Joseph C. Carey	New York, N. Y	Sept. 14, 1858.
21209	Lantern for burning coal-oil	Max Miller	Brooklyn, N. Y	Aug. 17, 1858.
20302	Lantern, self-lighting and extinguishing	Adolph Roesler and Charles Frey	Warsaw, Ill	May 18, 1858.
19044	Lanterns, attachment for lighting	Albert C. Richard	Newtown, Conn	Jan. 5, 1858.
20404	Mantel bar	W. P. Chadwick	Edgartown, Mass	June 1, 1858.
	Oven. (See Class XVII.)			
21271	Oven	G. Graves Otis	Yonkers, N. Y	Aug. 24, 1858.
21147	Oven, bake	William Pettet	New York, N. Y	Aug. 10, 1858.
21620	Oven, baker's	W. R. Nevins and J. J. Yates	New York, N. Y	Sept. 28, 1858; England, Mar. 13, 1857.
21610	Ovens by steam, method of heating	Hamilton Lyon	Cincinnati, Ohio	Sept. 28, 1858.
19591	Radiator, hot water	Thomas T. Tasker	Philadelphia, Pa	Mar. 9, 1858.
22289	Radiator, steam	J. H. Holt and J. H. Gerould	Chicago, Ill	Dec. 14, 1858.
20132	Radiator, syphonic	Charles Williams, assignor to himself and Charles J. Shepard.	Brooklyn, N. Y	April 27, 1858.

20064	Range and coal gas generator, combination cooking.	A. Hendricks	Morrisania, N. Y	April 27, 1858.
21608	Range and heating apparatus, combined	Charles Kane	New York, N. Y	Sept. 28, 1858.
22120	Range, cooking	Joshua Harrison	New York, N. Y	Nov. 23, 1858.
19368	Range, water back for	James Ingram	New York, N. Y	Feb. 16, 1858.
21702	Ranges and stoves, cooking-boilers for	Joseph Schmadel	Dayton, Ohio	Oct. 5, 1858.
20589	Reflector, light	William F. Shaw	Boston, Mass	June 15, 1858.
20106	Registers and ventilators, warm-air	Edward A. Tuttle	Brooklyn, N. Y	April 27, 1858.
21416	Roaster, coffee	Theodore Heerman	Mitchellville, Tenn	Sept. 7, 1858.
21845	Roaster, coffee	Charles J. C. Peterson	Davenport, Iowa	Oct. 19, 1858.
21387	Roasting coffee, apparatus for	Samuel Tower	Grand Rapids, Mich	Aug. 31, 1858.
21119	Safe-doors, safety-guard for	John B. Cornell	New York, N. Y	Aug. 10, 1858.
19111	Safe, match	John B. Creemer, assignor to himself and S Dwight Humphrey.	New York, N. Y	Jan. 12, 1858.
20989	Safe, plates for burglar-proof	Ira L. Cady, assignor to J. B. and W. W. Cornell & Co.	New York, N. Y	July 27, 1858.
19923	Safe, water and fire proof	John T. Garlick	New York, N. Y	April 13, 1858.
21405	Sifter, coal or ashes	Louis D. Bartlett	Boston, Mass	Sept. 7, 1858.
20909	Smoke-stack for steam vessels	William Webster	Jefferson county, Washington Territory.	July 13, 1858.
19240	Stove	Rufus Dawes	Washington, D. C	Feb. 2, 1858.
19796	Stove	S. T. Savage	Albany, N. Y	Mar. 30, 1858.
20274	Stove	J. C. Henderson	Albany, N. Y	May 18, 1858; reissued Nov. 9, 1858.
20389	Stove	Charles Hooffstatter, assignor to Joseph Firman.	Rome, N. Y	May 25, 1858.
20466	Stove	J. S. Brown, assignor to himself and Joseph Kent.	Washington, D. C	June 1, 1858.
21103	Stove	J. H. Wilkinson	Concord, N. H	Aug. 3, 1858.
21084	Stove	Andrew Ralston	West Middletown, Pa	Aug. 3, 1858.
21191	Stove	C. O. Foley	Troy, N. Y	Aug. 17, 1858.
21446	Stove	S. T. Savage	Albany, N. Y	Sept. 7, 1858.
21938	Stove	J. H. Buchanan	New Concord, Ohio	Nov. 2, 1858.
22250	Stove	Charles Hartwell	Boston, Mass	Dec. 7, 1858.
22277	Stove	John S. Clark and Washington Harris	Philadelphia, Pa	Dec. 14, 1858.
22276	Stove	John S. Clark	Philadelphia, Pa	Dec. 14, 1858.
22342	Stove	R. W. Belson	Philadelphia, Pa	Dec. 21, 1858.
22392	Stove	David Wells	Lowell, Mass	Dec. 21, 1858.
22416	Stove	Nelson Edwards	Chittenden county, Vt	Dec. 28, 1858.

List of patents for inventions, 1858—CLASS V.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21445	Stove, coal	S. T. Savage	Albany, N. Y	Sept. 7, 1858.
21731	Stove, cook, hot-air	Joseph M. Babcock	Albany, N. Y	Oct. 12, 1858.
19650	Stove, cooking. (A)	Christian Raub	Davenport, Iowa	Mar. 16, 1858.
19651	Stove, cooking, (B)	Christian Raub	Davenport, Iowa	Mar. 16, 1858.
19956	Stove, cooking	James Spear	Philadelphia, Pa	April 13, 1858.
20265	Stove, cooking	R. D. Granger	Philadelphia, Pa	May 18, 1858.
20460	Stove, cooking	James Spear	Philadelphia, Pa	June 1, 1858.
20430	Stove, cooking	M. L. Horton	Claremont, N. H	June 1, 1858.
20682	Stove, cooking	G. G. Richmond and G. W. Pittock, assignors to themselves and C. Phelps, and J. Lown and said Pittock assignors to D. B. Carver.	Troy, N. Y	June 22, 1858.
20668	Stove, cooking	S. B. Spaulding	Brandon, Vt	June 22, 1858.
20733	Stove, cooking	S. T. Savage	Albany, N. Y	June 29, 1858.
21171	Stove, cooking	J. L. Stewart, assignor to Rudolph A. Nathurst.	Nashville, Tenn	Aug. 10, 1858.
21518	Stove, cooking	Apollos Richmond	Brooklyn, Conn	Sept. 14, 1858.
21900	Stove, cooking	John Pearson, jr.	Newburyport, Mass	Oct. 26, 1858.
22121	Stove, cooking	Richard M. Hermance	Stillwater, N. Y	Nov. 23, 1858.
22147	Stove, cooking	Gibson North, assignor to North, Chase, & North.	Philadelphia, Pa	Nov. 23, 1858.
22223	Stove, cooking	F. C. Adams and Joseph Peckover	Cincinnati, Ohio	Dec. 7, 1858.
20133	Stove, cooking, oven for	James Easterly	Albany, N. Y	April 27, 1858.
21046	Stove for burning soft coal	M. P. Dorsch, assignor to Peter Dorsch	New York, N. Y	July 27, 1858.
19114	Stove, gas	Patrick Mihan, assignor to himself and Gilman Davis.	Boston, Mass	Jan. 12, 1858.
21075	Stove, gas	M. W. Kidder	Lowell, Mass	Aug. 3, 1858.
22335	Stove, gas-burning	Thomas Shaw, assignor to himself and C. S. Patterson.	Philadelphia, Pa	Dec. 14, 1858.
19713	Stove-heating apparatus	David S. Quimby	Brooklyn, N. Y	Mar. 23, 1858.
21447	Stove-lining, coal, construction of	S. T. Savage	Albany, N. Y	Sept. 7, 1858.
	Stove, steam. (See Class VI, letter S.)			
20415	Stove, wood-burning	M. G. Fagan	Troy, N. Y	June 1, 1858.
21707	Stoves and furnaces, lining for coal	William B. Treadwell	Albany, N. Y	Oct. 5, 1858.
21410	Stoves, coal, grates for	James Easterly	Albany, N. Y	Sept. 7, 1858.
21467	Stoves, cooking, flues of elevated oven	James Easterly, assignor to himself and Dennis G. Littlefield.	Albany, N. Y	Sept. 7, 1858.
20919	Stoves, furnaces, &c., atmospheric regulator for	Birdsill Holly, assignor to himself and John S. Edwards.	Seneca Falls, N. Y	July 13, 1858.
19436	Tongs, fire	Daniel Moore	Brooklyn, N. Y	Feb. 23, 1858.
19089	Ventilating pulpits, apparatus for	James P. Herron	Huntsville, Ohio	Jan. 12, 1858.
20068	Warming-apparatus, steam	E. T. Ingalls and James R. Nichols	Haverhill, Mass	April 27, 1858.
21376	Warming device, feet	G. W. Smith	Aurora, Ind	Aug. 31, 1858.

CLASS VI.—STEAM AND GAS ENGINES, *including boilers and furnaces therefor, and parts thereof.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19601	Boiler, steam	Joseph Wood and H. N. Winans	Jersey City, N. J	Mar. 9, 1858.
19621	Boiler, steam	Abner Clark	Fort Des Moines, Iowa	Mar. 16, 1858.
19669	Boiler, steam	Henry Whinfield	New York, N. Y	Mar. 16, 1858.
20167	Boiler, steam	James Montgomery	Brooklyn, N. Y	May 4, 1858.
20319	Boiler, steam	George W. Barnett	Springfield, Ohio	May 25, 1858.
20802	Boiler, steam	Alonzo R. Ketcham	Buffalo, N. Y	July 6, 1858.
21017	Boiler, steam	Orrin Newton	Pittsburg, Pa	July 27, 1858.
22303	Boiler, steam	Charles J. C. Petersen	Davenport, Iowa	Dec. 14, 1858.
22334	Boiler, steam	I. C. Stern, assignor to himself and G. W. Stone.	Philadelphia, Pa	Dec. 14, 1858.
19493	Boilers, apparatus for supplying water to	John N. Dennison and Thomas Sealy	Newark, N. J	Mar. 2, 1858; France, Aug. 26, 1857.
21040	Boilers, steam, alarm-gauge for	Joseph Whitmore	Lowell, Mass	July 27, 1858.
21003	Boilers, steam, apparatus for regulating the supply of water to.	Talmon L. Jacobs	Hebron, Conn	July 27, 1858.
20477	Boilers, steam, apparatus for supplying water to	George Brodie	Little Rock, Ark	June 8, 1858.
22271	Boilers, steam, device for preventing explosions in.	Jane H. Lloyd, executrix of Richard L. Lloyd, deceased, assignor to George T. Parry.	Philadelphia, Pa	Dec. 7, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20380	Boilers, steam, feed-regulator for	Leonard Thorn	New York, N. Y	May 25, 1858.
22284	Boilers, steam, feed-water and blow-off apparatus for.	Jacob Frick	Philadelphia, Pa	Dec. 14, 1858.
22169	Boilers, steam, furnaces for	F. P. Dimpfel	Philadelphia, Pa	Nov. 30, 1858; England, May 24, 1856.
20840	Boilers, steam, furnaces of	Henry Yates	Brantford, Canada	July 6, 1858.
21013	Boilers, steam, grates for	James Montgomery	Brooklyn, N. Y	July 27, 1858.
	Boilers, steam, preventing incrustation of. (See Class IV, letter P.)			
19568	Boilers, steam, safety apparatus for	William Kemble Hall	West Hoboken, N. J	Mar. 9, 1858; England, Nov. 12, 1855.
21991	Boilers, steam, safety apparatus for	Francis Stebbins	Hinsdale, N. H	Nov. 2, 1858.
22178	Boilers, steam, sediment collector for	Hiram H. Havens	New York, N. Y	Nov. 30, 1858.
20398	Boilers, steam, telephonic indicator for	Thomas P. Akers	Lexington, Mo	June 1, 1858.
21686	Boilers, steam, water-alarm for	Levi E. Lincoln	Lowell, Mass	Oct. 5, 1858.
21836	Boilers, steam, water-gauges for	Josee Johnson and Rufus Lapham	New York, N. Y	Oct. 19, 1858.
	Boilers, steam, &c., furnaces for heating. (See Class V, letter F.)			
20927	Condensers, tube-joints for	Horatio Allen	New York, N. Y	July 20, 1858.
	Engine, air. (See Class XI, letter A.)			
20172	Engine, gas, arrangement of	John C. Fr. Salomon	Baltimore, Md	May 4, 1858.
20613	Engine, reciprocating rotary	George Ambrose	New York, N. Y	June 22, 1858.
19100	Engine, rotary steam	Lewis Peter	Gnadenhutten, Ohio	Jan. 12, 1858.
19247	Engine, rotary steam	Levi F. Goben	Spring Hill, Mo	Feb. 2, 1858.
19537	Engine, rotary steam	Alfred Arnold	New York, N. Y	Mar. 9, 1858.
19697	Engine, rotary steam	James B. Groomes	Carmichaels, Pa	Mar. 23, 1858.
19967	Engine, rotary steam	Levi Matthews, assignor to himself and J. K. Andrews.	Antrim, Ohio	April 13, 1858.
21494	Engine, rotary steam	John and Ezra Harthan	Timber's Brook, England	Sept, 14, 1858. England, Jan. 26, 1858.
20136	Engine, steam	Daniel Barnum	Jersey City, N. J	May 4, 1858.
20782	Engine, steam	John Ericsson	New York, N. Y	July 6, 1858.
21059	Engine, steam	H. & F. I. L. Blandy	Zanesville, Ohio	Aug. 3, 1858.
21165	Engine, steam	J. J. G. Collins, assignor to himself, W. A. Rhodes, and T. Drake.	Philadelphia, Pa	Aug. 10, 1858.
21907	Engine, steam	C. A. Schultz	New York, N. Y	Oct. 26, 1858.
22200	Engine, steam	Rufus Porter	Washington, D. C	Nov. 30, 1858.
20533	Engine, steam, mode of applying the power of the.	J. Widmer, assignor to himself and H. Gilbert.	New Haven, Conn	June 8, 1858.
19057	Engine, steam, oscillating	Adam Wood	Pittsburg, Pa	Jan. 5, 1858.
19464	Engine, steam, oscillating	John S. Barden, assignor to himself and Aaron W. Rockwood.	New Haven, Conn	Feb. 23, 1858.
21873	Engine, steam-pumping	Ezra Cope	Cincinnati, Ohio	Oct. 26, 1858.
19715	Engine, steam, revolving cylinder	Thomas Rogers	Philadelphia, Pa	Mar. 23, 1858.
19098	Engine, steam, valve arrangement for	Nahum S. C. Parkins	Norwalk, Ohio	Jan. 12, 1858. England, Aug. 17, 1857.
21911	Engines, applying power to the cranks of	Thomas Stewart	Philadelphia, Pa	Oct. 26, 1858.
21789	Engines, construction of cylinders and pistons for pumps and steam.	Wallace Wells	New York, N. Y	Oct. 12, 1858.
19220	Engines, steam, arrangement of passages and valves for cushioning the pistons of.	Norman W. Wheeler	New York, N. Y	Jan. 26, 1858.
19154	Engines, steam, cut-off for	A. P. Samuel	New York, N. Y	Jan. 19, 1858.
21399	Engines, steam, cut-off for	J. Widmer, assignor to himself and H. Gilbert.	New Haven, Conn	Aug. 31, 1858.
22344	Engines, steam, cut-off gear for	John Broughton	New York, N. Y	Dec. 21, 1858.
22361	Engines, steam, cut-off gear for	P. W. Gates, D. R. Frazer, and Thomas Chalmers.	Chicago, Ill	Dec. 21, 1858.
19890	Engines, steam, grates for	Ross Winans	Baltimore, Md	April 6, 1858.
19888	Engines, steam, pistons for	Ross Winans	Baltimore, Md	April 6, 1858.
19134	Engines, steam, variable cut-offs for	Addison Crosby	Fredonia, N. Y	Jan. 19, 1858.
22189	Gauge-cock	R. L. Mills	Lancaster, Ohio	Nov. 30, 1858.
20726	Gauge-cock and alarm-whistle	Alexander Miller	Cleveland, Ohio	June 29, 1858.
20851	Gauge, magnetic steam	Joshua Lowe, assignor to himself and Daniel Barnum.	New York, N. Y	July 6, 1858.
20848	Gauge, pressure	W. C. Grimes, assignor to David Matthew.	Philadelphia, Pa	July 6, 1858.
19731	Gauge, steam	Franz Burckle, assignor to Edward H. Ashcroft.	Boston, Mass	Mar. 23, 1858.
22287	Gauge, steam and water-alarm, for steam-boilers.	George W. Grader and Benjamin F. Cowan	Memphis, Tenn	Dec. 14, 1858.
19400	Gauge, steam-pressure	William Burnett, assignor to Seth Adams	Boston, Mass	Feb. 16, 1858.

List of patents for inventions, 1858—CLASS VI.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19177	Gauge, steam, spring-pressure	Moses M. Young, assignor to himself, Harvey F. Litchfield, and Joseph G. Hamblin.	East Boston, Mass	Jan. 19, 1858.
22313	Gauge, water, for steam-boilers	Thomas Stubblefield	Columbus, Ga	Dec. 14, 1858.
20894	Governor for steam engine	C. T. Porter	New York, N. Y	July 13, 1858.
21056	Governor for steam-engine	Alban Anderson	Lancaster, Ohio	Aug. 3, 1858.
21475	Governor for steam-engine	William W. W. Wood, assignor to John Rice.	Philadelphia, Pa	Sept. 7, 1858.
22380	Governor for steam-engine	H. C. Sergeant	Columbus, Ohio	Dec. 21, 1858.
19995	Governor, steam	R. D. Jacobus	Newark, N. J	April 20, 1858.
	Heaters and coolers. (See Class V.)			
21699	Indicator, water, for steam-boilers	Martin Robbins and John L. Frisbie	Cincinnati, Ohio	Oct. 5, 1858.
20847	Indicators, water and steam	W. C. Grimes, assignor to David Matthew	Philadelphia, Pa	July 6, 1858.
22439	Locomotive axle-bearings	David Matthew	Philadelphia, Pa	Dec. 28, 1858.
20115	Locomotive boilers, fire-box of	Ross Winans	Baltimore, Md	April 27, 1858.
20117	Locomotive boilers, furnaces of	Ross Winans	Baltimore, Md	April 27, 1858.
19889	Locomotive engine	Ross Winans	Baltimore, Md	April 6, 1858.
19962	Locomotive engine	Ross Winans	Baltimore, Md	April 13, 1858.
21290	Locomotive engine	Ross Winans	Baltimore, Md	Aug. 24, 1858.
20114	Locomotive engine-boilers, fire-box of	Ross Winans	Baltimore, Md	April 27, 1858.
20116	Locomotive engines, boilers for	Ross Winans	Baltimore, Md	April 27, 1858.
19986	Locomotive engines, driving-wheels of	J. F. Elliott	New Haven, Conn	April 20, 1858.
20937	Locomotive engines, fire-boxes for	Leonard Crossman and Samuel Atkinson	Elizabeth City, N. J	July 20, 1858.
21021	Locomotive engines, grates for	Joseph W. Pole	Philadelphia, Pa	July 27, 1858.
21309	Locomotive engines, scraper for removing sparks from the smoke-stacks of.	Jacob A. Alter	Johnstown, Pa	Aug. 31, 1858.
21936	Locomotive engines, trucks for	Levi Bissell	New York, N. Y	Nov. 2, 1858.
20596	Locomotive signals	A. E. Turnbull	Springfield, Ohio	June 15, 1858.
21130	Locomotive steam-engine	John C. Hagan	Nashville, Tenn	Aug. 10, 1858.
	Locomotives, furnaces for. (See Class V, letter F.)			
19469	Locomotives in engine-houses, arrangement for carrying off smoke from.	John O. D. Lilly, James L. Vauclain, and James W. Lilly.	Lafayette, Ind	Feb. 23, 1858.
19468	Locomotives, walking, manner of attaching legs to.	Solomon G. Hoge, assignor to himself, R. H. St. John, and J. E. Leas.	Belle Fontaine, Ohio	Feb. 23, 1858.
19722	Pistons and piston-rod connexions	A. P. Samuel	New York, N. Y	Mar. 23, 1858.
21678	Pistons for steam-engines, packing	Hanford Horton	New York, N. Y	Oct. 5, 1858.
21687	Spark-arrester	Joseph Marks	Boston, Mass	Oct. 5, 1858.
20835	Steam-alarm and safety apparatus	S. W. Warren	Brooklyn, N. Y	July 6, 1858.
21000	Steam, apparatus for distributing	Robert Hale	Roxbury, Mass	July 27, 1858.
	Steam-boiler furnaces. (See Class V, letter F.)			
21237	Steam-cock	J. L. Winslow, assignor to J. N. Winslow.	Westbrook, Me	Aug. 17, 1858.
21276	Steam-cock	R. Ross and W. Holland	Philadelphia, Pa	Aug. 24, 1858.
21332	Steam-cock	Albert Fuller	Cincinnati, Ohio	Aug. 31, 1858.
19969	Steam-generator	George Scott, assignor to Scott, Todd, & Co.	Philadelphia, Pa	April 13, 1858.
21788	Steam-generator	F. C. Warlich	Kentishtown, England	Oct. 12, 1858; England, March 9, 1858.
22306	Steam-generator	Robert E. Rogers	Philadelphia, Pa	Dec. 14, 1858.
21489	Steam-hammer	Patrick Danvers	New York, N. Y	Sept. 14, 1858.
21047	Steam-heating apparatus	Thomas Gordon, assignor to Charles H. Bullard.	Trenton, N. J	July 27, 1858.
19604	Steam, method of generating, in combination with atmospheric air as a motive power.	James Black, assignor to Scott, Todd, & Co.	Philadelphia, Pa	Mar. 9, 1858.
20514	Steam-power metre	George Schuh	Madison, Ind	June 8, 1858.
21468	Steam-pressure and water indicator	William C. Grimes, assignor to David Matthew.	Philadelphia, Pa	Sept. 7, 1858.
20963	Steam-stove	J. L. Sutton	Norristown, Pa	July 20, 1858; reissued Dec. 28, 1858.
21472	Steam-trap	J. W. Hoard, assignor to himself and G. B. Wiggin.	Providence, R. I	Sept. 7, 1858.
22170	Steam-trap	Frank Douglas	East Liverpool, Ohio	Nov. 30, 1858.
19757	Steam-trap, balance	William M. Davis	Philadelphia, Pa	Mar. 30, 1858.
21183	Steam trip-hammer, operating	J. S. Bonney and C. W. Willard	Hanson, Mass / Bridgewater, Mass	Aug. 17, 1858.
	Steam vessels, smoke-stack for. (See Class V, letter S.)			
	Steam-warming apparatus. (See Class V, letter W.)			
21694	Steam water-tank	S. H. Yocum and James O'Byrne	Shelbyville, Ind	Oct. 5, 1858.
21366	Valve-cock	G. R. and H. S. Robinson	Clinton, Mass	Aug. 31, 1858.
21510	Valve-cock	J. C. Macdonald	Cincinnati, Ohio	Sept. 14, 1858.
21524	Valve, combination steam	Robert Stewart	Elmira, N. Y	Sept. 14, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19594	Valve for steam-engine	Isaac Van Doren	Somerville, N. J	Mar. 9, 1858.
21579	Valve for steam-engine, rotary	Thomas Stewart	Philadelphia, Pa	Sept. 21, 1858.
22198	Valve-gear of locomotive-engines	Charles J. C. Petersen	Davenport, Iowa	Nov. 30, 1858.
21295	Valve-gear of steam-engines	James Ferguson, assignor to himself and Lazelle, Perkins, & Co.	Bridgewater, Mass	Aug. 24, 1858.
22191	Valve-gear of steam-engines	Edward Moran	New York, N. Y	Nov. 30, 1858.
22321	Valve-gear of steam-engines	John L. Whetstone	Cincinnati, Ohio	Dec. 14, 1858.
22333	Valve-gear, slide, for oscillating-engines	William Stephens, assignor to Richard Stephens.	Old Forge, Pa	Dec. 14, 1858.
22318	Valve-gear, slide, of steam-engines	Elijah Ware	South Boston, Mass	Dec. 14, 1858.
20768	Valve-gearing for steam-engines	John F. Allen	New York, N. Y	June 29, 1858.
21433	Valve-governor for steam-engines	S. B. McCray	Grand Rapids, Mich	Sept. 7, 1858.
21535	Vave, pressure and vacuum	W. Hardy and J. Parkinson, assignors to themselves and Aaron Bates.	Philadelphia, Pa	Sept. 14, 1858.
20845	Valve-regulator	W. S. Gale, assignor to himself, A. A. Valentine, and W. H. Butler.	New York, N. Y	July 6, 1858.
19443	Valve, rotary	Thomas Richards	Plattsburg, N. Y	Feb. 23, 1858.
19570	Valve, safety	William H. Low	Albany, N. Y	Mar. 9, 1858.
21390	Valve, safety and pressure-gauge	James H. Winn	Portage, Wis	Aug. 31, 1858.
21493	Valve, slide, combination of a governor with	Richard Gornall	Baltimore, Md	Sept. 14, 1858.
19096	Valve, steam	William R. Michener	Marlboro', Ohio	Jan. 12, 1858.
20094	Valve, steam	Thomas Scott	San Francisco, Cal	April 27, 1858.
20423	Valve, steam	Henry Goulding	San Francisco, Cal	June 1, 1858.
21151	Valve, steam	George Rieseck	Pittsburg, Pa	Aug. 10, 1858.
21155	Valve, steam	W. J. Stevens	New York, N. Y	Aug. 10, 1858.
21235	Valve, steam	W. S. Mackintosh and S. Wadsworth, assignors to Cridge, Wadsworth, & Co.	Pittsburg, Pa	Aug. 17, 1858.
19484	Valve, steam, eccentric, for operating	Benjamin Carley	Paterson, N. J	Mar. 2, 1858.
19203	Valve, steam throttle	James W. Osgood	Columbus, Ohio	Jan. 26, 1858.
20388	Valve, steam trap	J. W. Hoard, assignor to himself and G. B. Wiggin.	Providence, R. I	May 25, 1858.
19933	Valve, throttle	T. S. La France	Elmira, N. Y	April 13, 1858.
19119	Valves and passages in cylinders of steam-engines, arrangement of.	E. D. Barrett	Cincinnati, Ohio	Jan. 19, 1858.
21813	Valves, cut-off, for steam-engines	Benjamin Bunce	New York, N. Y	Oct. 19, 1858.
21300	Valves, cut-off, of steam-engines	J. Jackman, jr., assignor to himself and E. H. Ashcroft.	Newburyport, Mass	Aug. 24, 1858.
21682	Valves for steam-engines	Joseph Jobin	St. Mandi, France	Oct. 5, 1858; France, April 13, 1858.
21668	Valves for steam-engines, gearing of cut-off	P. W. Gates, D. R. Fraser, and Thomas Chalmers.	Chicago, Ill	Oct. 5, 1858.
19640	Valves in steam-engines, mode of operating	T. S. Jamieson	Alexandria, Va	Mar. 16, 1858.
22192	Valves of steam-engines	Alden R. Morrill	Northfield, Vt	Nov. 30, 1858.
22322	Valves of steam-engines	H. D. Wicks	Flint, Mich	Dec. 14, 1858.
22320	Valves of steam-engines, apparatus for operating	Norman W. Wheeler	Brooklyn, N. Y	Dec. 14, 1858.
22164	Valves of steam-engines, cut-off	I. M. Coleman	Milwaukie, Wis	Nov. 30, 1858.
21455	Valves of steam-engines, operating	H. Uhry and H. A. Luttgens	Paterson, N. J	Sept. 7, 1858.

CLASS VII.—NAVIGATION AND MARITIME IMPLEMENTS, *comprising all vessels for conveyance on water, their construction, rigging and propulsion, diving-dresses, life-preservers, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19659	Anchor	William Williams	St. Louis, Mo	Mar. 16, 1858.
19638	Anchor and life-preserver, combined, floating	Joseph Humphries	Washington, D. C	Mar. 16, 1858.
21298	Anchor-balls	H. W. Harkness, assignor to himself and J. W. Bliss.	Bristol, Conn	Aug. 24, 1858.
22432	Block, spring-tackle	Obed Hussey	Baltimore, Md	Dec. 28, 1858.
22154	Block, tackle	William B. Barnard	Waterbury, Conn	Nov. 30, 1858.
21602	Block, tackle, attachment for	George Focht	Reading, Pa	Sept. 28, 1858.
20944	Boat, canal	J. E. Gibson	Port Carbon, Pa	July 20, 1858.
21572	Boat, canal	John McCausland and Jefferson and James McCausland	Kington, N. Y. / Esopus, N. Y.	Sept. 21, 1858.
19317	Boat, collapsible	Nathan Thompson, jr	Brooklyn, N. Y	Feb. 9, 1858; England, Dec. 3, 1857.
21979	Boat-davits, tripping-block for	Charles Perley	New York, N. Y.	Nov. 2, 1858.
	Boat, life. (See Life-boat.)			
19693	Boat, metallic	Joseph Francis	New York, N. Y.	Mar. 23, 1858.
19656	Boat, propeller canal	George W. Swartz	Buffalo, N. Y	Mar. 16, 1858.
19666	Boats, arrangement of devices for lowering and detaching.	Henry De Veuve	Galveston, Texas	Mar. 16, 1858.
21201	Boats, canal, construction of	Anson Judson	Unadilla, N. Y	Aug. 17, 1858.
20308	Boats, moulding frame for the construction of	Nathan Thompson, jr.	Brooklyn, N. Y	May 18, 1858.
19346	Boats, propelling canal	Herman Camp	Dunkirk, N. Y	Feb. 16, 1858.
19403	Cable-stopper	William H. Bridge	Boston, Mass	Feb. 23, 1858.
21135	Cable-stopper	Peter H. Jackson	New York, N. Y.	Aug. 10, 1858.
19131	Chain-cable stopper	John E. Crane	Lowell, Mass	Jan. 19, 1858.
21296	Chain-stopper	William H. Gray, assignor to himself and Albert G. Brown.	Dover, N. H	Aug. 24, 1858.
19785	Diving-bell	Benjamin Maillefert	Astoria, N. Y	Mar. 30, 1858.
	Dry-docks and marine railways, adjustable cradle for. (See Class IX, letter D.)			
19949	Fog-bell	A. C. Rand, and R. R. Johnson	Buffalo, N. Y	April 13, 1858.
19516	Grapples, submarine	Thomas Sheehan	Dunkirk, N. Y	Mar. 2, 1858.

21949	Harpoon	George Doyle	Provincetown, Mass	Nov. 2, 1858.
19363	Harpoon and lance	H. W. Harkness	Bristol, Conn	Feb. 16, 1858.
21278	Harpoon-lance	Nathan Scolfield	Norwich, Conn	Aug. 24, 1858.
21879	Hook, self-mousing	J. R. Henshaw	Middletown, Conn	Oct 26, 1858.
20072	Life and treasure buoy	Francis D. Lee	Charleston, S. C	April 27, 1858.
22258	Life-berth for vessels	James P. McLean	New York, N. Y	Dec. 7, 1858.
19977	Life-boat	Leverett Ball	Auburn, N. Y	April 20, 1858.
20374	Life-boat	A. L. Shears	Omri, Wis	May 25, 1858.
21462	Life-boat constructed of mattresses	Jabez M. Woodward	New York, N. Y	Sept. 7, 1858.
21570	Life-boat, expansible float for	Charles Legros	New York, N. Y	Sept. 21, 1858.
21776	Life-preserver	Hiram Palmer	Augusta, Mich	Oct. 12, 1858.
19989	Life-preserving bucket-raft	Charles French	Jersey City, N. J	April 20, 1858.
19618	Life-preserving buoy	Benjamin Burling	Buffalo, N. Y	Mar. 16, 1858.
19632	Life-preserving float	George W. Hamilton, assignor to himself and Oliver P. Bower.	Watkins, N. Y	Mar. 16, 1858.
19350	Life-preserving mattress	C. P. Crossman & E. M. Quimby	Warren, Mass	Feb. 16, 1858.
19593	Life-preserving raft of buoyant mattresses	W. Urquhart	New York, N. Y	Mar. 9, 1858.
19216	Life-preserving raft, canvas sheets connected with.	Lorenzo Taggart	Philadelphia, Pa	Jan. 26, 1858. Reissued March 2, 1858.
22467	Life-preserving trunk	Oliver E. Woods	Philadelphia, Pa	Dec. 28, 1858.
22021	Life preserving vests	T. A. Delano	New York, N. Y	Nov. 9, 1858.
22175	Life-raft, extensible	Calvin Furbush	Kittery, Me	Nov. 30, 1858.
20354	Marine alarm and fog-signal	Leon Lewenberg	New York, N. Y	May 25, 1858.
20328	Paddle, reciprocating	P. C. Clark	Reading, Penn	May 25, 1858.
19482	Paddle-wheel	Andrew Buchanan	New York, N. Y	Mar. 2, 1858.
20096	Paddle-wheel	Nathan Smith	Berwick, La	April 27, 1858.
20676	Paddle-wheel	George Wingate	Philadelphia, Penn	June 22, 1858.
21826	Paddle-wheel	H. Ehrhart	Muscatine, Iowa	Oct. 19, 1858.
21892	Paddle-wheel	Richard B. Locke	Stapleton, N. Y	Oct. 26, 1858.
21432	Paddle-wheel propellers	John May	Columbus, Ga	Sept. 7, 1858.
20606	Propeller	C. F. Gardiner, assignor to himself and H. D. Gardiner.	East Boston, Mass	June 15, 1858.
20744	Propeller	William Thurber	Olean, N. Y	June 29, 1858.
20953	Propeller	D. E. Merick	Cleveland, Ohio	July 20, 1858.
22016	Propeller	George R. Comstock	Little Falls, N. Y	Nov. 9, 1858.
22209	Propeller	Washington Van Dusen	Philadelphia, Penn	Nov. 30, 1858.
20889	Propeller, boat	Mortimer Nelson	New York, N. Y	July 13, 1858.
22373	Propeller, buoyant	James Montgomery	New York, N. Y	Dec. 21, 1858.
21378	Propeller for boats	Le Grand C. St. John	Buffalo, N. Y	Aug. 31, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22422	Propeller for boats	James Hamilton	New York, N. Y	Dec. 28, 1858.
20862	Propeller for canal boats	Abner Burbank	Buffalo, N. Y	July 13, 1858.
22346	Propeller for life-boats	Mortimer M. Camp	New Haven, Conn	Dec. 21, 1858.
21825	Propeller, marine	John Eaton	Belleville, Canada	Oct. 19, 1858.
21650	Propeller, screw	Oliver Byrne and I G. Elliott	New York, N. Y	Oct. 5, 1858.
22117	Propeller, steering	H. E. Fessel	Chicago, Ill	Dec. 28, 1858.
20332	Propeller, valve	Aaron Colton	Le Roy, N. Y	May 25, 1858.
20751	Propellers, attaching and housing	William Webster	Jefferson county, W. T	June 29, 1858.
19887	Propellers, coupling of shafting for	S. Wilmarth S. L. Hay and D. N. B. Coffin, jr	Charlestown, Mass Reading, Mass Boston, Mass	April 6, 1858.
22266	Propellers, means for securing the arms to the hubs of.	Horatio O. Perry, assignor to himself and Sydney Sheppard.	Buffalo, N. Y	Dec. 7, 1858.
22431	Propelling and steering apparatus	Samuel Huse and Samuel Huse, jr	Chicago, Ill	Dec. 28, 1858.
19851	Row-lock	James H. Hills	Burlington, Vt	April 6, 1858.
19084	Safe, marine	Josiah Foster	Sandwich, Mass	Jan. 12, 1858.
19067	Sails, reefing	Joseph F. Boyd	Charlestown, Mass	Jan. 12, 1858.
19850	Sails, reefing	L. Higgins and A. Brown	Jersey City, N. J New York, N. Y	April 6, 1858.
19225	Sails, top, reefing	Donald McLean, assignor to himself, Sam'l Green, and Nathan Ames.	Boston, Mass	Jan. 26, 1858.
22097	Ship building	Daniel Vrooman	Hudson, Ohio	Nov. 16, 1858.
20657	Ships and other vessels, air-cells for giving buoyancy to.	Samuel Nowlan.	New York, N. Y	June 22, 1858.
21609	Ships, balance-sail rig for	John Lewis	Elizabeth City, N. J	Sept. 28, 1858; England, Sept. 4, 1855.
19737	Ship's bulkhead	C. Maliphant, assignor to Thomas West	New York, N. Y	Mar. 23, 1858.
20131	Ship's capstan	James R. Taylor, assignor to Wm. Skiddy	New York, N. Y	April 27, 1858.
19043	Ships, construction of	John Reeves	Brooklyn, N. Y	Jan. 5, 1858.
20233	Ship's lower sails in courses, working	Samuel Very, jr	Salem, Mass	May 11, 1858.
20877	Ships, method of coppering the interior of, to protect them from lightning.	R. W. Haskins	Buffalo, N. Y	July 13, 1858.

21134	Ship's windlass	Peter H. Jackson	New York, N. Y	Aug. 10, 1858.
19332	Signal lantern	Daniel Ammen	U. S Navy	Feb. 16, 1858.
20321	Sounding apparatus	Richard F. Bridwell	St. Louis, Mo	May 25, 1858.
21919	Steamers, ocean, construction of	Ross & Thomas Winans	Baltimore, Md	Oct. 26, 1858.
19139	Steamers, ships, &c., table-rack for	John Franz	Boston, Mass	Jan. 19, 1858.
19813	Steering-apparatus	Isaac Moore, assignor to himself & Francis N. Gove.	Brooklyn, N. Y	Mar. 30, 1858.
20239	Steering-apparatus	S. B. Cram and C. Weed, assignors to S. B. Cram.	Boston, Mass	May 11, 1858.
21210	Steering-apparatus	Franklin A. Morley	Sodus Point, N. Y	Aug. 17, 1858.
22453	Steering-apparatus	Jesse Reed	Marshfield, Mass	Dec. 28, 1858.
	Sub-marine deposits, method of removing. (See Class IX, letter R.)			
21852	Sub-marine explorer	Van Buren Reyerson	New York, N. Y	Oct. 19, 1858.
21906	Tiller-rope protector	John Sample	Meadville, Miss	Oct. 26, 1858.
22088	Vessels, centre-board for	Jesse F. Potts	Apalachicola, Fla	Nov. 16, 1858.
21917	Vessels, hulls of steam	Ross & Thomas Winans	Baltimore, Md	Oct. 26, 1858.
20673	Vessels, masting and rigging	William Webster	Jefferson county, W. T	June 22, 1858.
19841	Vessels, means for protecting tiller-ropes of, from fire.	W. Y. Gill	Henderson, Ky	April 6, 1858.
21534	Vessels, mode of launching	Gurdon Conkling, assig'r to W. T. Conkling	Conklingville, N. Y	Sept. 14, 1858.
20126	Vessels, navigable, buoyant life-preserving state-rooms for.	Henry Hallock	Brookhaven, N. Y	June 1, 1858.
19996	Vessels, navigable, centre-boards of	Benjamin Joline	Westfield, N. Y	April 20, 1858.
22002	Vessels, rudder for	Silas Yerkes, jr., assignor to himself and George Yerkes.	Philadelphia, Pa	Nov. 2, 1858.
19047	Vessels, sea-going steam, lightening	John C. F. Salomon and George W. Morris.	Baltimore, Md	Jan. 5, 1858.
21918	Vessels, steam	Ross and Thomas Winans	Baltimore, Md	Oct. 26, 1858.
21920	Vessels, steam, connexion of steam-engines with propellers of.	Ross and Thomas Winans	Baltimore, Md	Oct. 26, 1858.
	Vessels, steam, smoke-stack for. (See Class V, letter S.)			
20578	Vessels, sunken, apparatus for raising	Milo Osborn	Osbornville, Ohio	June 15, 1858.
21532	Vessels, sunken, apparatus for raising	Aldridge Winham	New York, N. Y	Sept. 14, 1858.
19500	Vessels, sunken, method of raising	F. G. Ford and P. Plant	New York, N. Y Washington, D. C	Mar. 2, 1858.
20287	Vessels, worming, parcelling and serving the rigging of, machine for.	Patrick McLaughlin	Camden, Me	May 18, 1858.
22457	Water, apparatus for walking on the	Henry R. Rowlands	Boston, Mass	Dec. 28, 1858.

List of patentees for inventions, 1858—Class VII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19787	Windlass	Joseph P. Manton	Providence, R. I	Mar. 30, 1858.
20427	Windlass	D. D. Hammond	Duxbury, Mass	June 1, 1858.
20555	Windlass	John Harvey	Carmel, Me	June 15, 1858.
21280	Windlass	Samuel N. Smith	New York, N. Y	Aug. 24, 1858.

Class VIII.—Mathematical, philosophical, and optical instruments, *including clocks, chronometers, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21621	Adding numbers, machine for	John B. Newbrough	St. Louis, Mo	Sept. 28, 1858.
21236	Addometer	Leonard N. Nutz, assignor to Irwin B. Randle and Elias Hibbard.	Alton, Ill	Aug. 17, 1858.
21243	Addometer	Jabez Burns	New York, N. Y	Aug. 24, 1858.
21506	Altitude, sun's, heliographic instrument for taking the.	John Oakes	New York, N. Y	June 8, 1858.
22396	Altitudes, &c., instrument for measuring	George C. Ayling, assignor to himself and H. A. Ayling.	Boston, Mass	Dec. 21, 1858; antedated Aug. 17, 1858.
21921	Arithmetical proof rule	Samuel S. Young	Eaton, Ohio	Oct. 26, 1858.
21941	Arithmometer for addition	O. L. Castle	Upper Alton, Ill	Nov. 2, 1858.
22075	Astronomical instrument	Henry Glover	New York, N. Y	Nov. 16, 1858.
22125	Attraction of the needle, local, method of neutralizing.	Calvin Kline	Brooklyn, N. Y	Nov. 23, 1858.
21435	Callipers and dividers	Joseph D. Moon	Chelsea, Mass	Sept. 7, 1858.
21865	Chronometric escapement	Thomas Morison, assignor to A. S. Solomons.	New York, N. Y	Oct. 19, 1858.
	Clock, burglar's alarm. (See Class XXII, letter A.)			
19519	Clock, calendar	Holly Skinner	Huron, Ohio	Mar. 2, 1858.
19472	Clock-movements, lathe for cutting tenons for.	Russell Peck, assignor to himself and G. H. Wooster.	Bristol, Conn	Feb. 23, 1858.
19351	Clock, public	A. D. Crane	Boston, Mass	Feb. 16, 1858.
22413	Clocks, compensating pendulum for	Wright L. Coffinberry	Grand Rapids, Mich	Dec. 28, 1858.
20786	Clocks, registering attachment for	Stanislaus Fournier	New Orleans, La	July 6, 1858.
22388	Dynamometer	William Tucker	Blackstone, Mass	Dec. 21, 1858.
19058	Dividers, mathematical	John E. Earle, assignor to himself and Samuel Shepherd.	Leicester, Mass	Jan. 5, 1858.
19589	Dividers, mathematical	Anton Schaeffer	New York, N. Y	Mar. 9, 1858.
21041	Drawing-instrument	W. W. Withes	Philadelphia, Pa	July 27, 1858.
19642	Electric currents, apparatus for regulating and measuring the intensity of.	Joseph Lacassagne and Rudolphe Thiers	Lyons, France	Mar. 16, 1858.
	Electricity, issue of gas from burners, device for regulating by. (See Class V, letter B.)			
19766	Electricity, method of lighting gas by	Samuel Gardiner, jr.	New York, N. Y	Mar. 30, 1858.
21781	Electricity, method of lighting street lamps by	C. W. Smith	Evans, N. Y	Oct. 12, 1858.
19460	Electro-galvanic batteries, method of lighting gas by.	Archelaus Wilson	Boston, Mass	Feb. 23, 1858.
19176	Electro-galvanic batteries, method of registering the speed back and forward, and distances passed over by railroad trains by means of.	Lewis Troost, assignor to John A. M. Battle.	Mobile, Ala	Jan. 19, 1858. England, June 15, 1857; France, June 18, 1857.
19132	Electro-magnetic batteries to car-brakes, application of.	S. D. Carpenter	Madison, Wis	Jan. 19, 1858.
21105	Electo-magnetic engine	Frederick Yeiser	Lexington, Ky	Aug. 3, 1858.
22071	Electro-magnetic fire-alarm apparatus	Moses G. Farmer	Salem, Mass	Nov 16, 1858.
20970	Electro-magnetic house-alarm	William Whiting	Roxbury, Mass	July 20, 1858.
19042	Electro-magnetic speed-governor	George M. Phelps	Troy, N. Y	Jan. 5, 1858.
22347	Ellipsograph	E. G. Chormann	Philadelphia, Penn	Dec. 21, 1858.
19759	Galvanic batteries, device for preventing corrosion of the binding screws in.	George Doyle	Ottawa, Ill	Mar. 30, 1858.
19245	Galvanic batteries, method of attaching the electrodes to the poles of.	Joseph Elmendorf	Penn Yan, N. Y	Feb. 2, 1858.
19209	Galvanic battery	Ebenezer Seaver	Boston, Mass	Jan. 26, 1858.
22029	Galvano-electric machine	Joseph R. Palmenberg	New York, N. Y	Nov. 9, 1858.
19392	Gravimotometer	J. W. Wetmore	Erie, Penn	Feb. 16, 1858.
20326	Hygrometers, device for actuating the index in.	C. L. Clark	Rochester, N. Y	May 25, 1858.
22378	Levelling instrument, self-adjustable	Joseph Redhead	Woodville, Miss	Dec. 21, 1858.

List of patents for inventions, 1858—CLASS VIII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19819	Lightning-conductors	Oren White, assignor to Henry C. Janes	Racine, Wis	Mar. 30, 1858.
20916	Lightning-rods, device for securing	Victor Schrage	Cincinnati, Ohio	July 13, 1858.
21905	Lightning-rods, method of insulating and supporting.	E. C. Rogers	Boston, Mass	Oct. 26, 1858.
22188	Lightning-rods, supporting insulator for	N. N. McLeod	St. Louis, Mo	Nov. 30, 1858.
19379	Magnets, receiving	Nathaniel Parks	Rome, N. Y.	Feb. 16, 1858.
22411	Measure, grain	Job Brown	Lawn Ridge, Ill	Dec. 28, 1858.
20186	Measurer, grain, self-regulating	George W. Atkins	Milton, Del.	May 11, 1858.
22241	Measuring and recording by the tape, method of	E. A. Preston	Battle Creek, Mich.	Dec. 7, 1858.
19031	Measuring the superficies of boards, machine for.	Seneca C. Kennard	South Newmarket, N. H.	Jan. 5, 1858.
19153	Pendulum, compound	Charles W. Rice and John E Harrington	Worcester, Mass. and Millbury, Mass.	Jan. 19, 1858.
19479	Pendulum, compound	Dana Bickford	Westerly, R. I.	Mar. 2, 1858.
19798	Pendulum power, applying	Andrew Slevin	Ann Arbor, Mich.	Mar. 30, 1858.
19091	Plotting instrument	Charles R. Iliff	Falmouth, Ky.	Jan. 12, 1858.
19817	Plumb and level indicator, attaching the plumb line to a.	John L. Rowe, assignor to Frederick Stevens	New York, N. Y.	Mar. 30, 1858.
20356	Protractors	Josiah Lyman	Lenox, Mass.	May 25, 1858.
19062	Quadrants, artificial horizon for, method of determining the.	James C. Lane, assignor to himself and T. H Barnes.	Brooklyn, N. Y.	Jan. 5, 1858.
22081	Registering speed of railroad trains, method of.	Charles T. Liernur	Mobile, Ala.	Nov. 16, 1858.
21101	Registering the motion of machinery, method of.	S L. Wiegand	Philadelphia, Pa.	Aug. 3, 1858.
19105	Rule, carpenter's	L. C. Stephens	Pine Meadow, Conn	Jan. 12, 1858.
20943	Rule, carpenter's	William O. C. Fritschler	Brooklyn, N. Y.	July 20, 1858.
21784	Rule for describing polygonal forms	Meriwether Jeff. Thompson	St. Joseph, Mo.	Oct. 12, 1858.
20431	Signal-lantern	William Howard	Flushing, N. Y.	June 1, 1858
20706	Signal-lights, electric	S. Gardiner, jr., and L. Blossom	New York, N. Y	June 29, 1858.
21656	Signal-machine, fog	Jacob D. Custer	Norristown, Pa.	Oct. 5, 1858.
	Signalizer, railway bridge. (See Class IX, letter R.)			
	Signals, locomotive. (See Class VI, letter L.)			
21688	Signals on railroads, mode of transmitting magnetic.	Henry Maule	Philadelphia, Pa	Oct. 5, 1858.
20402	Signals, semaphoric, mechanism for operating	William Boyd	Washington, D. C.	June 1, 1858.
20946	Spectacle-frames, joint for	G. N. Cummings	Hartford, Conn.	April 27, 1858.
	Speed-indicator and recorder for railroad cars. (See Class X, letter C.)			
21982	Surveying instruments, method of adjusting the plummet without moving the tripod in.	Charles A. Saxe	Philadelphia, Pa.	Nov. 2, 1858.
20908	Surveyor's graphodometer, automatic mechanism for operating the.	J. M. Wampler	Baltimore, Md	July 13, 1858.
19357	Surveyor's protractor	John A. Fian	Simpson county, Ky.	Feb. 16, 1858.
20915	Surveyor's tripod, head for	W. J. Young	Philadelphia, Pa.	July 13, 1858.
19027	Telegram keys, method of operating	John J. Hayden	Rising Sun, Ind	Jan. 5, 1858.
19278	Telegraph cable, apparatus for paying out	Louis Brauer, assignor to himself, Louis G. Bandebury and Joseph B. Stewart.	Washington, D. C.	Feb. 2, 1858.
21371	Telegraph cable, apparatus for paying out	George Scott	Wiscasset, Me.	Aug. 31, 1858.
21634	Telegraph cable, method of laying submarine	Owen G. Warren	New York, N. Y.	Sept. 28, 1858.
21629	Telegraph cable, method of laying submarine	Samuel Samuels	Brooklyn, N. Y.	Sept. 28, 1858.
21492	Telegraph insulators	Moses G. Farmer and John M. Batchelder	Salem, Mass. and Cambridge, Mass.	Sept. 14, 1858.
20698	Telegraph, pantographic	Giovanni Caselli	Florence, Italy	June 29, 1858.
21329	Telegraph wire, method of sending and receiving messages simultaneously over the same.	Moses G. Farmer	Salem, Mass	Aug. 31, 1858.
	Telegraph wires, composition for coating (See Class IV, letter C.)			
19116	Telegraphic cables, construction of	John Absterdam	Boston, Mass.	Jan. 19, 1858.
22082	Telegraphic instruments	R. Kendrick and A. W. Akerson	Cambridgeport, Mass.	Nov. 16, 1858.
21132	Telegraphic instruments	George B. Hicks	Cleveland, Ohio	Aug. 10, 1858.
20982	Telegraphic machine, self-adjusting and embossing.	E. F. Barnes	Brooklyn, N. Y.	July 27, 1858.
21024	Telegraphic machines, printing, mode of operating the mechanism of.	T. and J. Reeve and S. M. Tyler.	Brooklyn, N. Y.	July 27, 1858.
20930	Telegraphing magnets easy of adjustment, combination of electro and permanent magnets to render.	E. F. Barnes	Brooklyn, N. Y.	July 20, 1858.
20348	Thermostat	Simeon Holton, jr.	Middlebury, Vt.	May 25, 1858.
21020	Time, combination of the needle and sun-dial to ascertain.	C. R. M. Pohlé	Richmond, Va.	July 27, 1858.
20201	Time-keeper	Henry C. Fay	Troy, N. Y.	May 11, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20252	Time-keeper, escapement for	Samuel Carpenter	Flushing, N. Y.	May 18, 1858.
21146	Time-keeper, escapement for	Eugene Paulus	Philadelphia, Penn	Aug. 10, 1858.
21738	Time-keeper, escapement for	Josiah Bishop	Austin, Texas	Oct. 12, 1858.
21425	Time-keeper, escapement of	Joseph Jewnet	Meadville, Penn	Sept. 7, 1858.
22428	Time-keepers, method of adjusting the tripper to escapement-lever of.	Edwin B. Horn	Boston, Mass.	Dec. 28, 1858.
22110	Time-keepers, method of regulating the winding of.	Jonathan Dillon	Washington, D. C.	Nov. 23, 1858.
19744	Time-keepers, regulators for	Dara Bickford	Westerly, R. I.	Mar. 30, 1858.
22305	Time-pieces, escapement for	George P. Reed	Roxbury, Mass.	Dec. 14, 1858.
21895	Transit instrument	R. C. Matthewson	San Francisco, Cal.	Oct. 26, 1858.
19966	Watch-cases	Elihu Bliss, assignor to Baldwin & Co.	Newark, N. J.	April 13, 1858; reissued Nov. 23, 1858.
19972	Watch-cases	John F. Watson, assignor through mesne assignments to Baldwin & Co.	Middlesex Co., England. Newark, N. J.	April 13, 1858; England, June 16, 1857; reiss'd July 27, 1858.
20554	Watch-cases	J. M. Durand	Newark, N. J.	June 15, 1858.
22254	Watch-cases	Auguste Lachat	New York, N. Y.	Dec. 7, 1858.
20942	Watch-cases, making	Edwin Field	Providence, R. I.	July 20, 1858.
22397	Watch-faces	Samuel Baldwin, assignor to Baldwin & Co.	Newark, N. J.	Dec. 21, 1858.
20491	Watch, stop	Charles E. Jacot	New York, N. Y.	June 8, 1858.
20403	Watches, attachment for, to ascertain the time without looking at the watch.	M. W. Baldwin	Philadelphia, Penn.	June 1, 1858.
20888	Watches, escapement of	Jacob Muma	Hanover, Penn	July 13, 1858.
22174	Watches, device to prevent injury from rupture of the main spring of.	David B. Fitts	Holliston, Mass.	Nov. 30, 1858.

CLASS IX.—CIVIL ENGINEERING AND ARCHITECTURE, *comprising works on rail and common roads, bridges, canals, wharves, docks, rivers, weirs, dams, and other internal improvements, buildings, roofs, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Beams, connecting rigidly the ends of. (See Class II, letter M.)			
22472	Blasting or removing submarine bodies, method of.	Samuel Eakins, assignor to himself and M. S. Wickersham.	Philadelphia, Penn	Dec. 28, 1858.
19170	Blind fixtures, window	Asahel G. Batchelder, assignor to Hiram E. Pearson and Alden B. Butterfield.	Lowell, Mass.	Jan. 19, 1858.
21292	Blind slats, machine for setting the staples in	James Wyman	Schaghticoke, N. Y.	Aug. 24, 1858.
19795	Brake, railroad	John C. Fr. Salomon	Baltimore, Md	Mar. 30, 1858.
20396	Brake, railroad	Joseph Harris	Allegheny, Penn	May 25, 1858.
22280	Brake, railroad	William Edge	Downingtown, Penn	Dec. 14, 1858.
21120	Brakes to hand trucks, applying	C. L. Daboll	New London, Conn.	Aug. 10, 1858.
20105	Breakwaters, &c., frames or caissons of	Edward H. Tracy	New York, N. Y.	April 27, 1858.
20414	Bridge	Thomas Durden	Montgomery, Ala.	June 1, 1858.
21203	Bridge	Stephen H. Long, U. S. A.	Louisville, Ky.	Aug. 17, 1858.
21388	Bridge	L. E. Truesdell	Warren, Mass.	Aug. 31, 1858.
22106	Bridge, truss	John C. Briggs	Concord, N. H.	Nov. 23, 1858.
20987	Bridge, truss, bearing blocks of	Albert D. Briggs	Springfield, Mass.	July 27, 1858.
20082	Bridge, truss, metallic shoe for	D. H. Morrison	Dayton, Ohio	April 27, 1858.
19573	Bridges, &c., constructing framing of	William McKibbin	San Francisco, Cal.	Mar. 9, 1858.
20204	Canals, &c., stop-gate for	Joseph W. Sprague	Rochester, N. Y.	Nov. 30, 1858.
19682	Ceiling, fire-proof	John B. Cornell	New York, N. Y.	Mar. 23, 1858.
19375	Closet, water	Francis McGhan	Washington, D. C.	Feb. 16, 1858.
20142	Closet, water	William S. Carr	New York, N. Y.	May 4, 1858.
21294	Closet, water	Isaac Edelman, assignor to G. W. Edelman, jr	Philadelphia, Penn	Aug. 24, 1858.
21407	Closet, water	George Blanchard	New York, N. Y.	Sept. 7, 1858.
21734	Closet, water	Frederick H. Bartholomew	New York, N. Y.	Oct. 12, 1858.
19030	Conduits, grab for clearing	James Ingram	New York, N. Y.	Jan. 5, 1858.
19646	Door-register	John G. Miller	Swanton, Md.	Mar. 16, 1858.
21754	Door, self-closing	John C. Harkness	Washington, D. C.	Oct. 12, 1858.
19673	Door-sill, self-adjusting	George C. Bigelow	Worcester, Mass.	Mar. 23, 1858.
19217	Doors, weather-strip for	Joseph Tinney	Westfield, N. Y.	Jan. 6, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20590	Doors, weather-strip for	M. M. Shellaberger	Joliet, Ill	June 15, 1858.
22052	Dredging-crane	George Wood and John King, assignors to themselves and William Lawrence.	Philadelphia, Penn	Nov. 9, 1858.
19908	Dredging-machine	E. B. Bishop	Shreeveport, La	April 13, 1858.
21613	Dredging-machine	Abel Minard	New York, N. Y	Sept. 28, 1858.
22458	Dredging-machine	James Stewart	New London, Conn	Dec. 28, 1858.
21140	Drill, rock	William Lewis	Harrisburg, Penn	Aug. 10, 1858.
21205	Drill, rock	W. H. Loomis and John Hewitt	St. Louis, Mo	Aug. 17, 1858.
22046	Drill, rock	L. White and J. T. Bumgarner	Davenport, Iowa	Nov. 9, 1858.
20563	Driver, post and pile	Oliver Hyde	Benicia, Cal	June 15, 1858.
22317	Dry docks and marine railways, adjustable cradle for.	Washington Van Dusen	Philadelphia, Penn	Dec. 14, 1858.
20912	Dumping coal-bucket, self	John Wüst	Philadelphia, Penn	July 13, 1858.
20155	Eave-troughs, braces of	W. H. Henderson	Franklin, Ia	May 4, 1858.
20511	Excavating-machine	Nathan Saunders and F. T. Sherman	Chicago, Ill	June 8, 1858.
21206	Excavating-machine	William R. Maffet	Wilkesbarre, Penn	Aug. 17, 1858.
19565	Excavating post-holes, machine for	William K. Johnston	Rock Island, Ill	Mar. 9, 1858.
19104	Excavator	J. D. Smith	Panton, Vt	Jan. 12, 1858.
22279	Excavator	S. S. Curtis	Croton Corners, N. Y	Dec. 14, 1858.
19353	Fence, field	John Drown	Huron, N. Y	Feb. 16, 1858.
19491	Fence, field	Peter S. Carhart	Collamer, N. Y	Mar. 2, 1858.
19566	Fence, field	Jones H. Jones and Newton W. Smith	Lebanon, Ohio	Mar. 9, 1858.
19873	Fence, field	Benning Rowells	Ossian, N. Y	April 6, 1858.
19990	Fence, field	Benedict Gabriel	Elmira, N. Y	April 20, 1858.
20071	Fence, field	E. E. Lewis	Geneva, N. Y	April 27, 1858.
20599	Fence, field	H. S. Wentworth	Norvell, Mich	June 15, 1858.
20560	Fence, field	Thomas Hoge	Waynesburgh, Penn	June 15, 1858.
21074	Fence, field	Cornelius Horton	Phelps, N. Y	Aug. 3, 1858.
21073	Fence, field	D. M. Heikes	Franklin Township, Penn	Aug. 3, 1858.
21843	Fence, field	John B. Mitchell	Wayne, N. Y	Oct. 19, 1858.
22202	Fence, field, brace-post for	Cornelius Quackenbush	Huron, N. Y	Nov. 30, 1858.
20005	Fence, field, portable	L. S. Robison	Gypsum, N. Y	April 20, 1858.
19724	Fence, field, post for	H. G. Seekins	Elyria, Ohio	Mar. 23, 1858.
20400	Fence, lattice, iron	Albert Betteley	Boston, Mass	June 1, 1858.
21064	Fence, metallic	William Bush	Harrisburg, Pa	Aug. 3, 1858.
21315	Fence, portable	Robert J. Brown	Perry, Pa	Aug. 31, 1858.
21260	Fence, portable field	John B. Johnson	Linden, Ind	Aug. 24, 1858.
21529	Fence, portable field	A. B. and M. Vandemark	Phelps, N. Y	Sept. 14, 1858.
21549	Fence, portable field	Peter S. Carhart	Collamer, N. Y	Sept. 21, 1858.
19863	Fence-post	Rensselaer Merrill	Elmira, N. Y	April 6, 1858.
19434	Fences, field, device for connecting the panels of.	Rensselaer Merrill	Elmira, N. Y	Feb. 23, 1858.
19159	Fences, field, method of connecting the panels of.	William D. Sheldon	Huron, N. Y	Jan. 19, 1858.
21037	Fences, field, triangular brace for locking the panels of.	Charles Van De Mark	Oak's Corner, N. Y	July 27, 1858.
21459	Fences, wire, method of allowing for expansion and contraction of.	Olly Williams	St. Louis, Mo	Sept. 7, 1858.
19174	Floors, marquetry, construction of	Benjamin H. Shadaker, assignor to Edwin Bender.	Philadelphia, Pa	Jan. 19, 1858.
21526	Gate	William Tobey	Naples, N. Y	Sept. 14, 1858.
21645	Gate	Silas Allington	West Dresden, N. Y	Oct. 5, 1858.
19499	Gate, farm	Andrew Dietz	Raritan, N. J	March 2, 1858.
21785	Gate, farm	Joseph A. Treat	Tallmadge, Ohio	Oct. 12, 1858.
22131	Gate, farm	William Newlove	Penn Yan, N. Y	Nov. 23, 1858.
20008	Gate, farm, catch-latch for	Joseph Summers	Raleigh, Va	April 20, 1858.
20247	Gate, farm, method of opening and closing	William F. C. Beattie	Cornwall, N. Y	May 18, 1858.
22023	Gate, farm, method of opening and closing	William G. Hermance	Geneva, N. Y	Nov. 9, 1858.
21851	Gate, farm, method of opening and closing by approaching vehicles.	E. C. Rowland	Phelps, N. Y	Oct. 19, 1858.
21811	Gate, farm, mode of opening and closing	W. T. Boggs	Cincinnati, Ohio	Oct. 19, 1858.
22261	Gate, farm, mode of opening and closing by approaching vehicles.	Caleb Winegar	Union Springs, N. Y	Dec. 7, 1858.
19630	Girder, wrought iron	Thomas G. Gaylord	Cincinnati, Ohio	Mar. 16, 1858.
20011	Girders, truss, metallic shoes for the braces of	T. B. White	New Brighton, Pa	April 20, 1858.
22047	Grubbing-machine	Timothy C. Wood	Charleston, Mich	Nov. 9, 1858.
21431	Hoisting and dumping apparatus	George Martz	Pottsville, Pa	Sept. 7, 1858.
19237	Journals of axles on railways, reducing the friction of.	L. J. P. De Mirimonde	Paris, France	Feb. 2, 1858. France, Aug. 23, 1856. Reissued Nov. 23, 1858.
	Lath, metallic	John B. Cornell	New York, N. Y	June 22, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21118	Lath surface, metallic	John B Cornell	New York, N. Y	Aug. 10, 1858.
19487	Lathing, continuous metallic	Birdsell Cornell	New York, N. Y	Mar. 2, 1858.
21386	Logs, rolling and piling, implement for	William Todd	Cherryfield, Me	Aug. 31, 1858.
21908	Mining coal, machine for	Elisha Simkins	Allegheny, Pa	Oct. 26, 1858.
19543	Mining coal, &c., machine for	C A. Chamberlin	Allegheny, Pa	Mar. 9, 1858.
19592	Pavement, iron	Abijah Tewkesbury	East Boston, Mass	Mar. 9, 1858.
22444	Pavement, iron	Richard Montgomery	New York, N. Y	Dec. 28, 1858.
21834	Pavement, metallic side, construction of	Peter H. Jackson	New York, N. Y	Oct. 19, 1858.
20883	Pile-driver, adjustable	T. W. Loveless	Corning, N. Y	July 13, 1858.
21491	Plough, mole	Adam Defenbaugh	Walnut Run, Ohio	Sept. 14, 1858.
22194	Plough, underdrain	James and Edward Nevison	Morgan, Ohio	Nov. 30, 1858.
20352	Post, iron gate or fence	T. E. and A and E. King	Cherry Valley, Ohio	May 25, 1858.
21750	Railing, iron, construction of	William S. Fuller	Milbury, Mass	Oct. 12, 1858.
22448	Railing, iron, construction of	James Nuttall	New Orleans, La	Dec. 28, 1858.
20797	Railing, iron, method of constructing	Luther Homes	New Orleans, La	July 6, 1858.
20419	Railroad axle, compound	Heman Gardiner	New York, N. Y	June 1, 1858.
21604	Railroad axle, compound	I. P. Garrett and Daniel Steckel	Mercer County, Pa	Sept. 28, 1858.
20871	Railroad car-box cases and pedestals	Jacob C. Geisendorff	Cincinnati, Ohio	July 13, 1858.
19705	Railroad car-coupling	Henry E. Loane	Baltimore, Md	Mar. 23, 1858.
20777	Railroad car seats and berths	Zenas Cobb	Chicago, Ill	July 6, 1858.
19124	Railroad chair	James Bishop	Owego, N. Y	Jan. 19, 1858.
20472	Railroad chair	Theodore Krausch	Susquehanna Depot, Pa	June 1, 1858.
20464	Railroad chair	E. Barnes, assignor to E. Crane	Dorchester, Mass	June 1, 1858.
20617	Railroad chair	E. R. Barnes	Brookfield, Ct	June 22, 1858.
21471	Railroad chair	Adam Hay, assignor to himself and S. W. and L. B. Miller.	Newark, N. J	Sept. 7, 1858.
21956	Railroad chair	Pliny F. Hall	Troy, N. Y	Nov. 2, 1858.
21986	Railroad chair	James H. Simmons	Painted Post, N. Y	Nov. 2, 1858.
19306	Railroad chair, manufacture of wrought iron	James Milliken	Philadelphia, Pa	Feb. 9, 1858.
20057	Railroad couplings, buffer-heads for	M. C. Gardner	Rochester, N. Y	April 27, 1858.
20040	Railroad crossings, frogs for	Eli T. Conner	East Mauch Chunk, Pa	April 27, 1858.
21942	Railroad ditching machine	Wm. Chadwick & S. I. B. Anderson	Terre Haute, Ind	Nov. 2, 1858.

21067	Railroad-frog	James M. Dick	Buffalo, N. Y	Aug. 3, 1858.
21426	Railroad-indicator	Gardner R. Lillibridge	Wayne county, Mich	Sept. 7, 1858.
19675	Railroad-rail	Leverett Ball	Auburn, N. Y	Mar. 23, 1858.
20007	Railroad-rail	E W. Stephens & R Jenkins	Covington, Ky	April 20, 1858.
21097	Railroad-rail	M. J. Waldron	Dunkirk, N. Y	Aug. 3, 1858.
21241	Railroad-rail	S. A. Beers	Brooklyn, N. Y	Aug. 24, 1858.
22376	Railroad-rail	Augustus Plinta	Albany, N. Y	Dec. 21, 1858.
20928	Railroad-rails, connecting the ends of	K. H. Allen	Worcester, Mass	July 20, 1858.
19555	Railroad-rails, splice for joints of	M. Fisher	Trenton, N. J	Mar. 9, 1858.
21014	Railroad-rails, splice pieces for	Edward Morris	Philadelphia, Penn	July 27, 1858.
19361	Railroad snow-plough	H. T. Hartman	Lexington, Va	Feb. 16, 1858.
19339	Railroad snow plough	J. K. Babcock	Honeoye Falls, N. Y	Feb. 16, 1858.
19847	Railroad station indicator	John M. Harvey and N. J. Becker	Amsterdam, N. Y Florida, N. Y	April 6, 1858.
19880	Railroad station indicator	Charles J. Smith	North Prairie, Wis	April 6, 1858.
19304	Railroad station pumps, mode of operating	William McVeigh	Boone, Ill	Feb. 9, 1858.
20108	Railroad stations, machinery for supplying tenders with water at.	B. M. Van Der Veer	Clyde, N. Y	April 27, 1858.
20959	Railroad-switch	George R. Smith	Ithaca, N. Y	July 20, 1858.
21006	Railroad-switch, signal lantern for	S. N. Lennon	Deposit, N. Y	July 27, 1858.
20620	Railroad-track and cast-iron pavement, combined	William Bryent, assignor to Daniel D. Badger	Boston, Mass New York, N. Y	June 22, 1858.
19440	Railroad-track clearer	Pelatiah Osgood	Waterville, Me	Feb. 23, 1858.
19241	Railroad-track, mode of laying	F. P. Dimpfel	Philadelphia, Penn	Feb. 2, 1858; France, Oct. 27, 1856.
21406	Railroad-tracks, joints for	E. U. Benedict	Horicon, Wis	Sept. 7, 1858.
19165	Railroad-tracks, joints of	Charles A. Wakefield	New Haven, Conn	Jan. 19, 1858.
21971	Railroad-turn or circular-switch, miner's	Elias B Lowman	Bell Air, Ohio	Nov. 2, 1858.
	Railroads and turnpikes, machine for breaking stones for ballasting. (See Class XV, letter S.)			
21007	Railroads, compound rails for	E. E. Lewis, W. B. Dunning, and C Wheat	Geneva, N. Y	July 27, 1858.
19433	Railroads, construction of the permanent way of.	James E. McConnell and William Seaton	Wolverton, England London, England	Feb. 23, 1858; England, June 24, 1852.
20218	Railroads, implement for shooting missiles at cows, &c., on.	Stephen Scotton	Richmond Ind	May 11, 1858.
	Railroads, mode of transmitting magnetic signals on. (See Class VIII, letter S.)			
19718	Railroads, turning and sliding tables for	William Sellers	Philadelphia, Pa	Mar. 23, 1858.
20828	Rails, continuous chair	C. A. Stancliff and James Mingis	Williamsport, Pa.	July 6, 1858.

List of patents for inventions, 1858—CLASS IX.

No.	Inventions or discoveries.	Patentees	Residence.	Date.
19053	Rails for railroads	Levi B. Tyng	Jersey City, N. J	Jan. 5, 1858.
22103	Rails for railroads	John Cochrane	New York, N. Y	Nov. 16, 1858.
19992	Rails for street railroads	John B. Henck	Boston, Mass	April 20, 1858.
21266	Rails for switching cars off the track	John C. Mather	New York, N. Y	Aug. 24, 1858.
20248	Rails, railroad, fastening	S. A. Beers	Kings county, N. Y	May 18, 1858.
20281	Rails, T, block for repairing	Sandford Mason and Edward M. Davis	Michigan City, Ind	May 18, 1858.
21480	Rails, T, joint for	E. U. Benedict	Horicon, Wis	Sept. 14, 1858.
21957	Rails, T, joint for	William Harvey	Albany, N. Y	Nov. 2, 1858.
22168	Railway bars, mode of securing the ends of	Christian E. Detmold	Orange, N. J	Nov. 30, 1858.
20452	Railway bars, rollers for	E. W. Stephens and R. Jenkins	Covington, Ky	June 1, 1858.
	Railway bars, rolling. (See Class II, letter R.)			
22031	Railway bars, securing the ends of	Augustus Plinta	Albany, N. Y	Nov. 9, 1858.
22196	Railway bars, securing the ends of	John F. Peabody	Salem, Mass	Nov. 30, 1858.
20841	Railway-bridge signalizer	A. Burnham, assignor to himself and James M. Cook.	Taunton, Mass	July 6, 1858.
	Railway chairs, rolling. (See Class II, letter R.)			
21380	Railway chairs, rolling	Amos H. Swett	Pittsburg, Pa	Aug. 31, 1858.
20793	Railways, chairs for	William Hall	Springfield, Mass	July 6, 1858.
21899	Railways, street, rails for	Samuel Nicolson	Boston, Mass	Oct. 26, 1858.
19704	Railways, superstructure of	Stephen H. Long, U. S. A	Louisville, Ky	Mar. 23, 1858.
19736	Railways, tracks for city	E. S. Gardner, assignor to himself and John H. Gould.	Philadelphia, Pa	Mar. 23, 1858.
19268	Railways, turning tables for	W. H. Ward	Auburn, N. Y	Feb. 2, 1858.
20060	Removing submarine deposits, method of	Eli Brazelton	St. Louis, Mo	Aug. 3, 1858.
19627	Roofing-cement	William T. De Golyer	Schenectady, N. Y	Mar. 16, 1858.
21553	Roofing-cement	G. W. Cushing	Chicago, Ill	Sept. 21, 1858.
19695	Roofing-cement, composition	Robert Glennon	New Orleans, La	Mar. 23, 1858.
19712	Roofing-cement, composition for	Bradley L. Prime	Hamilton, Ohio	Mar. 23, 1858.
20173	Roofing, cements for	Richard Simons	Rockford, Ill	May 24, 1858.
21246	Roofing-composition	Abram Davis	Chicago, Ill	Aug. 24, 1858.
22343	Roofing, composition for	C. A. Bremmer	Goshen, N. Y	Dec. 21, 1858.

21927	Roofing, compositions for	Josee Johnson, assignor to Joseph Ditto & Co.	New York, N. Y	Oct. 26, 1858.
2 643	Roofing-machine	Emanuel Wise, assignor to himself and Charles L. Wood.	Hannibal, Mo	Sept. 28, 1858.
20636	Roofing, metallic	J. C. Gaston	Oxford, Ohio	June 22, 1858.
	Roofing purposes, cement for. (See Class IV, letter C.)			
20059	Roofing-tiles	J. F. Grassle	Hamilton, Ohio	April 27, 1858.
19314	Roofs, sheet metal, joints for	Stephen Scotton	Richmond, Ind	Feb. 9, 1858.
19661	Sash, metallic	Charles Hartwell, assignor to Lewis L. Bartlett.	Boston, Mass	Mar. 16, 1858.
19941	Shutters, illuminating iron rolling	James C. McIntyre	New York, N. Y	April 13, 1858.
20236	Shutters, metallic rolling	W. E. Worthen	New York, N. Y	May 11, 1858.
20630	Shutters, metallic rolling	W. W. Cornell	New York, N. Y	June 22, 1858.
21011	Sinks, sewers, &c, "flushing valve" trap for	Samuel Mathews	New York, N. Y	July 27, 1858.
19426	Snow-plough	Franklin L. Knapp	Gosport, N. Y	Feb. 23, 1858.
19577	Snow-plough	Joseph H. Pawling	Philadelphia, Pa	Mar. 9, 1858.
19950	Snow-plough	Samuel Richards	Philadelphia, Pa	April 13, 1858.
20484	Steps, &c., admitting light and air through	John B. Cornell	New York, N. Y	June 8, 1858.
19070	Stump-extractor	S. P. Castle	Urbana, Ohio	Jan. 12, 1858.
19562	Stump-extractor	Washington Hall	Brewer, Me	Mar. 9, 1858.
22115	Stump-extractor	Francis M. Eagle	North Manchester, Ind	Dec. 28, 1858.
20494	Stumps, machine for cutting out	Frederic Kettler	Milwaukie, Wis	June 8, 1858.
19146	Switch, portable railroad	John C. Mather	New York, N. Y	Jan. 19, 1858.
20367	Switch, railroad	Nathaniel Pullman	New Oregon, Iowa	May 25, 1858.
21631	Switch, railroad	Charles L. Spencer	Providence, R. I	Sept. 28, 1858.
21658	Switch, railroad	Charles C. Dodge	Marshall, Mich	Oct. 5, 1858.
21880	Switch, railroad	Simeon Heywood	Claremont, N. H	Oct. 26, 1858.
19397	Switch, railroad safety	Joseph Wood	Jersey City, N. J	Feb. 16, 1858.
21530	Tanks, water, mode of filling, at railway stations.	Charles Weed	Milledgeville, Ill	Sept. 14, 1858.
22035	Tiles, plates, beams, &c., connecting metallic	Silas T. Savage	Albany, N. Y	Nov. 9, 1858.
19597	Trenching-plough	William Wise	Washington, D. C	Mar. 9, 1858.
19685	Tunnels, metallic, mode of connecting the sections of.	John W. Cochran	New York, N. Y	Mar. 23, 1858.
19639	Vault-covers, attaching the glasses of	George R. Jackson	New York, N. Y	Mar. 16, 1858.
21050	Vault-covers, illuminating glasses for	Thaddeus Hyatt, assignor to George R. Jackson & Co.	New York, N. Y	July 27, 1858.
20679	Vault-covers, safety	E. L. Brown, assignor to B. F. Brown	Boston, Mass	June 22, 1858.

List of patents for inventions, 1858—Class IX.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22069	Vault-lights	Cornelius Donaldson	New York, N. Y	Nov. 16, 1858.
21605	Vault-lights, metallic frames for	Michael Grosz and Peter H. Jackson	New York, N. Y	Sept. 28, 1858.
20721	Vaults, &c., illuminating-covers for	E. P. Leonard and P. H. Jackson	New York, N. Y	June 29, 1858.
21498	Walls under water, method of building	W. H. Horstmann	New York, N. Y	Sept. 14, 1858.
22151	Wells, apparatus for boring	I. M. Butler	Oxford, Miss	Nov. 23, 1858.
20611	Wharf, floating, revolving	Henry Albro	Covington, Ky	June 22, 1858.
21648	Window-blind, rolling	S. W. Bidwell	Hartford, Ct	Oct. 5, 1858.
22177	Window blind slats, machine for making	Isaac W. Gere	South Granby, N. Y	Nov. 30, 1858.
21417	Window-blinds	A. Herder	New York, N. Y	Sept. 7, 1858.
20576	Window-blinds, metallic	Charles Neer	Troy, N. Y	June 15, 1858.
21732	Window-blinds, method of adjusting	W. H. Babcock	Homer, N. Y	Oct. 12, 1858.
19488	Window-blinds, operating	Theodore Christian	New York, N. Y	Mar. 2, 1858.
20996	Window-blinds, operating	Andrew Ferber	Elizabeth City, N. J	July 27, 1858.
21408	Window-blinds, operating	Theodore Christian	New York, N. Y	Sept. 7, 1858.
	Window-blinds, turn-buckle for. (See Class H, letter B.)			
19362	Window-frame	Sebastian Haas	Buffalo, N. Y	Feb. 16, 1858.
21136	Window-sash, hanging	Ross Johnson	Frederick, Md	Aug. 10, 1858.
22365	Window-sash, hanging	Theodore F. Hall	Marietta, Ohio	Dec. 21, 1858.
19301	Window-sash, removable	Robert H. Kirck	Utica, N. Y	Feb. 9, 1858.
19267	Window-sashes, fastening for	Francis Thrasher and Henry B. Horton	Akron, Ohio	Feb. 2, 1858.
20857	Window-sashes, spring pulley for	Dana Bickford	Westerly, R. I	July. 13, 1858.
19348	Window-shutter, metallic	John B. Cornell	New York, N. Y	Feb. 16, 1858.
	Window-spring. (See Class H, letter S.)			
21916	Window-stop	Turner Williams	Providence, R. I	Oct. 26, 1858.

Class X.—Land conveyance, *comprising carriages, cars, and other vehicles used on roads, and parts thereof.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19762	Axle-boxes	W. B. Fahnestock	Lancaster, Pa	Mar. 30, 1858.
21998	Axle-boxes	Henry Howson, assignor to I. P. and J. L. Wendell.	Philadelphia, Pa	Nov. 2, 1858.
21943	Axle-boxes, car	John W. Cochran	New York, N. Y	Nov. 2, 1858.
20991	Axle-boxes, &c	David Cumming	Sorrel Horse, Pa	July 27, 1858.
21652	Axles, car, lubricating	John W. Cochran	New York, N. Y	Oct. 5, 1858.
20535	Car axle-boxes from pedestals, disconnecting	W. D. Arnett	Chicago, Ill	June 15, 1858.
19290	Car axle-boxes, railroad	George W. Geisendorff and J. C. Geisendorff.	Indianapolis, Ind / Cincinnati, Ohio	Feb. 9, 1858.
19741	Car axle-boxes, railroad	R. N. Allen	Cleveland, Ohio	Mar. 23, 1858.
19840	Car-axles, railroad, box-cases and lubricators for.	George W. Geisendorff and J. C. Geisendorff.	Cincinnati, Ohio	April 6, 1858.
19530	Car-axles, railroad, boxes and journals for	Isaac P. Wendell	Philadelphia, Pa	Mar. 2, 1858.
19095	Car-boxes, railroad	David Matthew	Philadelphia, Pa	Jan. 12, 1858.
21996	Car-brake	J. N. Ward	Brooklyn, N. Y	Nov. 2, 1858.
22291	Car-brake	Joseph Hough and Jacob Moore	Buckingham, Pa / Bart, Pa	Dec. 14, 1858.
19012	Car-brake, railroad	John L. Branch, Isaac Branch, and Daniel W. Branch.	Charleston, S. C	Jan. 5, 1858.
19157	Car-brake, railroad	Thomas W. Smith	Alexandria, Va	Jan. 19, 1858.
19223	Car-brake, railroad	George W. Windsor	Allegheny, Pa	Jan. 26, 1858.
19192	Car-brake, railroad	Samuel Gunnaer	Chicago, Ill	Jan. 26, 1858.
19260	Car-brake, railroad	Nathaniel Potter	Hillsdale, Mich	Feb. 2, 1858.
19599	Car-brake, railroad	Stephen M. Whipple	North Adams, Mass	Mar. 9, 1858.
19734	Car-brake, railroad	Daniel H. Feger, assignor to himself and Mahlon M. Wombaugh.	Cincinnati, Ohio	Mar. 23, 1858.
19917	Car-brake, railroad	Gideon Dorsch	Schenectady, N. Y	April 13, 1858.
20237	Car-brake, railroad	George W. Zeigler	Tiffin, Ohio	May 11, 1858.
20339	Car-brake, railroad	C. H. Eisenbrandt	Baltimore, Md	May 25, 1858.
20429	Car-brake, railroad	Thomas Hopper	Newark, N. J	June 1, 1858.
20468	Car-brake, railroad	G. W. Cummings, assignor to D. K. Jackman and Joseph Hanna.	Philadelphia, Pa	June 1, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20769	Car brake, railroad	Henry M Collier	Binghamton, N Y	June 29, 1858.
21038	Car-brake, railroad	W. B. Wait	Portsmouth, N. H	July 27, 1858.
22213	Car-brake, railroad	Asa L Whipple	Elmira, N. Y	Nov. 30, 1858.
22229	Car-brake, railroad	Henry E. Chapman	Albany, N. Y	Dec. 7, 1858.
22455	Car-brake, railroad	John W. Rice	Springfield, Mass	Dec. 28, 1858.
	Car-brakes, application of magnetic batteries to. (See Class VIII, letter E.)			
20627	Car-coupling	C. B. Cotter	Harrisburg, Pa	June 22, 1858.
21737	Car-coupling	George S. Bishop	Washington, D C	Oct. 12, 1858.
19021	Car-coupling, railroad	James M. Connel	Newark, Ohio	Jan. 5, 1858.
19049	Car-coupling, railroad	John Schneider	Chicago, Ill	Jan. 5, 1858.
19186	Car-coupling, railroad	George W. Doolittle	Richfield Springs, N. Y	Jan. 26, 1858.
19204	Car-coupling, railroad	John Pearson	Sterling, Iowa	Jan. 26 1858.
19794	Car-coupling, railroad	John W. Rice	Springfield, Mass	Mar. 30, 1858.
19925	Car-coupling, railroad	Albert Hebbard	Galesburg, Ill	April 13, 1858.
20139	Car-coupling, railroad	William H. Burridge and Nathan L. Post	Cleveland, Ohio	May 4, 1858.
20264	Car-coupling, railroad	F. E. Gleason	Columbus, Ohio	May 18, 1858.
20392	Car-coupling, railroad	A. Lapham and D. H. Burns, assignors to themselves and C. A. Durgin.	Brooklyn, N. Y	May 25, 1858.
20817	Car-coupling, railroad	J. H Quackenbush	Owasso, Mich	July 6, 1858.
21486	Car-coupling, railroad	J. W. Corey	Crawfordsville, Ind	Sept. 14, 1858.
21502	Car-coupling, railroad	Charles P. Kenyon	Wilson, N. C	Sept. 14. 1858.
21901	Car-coupling, railroad	Philander Perry	Troy, N. Y	Oct. 26, 1858.
21356	Car-seat	William Painter	Wilmington. Del	Aug. 31, 1858.
21870	Car-seat	A. C. Blondyn	St. Joseph, Mo.	Oct. 26, 1858.
21967	Car-seat	P. P. Joseff	Philadelphia, Pa	Nov. 2, 1858.
21985	Car-seat	John W. Sibbet	Cincinnati, Ohio	Nov. 2, 1858.
19079	Car-seat, railroad	Jacob S. Denman	Brooklyn, N. Y	Jan. 12, 1858.
19910	Car-seat, railroad	David Buzzell	Charlestown, Mass	April 13, 1858.
20654	Car-seat, railroad	John Millar	Paterson, N. J	June 22, 1858.
21052	Car-seat, railroad	John McMurtry, assignor to James B. Clow and John Best.	Fayette county, Ky	July 27, 1858.
21178	Car-seat, railroad	James M. Baird	Wheeling, Va	Aug. 17, 1858.
21352	Car-seat, railroad	C. M. Mann	Detroit, Mich	Aug. 31, 1858.
21326	Car-seat, railroad	John C. De Witt	West Bloomfield, N. J	Aug. 31, 1858.
21727	Car-seat, railroad	Draper Stone, assignor to himself and E. S. Turner.	Milwaukie, Wis	Oct. 5, 1858.
22471	Car-seat, railroad	George L. Dulaney, assignor to himself and Solomon K. Moore.	Mount Jackson, Va	Dec. 28, 1858.
20622	Car-seats and berths, railroad	S. C. Case	Detroit, Mich	June 22, 1858.
21251	Car-seats and couches	I. N. Forrester	Fairfax C. H., Va	Aug. 24, 1858.
21331	Car-seats and couches	K. Freeman	Fond du Lac, Wis	Aug. 31, 1858.
21412	Car-seats and couches	R. E. Fowler	Clayton, N. Y	Sept. 7, 1858.
21536	Car-seats and couches	Alexander M. Holmes, assignor to himself and A. G. Purdy.	Eaton, N. Y	Sept. 14, 1858; additional improvement Dec. 21, 1858.
22283	Car-seats and couches	G. W. Fairfield	Holyoke, Mass	Dec. 14, 1858.
22338	Car-seats and couches	Horace L Arnold	Elk Horn, Wis	Dec. 21, 1858.
22462	Car-seats and couches, railroad	Nathan Thompson, jr	Brooklyn, N. Y	Dec. 28, 1858.
21952	Car-springs	Perry G. Gardiner	New York, N. Y	Nov. 2, 1858.
22292	Car-springs	Charles R. Hurlburt	Seymour, Conn	Dec. 14, 1858.
21624	Car-springs, India-rubber	Sanford Peatfield	Ipswich, Mass	Sept. 28, 1858.
19767	Car-springs, machine for testing and measuring the strength of.	Perry G. Gardiner	New York, N. Y	Mar. 30, 1858.
19219	Car-springs, railroad	Henry Waterman	Hudson. N. Y	Jan. 26, 1858.
19448	Car-springs, railroad	David B. Rogers	Pittsburg, Pa	Feb. 23, 1858.
19435	Car springs, railroad	Stephen Morse	Springfield, Mass	Feb. 23, 1858.
20148	Car-springs, railroad	A. M. De Hart	Reading, Pa	May 4, 1858.
20998	Car-springs, railroad	John J. Fields	Brooklyn, N. Y	July 27, 1858.
21603	Car-springs, tempering steel	Perry G. Gardiner	New York, N. Y	Sept. 28, 1858.
19763	Car-wheels	William B. Fahnestock	Lancaster, Pa	Mar. 30, 1858.
20583	Car-wheels	John Pugh	Franklin, Tenn	June 15, 1858.
21614	Car-wheels, cast-iron	H. W. Moore	Jersey City, N. J	Sept. 28, 1858.
	Car-wheels, casting. (See Class II, letter C.)			
20924	Car wheels, cooling	R. Poole, assignor to himself and German H. Hunt.	Baltimore, Md	July 13, 1858.
	Car-wheels, cast-iron, manufacturing. (See Class II, letter I.)			
19380	Car wheels, railroad	Stephen E Parrish	Nashville, Tenn	Feb. 16, 1858.
19445	Car-wheels, railroad	Seymour Rogers	Pittsburg, Pa	Feb. 23, 1858.
19776	Car-wheels, railroad	William W. Hubbell and Richard H. Hubbell	Philadelphia, Pa / Delaware county, Pa	Mar. 30, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19810	Car-wheels, railroad	H. C. Bulkley, assignor to James M. Ross.	Springfield, Mass	Mar. 30, 1858.
22049	Car-wheels, railroad	Thomas C. Ball, assignor to himself, L. Bisco, A. S. Davis, K. Crossfield, Edward Edwards, and Jacob Green.	Keene, N. H	Nov. 9, 1858.
20004	Car-wheels, railroad, securing tires to	Lea Pusey	Philadelphia, Pa	April 20, 1858.
20610	Car-wheels, &c	W. Willoughby, assignor to himself and W. H. Wizeman.	Markwell, Miss	June 15, 1858.
	Carriage-axles, machine for upsetting. (See Class H, letter A.)			
21391	Carriage-bows, attaching the props of	D. B. Wright and L. Sawyer	South Amesbury, Mass	Aug. 31, 1858.
20412	Carriage-brake	George L. Dickson	Carbondale, Pa	June 1, 1858.
21353	Carriage, children's	W. P. McKinstry	New York, N. Y	Aug. 31, 1858.
22300	Carriage, children's	Gilbert Maynard	Greenfield, Mass	Dec. 14, 1858.
21449	Carriage, hose	I. S. Schuyler and L. A. Rockwell	New York, N. Y	Sept. 7, 1858.
22304	Carriage-seats, adjustable	Henry H. Potter	Carthage, N. Y	Dec. 14, 1858.
21420	Carriage-shafts, convertible	Amos K. Hoffmeier	Lancaster, Pa	Sept. 7, 1858.
19396	Carriage-spring guard	Thomas Winans	Baltimore, Md	Feb. 16, 1858.
20497	Carriage-springs	D. M. Lane	West Philadelphia, Pa	June 8 1858.
20820	Carriage-springs, attaching	Luther O. Rice	Berlin, Canada West	July 6, 1858.
19102	Carriage-springs, equalizing	Daniel G. Rollin	New York, N. Y	Jan. 12, 1858.
20268	Carriage-springs, forming the heads of	Samuel H. Hartman	Pittsburg, Pa	May 18, 1858.
22314	Carriage-thills to axles, attaching	John W. Sibbet	Cincinnati, Ohio	Dec. 14, 1858.
19065	Carriage-top	Newton Benedict	Aurelius, N. Y	Jan. 12, 1858.
21766	Carriage-wheels, box for	R. W. McClelland	Pekin, Ill	Oct. 12, 1858.
21083	Carriage-wheels, hubs for	Norman Platt	Jackson, Miss	Aug. 3, 1858.
19820	Carriage-wheels, hubs for	James M. Whiting, assignor to George F. Wilson and Alfred Anthony	New Bedford, Mass. Providence, R. I	Mar. 30, 1858.
19478	Carriage-wheels, metallic	Waldren Beach	Baltimore, Md	Mar. 2, 1858.
20586	Carriage-wheels, metallic hub for	S. I. Russell	Chicago, Ill	June 15, 1858.
20869	Carriage-wheels, metallic hub for	N. T. Edson	New Orleans, La	July 13, 1858.
19951	Carriage-wheels, tightening the spokes and felloes of.	B. A. Rogers	Shubuta, Miss	April 13, 1858

19721	Carriage-wheels, tightening the tires of	Robert B. Scott	Philadelphia, Pa	Mar. 23, 1858; add'l imp't June 8, 1858.
19264	Carriages, adjustable axle-brace for	F. O. Rogers	Elmira, N. Y	Feb. 2, 1858.
21012	Carriages for children, hanging	Gilbert Maynard	Greenfield, Mass	July 27, 1858.
19113	Carriages, shafts and poles to, attaching	V. N. Mitchell, assignor to himself, H. A. Area, and C. N. White.	Concord, N. C	Jan. 12, 1858.
19446	Carriages, &c., boxes for receiving money in	James Rodgers	New York, N. Y	Feb. 23, 1858.
19676	Carriages, &c., securing the wheels of	Adolphus Bruns	Davenport, Iowa	Mar. 23, 1858.
21696	Cars and locomotives when without steam, windlass for moving.	Charles Page	West Meriden, Conn	Oct. 5, 1858.
21086	Cars, brakes for railroad	John W. Rice	Springfield, Mass	Aug. 3, 1858.
20614	Cars from running off the track, preventing	Leverett Ball	Auburn, N. Y	June 22, 1858.
21026	Cars, horse railway, coupling for	Blaney E. Sampson	Boston, Mass	July 27, 1858.
20675	Cars on the track, railroad, machine for replacing.	John Whyte	Boston, Mass	June 22, 1858.
21469	Cars, railroad, couch-seats for	John Hartman, jr., assignor to John Hartman, sr.	Philadelphia, Pa	Sept. 7, 1858.
21436	Cars, railroad, couches for	F. R. Myers and F. H. Furniss	Cleveland, Ohio	Sept. 7, 1858.
21600	Cars, railroad, couches for	J. B. Creighton	Tiffin, Ohio	Sept. 28, 1858.
20983	Cars, railroad, coupling for	George S. Bishop	Washington, D. C	July 27, 1858.
21244	Cars, railroad, coupling for	J. Campbell, V. B. Lighthizer, and P. Shannon.	Steubenville, Ohio	Aug. 24, 1858.
20070	Cars, railroad, elliptic cushions for	Samuel R. Jones	York, Pa	April 27, 1858; reissued Oct. 26, 1858.
20254	Cars, railroad, for day and night service	J. B. Creighton	Tiffin, Ohio	May 18, 1858; reissued Sept. 21, 1858.
20021	Cars, railroad, method of ventilating	Calvin Pepper, assignor to Nelson R. Scovel.	Albany, N. Y	April 20, 1858.
20176	Cars, railroad, method of ventilating and excluding dust from.	A. B. Spencer	Rochester, N. Y	May 4, 1858.
19574	Cars, railroad, mode of operating brakes of	Melville McGee	Jackson, Mich	Mar. 9, 1858.
21259	Cars, railroad, running gear for	James Ingersoll	Grafton, Ohio	Aug. 24, 1858.
20293	Cars, railroad, safety attachment for	H. A. Newhall	Newton, Mass	May 18, 1858.
22364	Cars, railroad, seats and sleeping couches for	Plymon B. Green	Chicago, Ill	Dec. 21, 1858.
22025	Cars, railroad, sleeping berths for	D. M. Lawrence	Cincinnati, Ohio	Nov. 9, 1858.
21992	Cars, railroad, speed indicator and recorder for.	J. D. Steel and W. Lorenz	Pottstown, Pa	Nov. 2, 1858.
20418	Cars, railroad, springs for	Heman Gardiner	New York, N. Y	June 1, 1858.
19789	Cars, railroad, ticket-holders for	M. L. Mickles and L. S. Olmsted	Aurora, Ill	Mar. 30, 1858.
19331	Cars, railway, mode of connecting the trucks of.	T. F. Allen	Dyersville, Iowa	Feb. 16, 1858.
21099	Cars, sleeping, for railroads	Eli Wheeler	Elmira, N. Y	Aug. 3, 1858.
21070	Cars, sleeping, for railroads	Charles L. Harrington	Buffalo, N. Y	Aug. 3, 1858

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Chair, railroad. (See Class IX, letter R.)			
	Chairs, railroad, manufacture of wrought iron. (See Class IX, letter R.)			
	Chairs, railway, rolling. (See Class IX, letter R.)			
20507	Head-rest, combined umbrella and	Charles G. Page	Washington, D. C	June 8, 1858.
20197	Hub-machine	Lovett Eames	Kalamazoo, Mich.	May 11, 1858.
	Hubs, arrangement of cutters for turning. (See Class XIV, letter T.)			
19424	Journal box	D. A. Hopkins	Paterson, N. J.	Feb. 23, 1858.
20363	Journal-box	J. A. Norris	Philadelphia, Pa.	May 25, 1858.
19548	Journal-boxes of connecting rods or pitmen, mode of tightening and securing the keys of the.	Levi Dederick	Albany, N. Y.	Mar. 9, 1858.
19471	Omnibus fare-box	Israel S. Reeves, assignor to I. B. Slawson	New Orleans, La.	Feb. 23, 1858; reissued Nov. 23, 1858.
19765	Omnibus fares, cane for paying	S. W. Francis	New York, N. Y.	Mar. 30, 1858.
20349	Omnibus-register	Royal E. House	Binghamton, N. Y.	May 25, 1858.
20986	Omnibus-register	Louis Brauer	Washington, D. C.	July 27, 1858.
21372	Omnibuses, &c., fare-boxes for	I. B. Slawson	New Orleans, La.	Aug. 31, 1858.
	Railroad trains, method of registering speed of. (See Class VIII, letter R.)			
22295	Sled-brake	Albertus Larrowe	Cohocton, N. Y.	Dec. 14, 1858.
19994	Sleds, runners of	John Hoyt	Fishkill, N. Y.	April 20, 1858.
19980	Sleds, runners of	Silas Bullard	Hartland, Mich.	April 20, 1858.
20903	Sleigh-runners, attaching	William W. St John	Lima, N. Y.	July 13, 1858.
21255	Springs, metallic	James Harrison, jr.	New York, N Y	Aug. 24, 1858.
19764	Springs, pneumatic	William R. Fee	Cincinnati, Ohio	Mar. 30, 1858.
19450	Springs, volute	Daniel G. Rollin	New York, N. Y.	Feb 23, 1858.
20127	Vehicles, adjustable seats of	George J Lucas, assignor to himself and John G. Lucas.	Poughkeepsie, N. Y.	April 27, 1858.
20033	Vehicles, attaching shafts to	John A. Boyce	Monroe, N. Y.	April 27, 1858.
19567	Vehicles, attaching the springs of	F. L. Kidder and A. E. Aeby	Brooklyn, N. Y.	Mar. 9, 1858.
19558	Vehicles, fifth wheel for	H. T. Goodale	Clinton, Mass.	Mar. 9, 1858.
20652	Vehicles, metallic wheels for	T. McConaughy and J. McCollum	Burnsville, Ala.	June 22, 1858.
19088	Vehicles, wheel	John Heiden	New York, N. Y.	Jan. 12, 1858.
19092	Velocipede	Louis Kellner	Brooklyn, N. Y.	Jan. 12, 1858.
21615	Wagon, ambulance	Israel Moses	New York, N. Y.	Sept. 28, 1858.
19112	Wagon-brake	Sylvester A. Hough, assignor to himself and A. S. Hough.	Oxford, Ga.	Jan. 12, 1858.
21569	Wagon-brake, self-acting	Albertus Larrowe	Cohocton, N. Y.	Sept. 21, 1858.
19477	Wagon, manure	Jethro W. Barnes	Murfreesboro', N. C	Mar. 2, 1858.
19550	Wagon-tire, machine for fitting	Edward L. Dorsey	Johnson county, Ind.	Mar. 9, 1858.
19372	Wagons, extension reach for	J W. Langdon	Marengo, Ill.	Feb 16, 1858.
20795	Wagons, running gear of	Jonathan Hibbs	Tullytown, Pa.	July 6, 1858.
20504	Wagons, &c., brake for	B. B. Munroe	South Dansville, N. Y.	June 8, 1858.
19947	Wheels of steam vehicles, ploughs, &c., giving adhesion to driving.	John T. Price	Rockville, Ind.	April 13, 1858.
21081	Whiffle-tree, safety	George F. Outten	Norfolk county, Va.	Aug. 3, 1858.

CLASS XI.—HYDRAULICS AND PNEUMATICS, *including water-wheels, wind mills, and other implements operated on by air or water, or employed in the raising and delivery of fluids.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22219	Air-engine	Henry M. Paine	Worcester, Mass.	Nov. 30, 1858.
22281	Air-engine	John Ericsson	New York, N. Y.	Dec. 14, 1858.
19475	Bellows	Jacob Arnoldt	Wheeling, Va.	Mar. 2, 1858.
20045	Blowing apparatus	David Cumming	Sorrel Horse, Pa.	April 27, 1858.
19013	Cock, supply	William S. Carr	New York, N. Y.	Jan. 5, 1858.
20314	Cock, valve	Seth Adams	Boston, Mass.	May 25, 1858.
20788	Faucet	Henry Getty	Brooklyn, N Y	July 6, 1858.
20853	Faucet	N. P. Whittlesey, assignor to James A. Frary.	Meriden, Conn.	July 6, 1858.
22402	Faucet	Martin Robbins and James Powell, assignors to James Powell.	Cincinnati, Ohio	Dec. 21, 1858.

No.	Inventions or discoveries.	Patentees.	Residence	Date.
20799	Faucet, measuring	Gilbert Hubbard	Montville, Mass.	July 6, 1858.
	Faucets, casting. (See Class H, letter C)			
19929	Filterer, water	A. Jaminet	Florisant, Mo	April 13, 1858.
19335	Filtering apparatus	Charles Ballard	Worcester, Mass.	Feb. 16, 1858.
21964	Filtering-cock	Lemuel P. Jenks and Francis Draper	Boston, Mass. / East Cambridge, Mass.	Nov. 2, 1858.
21809	Gauge for contents of casks, &c	John K. Barney	Warren, R. I.	Oct. 19, 1858.
21814	Gauge, liquid	Erastus T Bussell and Joseph Smith	Cincinnati, Ohio	Oct. 19, 1858.
20532	Hose-coupling	Charles Vander Woerd, assignor to Alvah Clark & Sons.	Cambridge, Mass.	June 8, 1858.
22166	Hose-coupling	James C. Cooke	Middletown, Conn.	Nov. 30, 1858.
22296	Hose, engine	Charles L. Lenzmann	Brooklyn, N. Y.	Dec. 14, 1858.
21307	Hose, &c., machine for cleaning	John B. Alden, jr, and Edwin L. Gates.	Worcester, Mass.	Aug. 31, 1858.
19029	Hydrant	John Hyde	New York, N. Y.	Jan. 5, 1858.
19022	Hydrant	Richard De Charms	Philadelphia, Pa.	Jan. 5, 1858.
19206	Hydrant	W. Race and S. R. C. Mathews	Seneca Falls, N. Y.	Jan. 26, 1858.
19330	Hydrant	Kingston Goddard	Philadelphia, Pa.	Feb 9, 1858.
19513	Hydrant	James Powell	Cincinnati, Ohio	Mar. 2, 1858.
19511	Hydrant	John Parham and Samuel P. Parham	Philadelphia, Pa. / Trenton, N. J.	Mar. 2, 1858.
21338	Hydrant	James R. Higgs	Utica, N. Y.	Aug. 31, 1858.
21858	Hydrant	James Swan	Brooklyn, N. Y	Oct. 19, 1858.
22357	Hydrant	Samuel P. Francisco and Wm. P. Dickinson.	Reading, Pa	Dec. 21, 1858.
19224	Hydraulic engine	Jas S. Gwynne, assignor to Samuel Nicolson	New York, N. Y. / Boston, Mass	Jan. 26, 1858.
20523	Hydraulic ram	Joseph F. Warner	Philadelphia, Pa	June 8, 1858.
19398	Hydraulic valve	Calvin and George M. Woodward	New York, N. Y.	Feb. 16, 1858.
20169	Metre, fluid	William C. Perrine	New York, N. Y.	May 4, 1858.
20979	Metre, fluid	E. D. Weatherbee, assignor to himself and L. Harding.	Worcester, Mass.	July 20, 1858.
22315	Metre, fluid	Charles William Siemens	London, England	Dec. 14, 1858; England, Mar. 4, 1853.
19414	Metre, water	William M. Faris	Wheeling, Va.	Feb. 23, 1858.
20842	Metre, water	William Darker, jr., assignor to J. B. Thompson.	Philadelphia, Pa	July 6, 1858.
21283	Metre, water	F. A. Tenney	Concord, N. H	Aug. 24, 1858.
19286	Pump	William Boyers	Mount Carroll, Ill.	Feb. 9, 1858.
19699	Pump	J. O. Joyce	Cincinnati, Ohio	Mar. 23, 1858.
19671	Pump	James B. Atwater	Brooklyn, N. Y	Mar. 23, 1858.
20442	Pump	S. S. Putnam	Boston, Mass	June 1, 1858.
20787	Pump	A. A Genung	Painesville, Ohio	July 6, 1858.
20783	Pump	Gilbert B. Farnam	Meriden, Conn	July 6, 1858.
20880	Pump	George Hibsch	Buffalo, N. Y	July 13, 1858.
21043	Pump	Henry Zeng	Elizabethport, N. J	July 27, 1858.
21561	Pump	Foster Henshaw	Washington, D. C	Sept. 21, 1858.
21560	Pump	S. H Gray	Bridgeport, Conn	Sept. 21, 1858.
21801	Pump	Henry W. Regan, assignor to himself and George H. Newer.	Cressora, Pa	Oct. 12, 1858.
22201	Pump	O. W. Preston, jr	Corning, N. Y	Nov. 30, 1858.
22182	Pump	A. L. Keeports and George Palmer	Littlestown, Pa	Nov. 30, 1858.
22165	Pump	Asahel Cooley	Springfield, Ill	Nov. 30, 1858.
19981	Pump and gasometer, compound air	Samuel Chichester	Poughkeepsie, N. Y	April 20, 1858.
19173	Pump-bucket	William F. Horton, assignor to Walter K. Marvin.	Lockport, N. Y	Jan. 19, 1858.
20443	Pump-bucket	Emmett Quinn	Trenton, N. J	June 1, 1858.
21756	Pump, centrifugal	W. C. Hibbard	West Roxbury, Mass	Oct. 12, 1858.
20060	Pump-coupling	S H. Gray	Bridgeport, Conn	April 27, 1858.
19907	Pump, double-acting force	Eugene Bellamy	St. Louis, Mo	April 13, 1858.
19680	Pump, oscillating	Ezra Cope and Isaac W. Bragg	Cincinnati, Ohio	Mar. 23, 1858.
19834	Pump, portable	W. and B Douglas	Middletown, Conn	April 6, 1858.
19180	Pump, rotary	John S. Barden	New Haven, Conn	Jan. 26, 1858.
19581	Pump, rotary	William Peirce	New Orleans, La	Mar. 9, 1858.
20796	Pump, rotary	A. P. Holly	Seneca Falls, N. Y	July 6, 1858.
21318	Pump, rotary	Levi Burnell	Milwaukie, Wis	Aug. 31; add'l imp't Dec. 14, 1858.
21550	Pump, rotary	M. R. Clapp	Seneca Falls, N. Y	Sept. 21, 1858.
21632	Pump, rotary	B. T. Trimmer	Rochester, N. Y	Sept. 28, 1858.
	Pumping-engines, steam. (See Class VI, letter E.)			
21904	Pumps, mode of operating	Daniel J. Rogers	Magnolia, N. C	Oct. 26, 1858.
19276	Pumps, mode of operating pistons of	Simeon Wood	Worcester, Mass	Feb. 2, 1858.

List of patents for inventions, 1858—CLASS XI.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Pumps, railroad station, mode of operating. (See Class IX, letter R.)			
21071	Sound, tube for conveyance of	R. G. Hatfield	Mt. Vernon, N. Y	Aug. 3, 1858.
	Springs, pneumatic. (See Class X, letter S.)			
21898	Water, device for elevating, by the combustion of a volatilizable hydro-carbon.	Robert Nelson	New York, N. Y	Oct. 26, 1858.
21928	Water-motor	Caleb Rider, assignor to George T. McLanthlin.	Plymouth, Mass	Oct. 26, 1858.
19214	Water-wheel	Frederick Smith	Buffalo, N. Y	Jan. 26, 1858.
20187	Water wheel	Jesse Bartoo	East Aurora, N. Y	May 11, 1858.
20234	Water-wheel	Alonzo Warren and E. Damon, jr	Wareham, Mass	May 11, 1858.
20200	Water-wheel	J. H. Fairchild	Jericho, Vt	May 11, 1858.
20335	Water-wheel	John Custer	Finley, Ohio	May 25, 1858.
20456	Water-wheel	John Tyler	West Lebanon, N. H	June 1, 1858.
20921	Water-wheel	David R. Krautz, assignor to himself and Isaac S. Roland.	Ephratah, Pa	July 13, 1858.
21578	Water-wheel	Alpha Smith	Sauquoit, N. Y	Sept. 21, 1858.
21753	Water-wheel	W. H. Harbough	Piqua, Ohio	Oct. 12, 1858.
21757	Water-wheel	J. P. and D. W. Hoyt	Lumber City, Pa	Oct. 12, 1858.
22282	Water-wheel	John H. Fairchild	Jericho, Vt	Dec. 14, 1858.
21791	Water-wheel and chute	Alden Whitman	Auburn, Me	Oct. 12, 1858.
19115	Water-wheel, chute for	Chauncey B. Whitney, assignor to Philip Case.	Ithaca, N. Y	Jan. 12, 1858.
20437	Water-wheel, horizontal	John McCarty	Catharine, N. Y	June 1, 1858.
20350	Wind-wheel	James E. Johnson	San Francisco, Cal	May 25, 1858.
20336	Wind-wheel	William H. Derrick	Stockton, Cal	May 25, 1858.
19383	Wind-wheels, method of furling the sails of	George W. Shaw	Thompson, Conn	Feb. 16, 1858.

CLASS XII.—LEVER, SCREW, AND OTHER MECHANICAL POWER, *as applied to pressing, weighing, raising, and moving weights.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
	Applying power to the cranks of engines. (See Class VI, letter E.)			
19830	Bags, clasp for fastening	W. H. Cloud, A. L. Hatfield, and C. H. Burdick.	Fremont, Ohio	April 6, 1858.
21520	Balances, spring, in combination with a knife	George H. Smith	Glenwood, Iowa	Sept. 14, 1858.
19437	Bale-hoops, cotton	John McMurtry, assignor to Daniel Whiel.	Lexington, Ky	Feb. 23, 1858.
21517	Bale-hoops, cotton, clasps for	Albert C. Richard	Newtown, Conn	Sept. 14, 1858.
21305	Bale-hoops, coupling for	John Agnew	Columbia, S. C	Aug. 31, 1858.
19709	Bale-ties, cotton	David G. Olmstead	Vicksburg, Miss	Mar. 23, 1858.
19490	Bales, cotton, metallic ties for	Frederic Cook	New Orleans, La	Mar. 2, 1858.
20311	Bales, cotton, securing metallic bands on	P. C. Ingersoll, assignor to himself and H. F. Dougherty.	Green Point, N. Y	May 18, 1858.
21190	Bales, metallic bands for binding	William Field	Providence, R. I	Aug. 17, 1858.
21360	Bales, &c., cotton, machine for tightening and securing metallic bands for.	George W. Penniston	North Vernon, Ind	Aug. 31, 1858.
21272	Bales, &c., metallic bands or ties for	Increase C. Plant	Macon, Ga	Aug. 24, 1858.
21848	Bands, clasps for metallic or other flexible	Albert C. Richard	Newtown, Conn	Oct. 19, 1858.
22372	Elevating hay, machine for	James C. McGrew	Smithfield, Ohio	Dec. 21, 1858.
	Elevator, hay. (See Class I, letter H.)			
19087	Elevator, hay and straw	James H. Gill	Mt. Pleasant, Ohio	Jan. 12, 1858.
19939	Hoisting and dumping coal, machine for	George Martz	Pottsville, Pa	April 13, 1858.
20455	Hoisting and lowering goods, &c., machinery for	George Thompson	Cincinnati, Ohio	June 1, 1858.
19250	Hoisting ice, apparatus for	Augustus Hunt	Philadelphia, Pa	Feb. 2, 1858.
	Hoisting ice, machine for. (See Class XXII, letter I.)			
20170	Hoisting machine	Reuben Packard	Rockland, Me	May 4, 1858.
22008	Hoisting-machine	Daniel W. Barr	Lancaster, Pa	Nov. 9, 1858.
	Hoop-lock (See Class XIV, letter H.)			
21837	Jack, hoisting	William Kearney	Newark, N. J	Oct. 19, 1858.
20372	Jack, lifting	Albert C. Richard	Newtown, Conn	May 25, 1858.
21342	Jack, lifting	Joel C. Jackson	Rochester, N. Y	Aug. 31, 1858.

List of patents for inventions, 1858—CLASS XII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21107	Jack, mechanical	Amos Jones, assignor to himself and Solon M. Davis.	Lebanon, N. H	Aug. 3, 1858.
20624	Lever-power, mode of applying	George E. Clay	Stillwater, Minn	June 22, 1858.
21822	Lifting heavy weights, machine for	T. J. Davis and J. B. Warner	Scroepell, N. Y Volney, N. Y	Oct. 19, 1858.
19291	Lubricating apparatus for journal-boxes of railroad-cars.	Jacob C. Geisendorff	Cincinnati, Ohio	Feb. 9, 1858.
20331	Lubricating car-axles	John W. Cochran	New York, N. Y	May 25, 1858.
20406	Lubricating car-axles	George W. Cochran	New York, N. Y	June 1, 1858.
20674	Lubricating engines, oil-cups for	S. H. Whitmore	Cincinnati, Ohio	June 22, 1858.
19108	Lubricating journals, &c., method of, by a pendulum valve arrangement.	John B. Tom and Stephen D. Tucker	New York, N. Y	Jan. 12, 1858.
19551	Lubricating the axle-boxes of carriage-wheels	William Diller	Lancaster, Pa	Mar. 9, 1858.
19385	Lubricator	William K. Stevens	Alexandria, La	Feb. 16, 1858.
21816	Lubricator	Elias Clampitt	Baltimore, Md	Oct. 19. 1858.
19750	Lubricator for railroad-axles	William Clough	Madison, Ind	Mar. 30, 1858.
20665	Machinery, oil-cup for	R. Ross and W. Holland	Philadelphia, Pa	June 22, 1858.
19572	Packing flour, machine for	Judson Mattison	Oswego, N. Y	Mar. 9, 1858.
19811	Press	S. Ingersoll, assignor to himself, S. B. Turner, and George W. Kimball.	Brooklyn, N. Y	Mar. 30, 1858.
22387	Press, c m	Enoch Thomas	Beverly, Va	Dec. 21, 1858.
20346	Press, cheese	Jacob Hibbard	Weathersfield, N. Y	May 25, 1858.
21883	Press, cheese	Hartwell Kendall	East Dorset, Vt	Oct. 26, 1858.
19071	Press, cotton	Nathan Chapman	Mystic River, Vt	Jan. 12, 1858.
19202	Press, cotton	David G. Olmstead	Vicksburg, Miss	Jan. 26, 1858.
19279	Press, cotton	James A. Disbrow and James E. Cronk, assignors to J. A. Disbrow.	Poughkeepsie, N. Y	Feb. 2, 1858.
19399	Press, cotton	F. W. Witting	Yorktown, Tex	Feb. 16, 1858.
19381	Press, cotton	H. W. Randle	Barnsville, Ala	Feb. 26, 1858.
19413	Press, cotton	Eugene Duchamp	St Martinsville, La	Feb. 28, 1858.
19571	Press, cotton	Josephus Loving	Moscow, Tenn	Mar. 9, 1858.
19714	Press, cotton	Hiram Ross	Rockport, Ind	Mar. 23, 1858.
19821	Press, cotton	Henry Shrader	Burnsville, Ala	Mar. 30, 1858.
19838	Press, cotton	William Field	Providence, R. I	April 6, 1858.
20973	Press, cotton	R. G. Williams	Hannahatchee, Ga	July 20, 1858.
21317	Press, cotton	Thomas J. Bottoms & James A. Bullock	Thomas county, Ga	Aug. 31, 1858.
21894	Press, cotton	Cornelius Martratt	Waterford, N. Y	Oct. 26, 1858.
19708	Press for extracting oil from linseed	Charles Moore	Trenton, N. J	Mar. 23, 1858.
19149	Press for packing the pulp of linseed or other seeds preparatory to extracting the oil from them.	Charles Moore	Trenton, N. J	Jan. 19, 1858.
20551	Press, hay and cotton	L. L. Cummings	Munnsville, N. Y	June 15, 1858.
22216	Press, hay and cotton	Henry Barnes, assignor to himself and N. G. Macrum.	Blairsville, Pa	Nov. 30, 1858.
19232	Press, jack-screw	Joseph W. Bocage	Pine Bluff, Ark	Feb. 2, 1858.
20509	Press, ratchet	Philip H. Raiford	Mobile, Ala	June 8, 1858.
19256	Press, tobacco	William R. Musser and John Coleman	Baltimore, Md Lynchburg, Va	Feb. 2, 1858.
21079	Press, mode of operating	David L. Miller	Madison, N. J	Aug. 3, 1858.
20947	Pressing grapes, machine for	Henry Krause	New York, N. Y	July 20, 1858.
22014	Pressing tobacco, machinery for	William Cameron	Petersburg, Va	Nov. 9, 1858.
20623	Raising marl, dirt, &c., machine for	T. F. Christman	Wilson, N. C	June 22, 1858.
21145	Scales, counter	H. B. Osgood	New Haven, Conn	Aug. 10, 1858.
19061	Scales, platform	James Kelly, assignor to himself and John Sherry.	Sag Harbor, N. Y	Jan. 5, 1858.
19985	Scales, platform	Charles H. Earle	Green Bay, Wis	April 20, 1858.
20492	Scales, platform	J. F. Keeler	Cleveland, Ohio	June 8, 1858.
22244	Scales, platform	Elnathan Sampson	St. Johnsbury, Vt	Dec. 7, 1858.
20792	Springs, machine for testing the strength of	S. H. Hartman	Pittsburg, Pa	July 6, 1858.
21950	Tackle-block	John Ferrier	Charlestown, Mass	Nov. 2, 1858.
21028	Weighing and registering grain, machine for	J. Scheitlin	Columbia, S. C	July 27, 1858.
21999	Weighing carts	James W. Martin, assignor to Lewis Rothermel.	Philadelphia, Pa	Nov. 2, 1858.
20513	Weighing-machine, automatic grain	W. & T. Schnebly	Hackensack, N. J	June 8, 1858.
19466	Weighing mechanism applied to the carts of coal dealers and others, construction and arrangement of the.	John Hartman, jr., assignor to John Hartman, sr.	Philadelphia, Pa	Feb. 23, 1858.
19263	Winch, safety	William Riker	Penn Yan, N. Y	Feb. 2, 1858.

Class XIII.—Grinding-mills and mill-gearing, *including grain-mills, mechanical movements, horse-power, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19735	Belt coupling	Samuel Green, assignor to Silas B. Green	Grand Rapids, Mich / Rochester, N. Y	Mar. 23, 1858.
19318	Belting, lap-joints for	Henry Underwood	New York, N. Y	Feb. 9, 1858.
21596	Belting machine	John H. Cheever	New York, N. Y	Sept 28, 1858.
20564	Belting, round, manufacture of	Marshall Jewell	Hartford, Conn	June 15, 1858.
19272	Belts, shifting	Morris Wells	Brooklyn, N. Y	Feb 2, 1858.
19892	Bolting, dusting, and separating the ground material, machinery for.	Joel Woodward	Philadelphia, Pa	April 6, 1858.
19024	Bolting flour	David Geib	Mifflintown, Pa	Jan. 5, 1858.
21277	Bolting flour, machinery for	Benjamin D. Sanders	Holliday's Cove, Va	Aug. 24, 1858.
19303	Bolts, flour	Samuel G. McMurtry	West Urbana, Ill	Feb. 9, 1858.
21009	Bran-duster	S. B. Manning	Allegheny, Pa	July 27, 1858.
	Cleaning and polishing coffee, apparatus for. (See Class I, letter C.)			
	Cleaning grain, machine for. (See Class I, letter G.)			
21061	Crank, substitute for the	Aaron Brooks	Crawford county, Ind	Aug. 3, 1858.
21030	Crushing and grinding the same, feeding quartz, &c., to machines for.	C. P. Stanford	Mount Gregory, Cal	July 27, 1858.
20601	Dress, hulling-stone	John A. Wilson	Dover, N. J	June 15, 1858.
22006	Flour-cooler	Horace B Allis	Little Rock, Ark	Nov. 9, 1858.
22116	Gearing	G. P. Ganster	Reading, Pa	Nov. 23, 1858.
22118	Gearing	E. A. Goodes	Philadelphia, Pa	Nov. 23, 1858.
20672	Gearing for machinery	William Webster	Jefferson county, W. Ter	June 22, 1858.
21215	Grain, cooling and ventilating, apparatus for	Charles D. Clark	Chicago, Ill	Aug. 24, 1858.
20422	Grain, machine for cleaning	I G. Goshon and W. Bowers	Mercersburg, Pa / Chambersburg, Pa	June 1, 1858.
20399	Grain, machine for elevating, measuring, registering, and bagging.	Peleg Barker	North Adams, Mich	June 1, 1858.
21144	Grain, machine for fanning and assorting	R. Nutting	Randolph, Vt	Aug. 10, 1858.
22359	Grain, machine for separating garlic from	P. C. Fritz	Barrytown, N. Y	Dec. 21, 1858.
	Grain-measure. (See Class VIII, letter M)			
	Grain-separator. (See Class I.)			
20490	Grinding and cutting, machine for	Franklin B. Hunt	Richmond, Va	June 8, 1858.
19688	Grinding, machine for cutting the leaves from the sugar-cane preparatory to.	Calvin Dickey	Mercersburg, Pa	Mar. 23, 1858.
20282	Grinding, toothed cylinder for	Benjamin Mackerley	New Petersburg, Ohio	May 18, 1858.
20279	Horse-power	B. F. Love and J. H. Frazee	Shelbyville, Ind	May 18, 1858.
20257	Horse-power	Jeremiah Darling	Cincinnati, Ohio	May 18, 1858.
20461	Horse-power	T. H. and J. E. and J. F. and R. J. Wilson	Athens, Ga	June 1, 1858.
20421	Horse-power	Micah Gillam	Troy, Pa	June 1, 1858.
20978	Horse-power	W. Rider, assignor to himself and J. B. Sweetland.	Almont, Mich	July 20, 1858.
21495	Horse-power	Gorges Hely	Rochester, Wis	Sept. 14, 1858.
22079	Horse-power draught	J. H. Jones	Rockton, Ill	Nov. 16, 1858.
22360	Horse-power for driving reciprocating saws	Edward M. Fuller	Salisbury, N. Y	Dec. 21, 1858.
19976	Horse-power, gearing for	Cyrus Avery	Tunkhannock, Pa	April 20, 1858.
20368	Horse-power, governor for	Lea Pusey	Wilmington, Del	May 25, 1858.
19769	Horse-power machine	James Grant	Rochester, N. Y	Mar. 30, 1858.
21032	Horse-power machine	James A. Stone	Rochester, N. Y	July 27, 1858.
19408	Horse-powers, &c., wheel and axle attachment of.	George E. Burt and George F. Wright	Harvard, Mass	Feb. 23, 1858.
	Hulling rice. (See Class I, letter H.)			
21474	Journal-boxes	H. H. Thayer, assignor to J. A. Woodbury and S. A. Woods.	Sandwich, Mass	Sept. 7, 1858.
19984	Meal, cooling and drying	John Deuchfield	Oswego, N. Y	April 20, 1858.
22003	Mechanical movement	Joseph H. Davis	Woburn, Mass	Nov 2, 1858.
19807	Mill	Joel Woodward	Philadelphia, Pa	Mar. 30, 1858.
19386	Mill-bush	George Strause	Boonsboro' Md	Feb. 16, 1858.
19727	Mill-bush	John Wells	Baltimore, Md	Mar. 23, 1858.
19421	Mill, cider	M. W. Helton	Bloomington, Ind	Feb. 23, 1858.
20220	Mill, cider	Michael Stevens	Lucas, Ohio	May 11, 1858.
21874	Mill, cider	John Eiberweiser	Cincinnati, Ohio	Oct. 26, 1858.
20208	Mill, corn	Charles Leavitt	Cleveland, Ohio	May 11, 1858.
20121	Mill, corn and cob	Benjamin Winter	Buckingham, C. H., Va	April 27, 1858.
19016	Mill, flouring	Edwin Clark	Lancaster, Pa	Jan 5, 1858.
20329	Mill, flouring	Edwin Clark	Lancaster, Pa	May 25, 1858; antedated Feb. 2, 1858.
20370	Mill, flouring	Christopher Rands	Peoria, Ill	May 25, 1858.
20972	Mill, flouring	Samson Wolff	Vicksburg, Miss	July 20, 1858.
21062	Mill, flouring	R. J. Brown	Perry, Pa	Aug. 3, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22384	Mill, flouring	Ira Speight	Woodville, Miss	Dec. 21, 1858.
20784	Mill for cutting, crushing, and expressing the juice from sugar-cane.	J. J. Fearrington	Pittsborough, N. C.	July 6, 1858.
20102	Mill for grinding paint	Chauncey Thomas	West Newbury, Mass.	April 27, 1858.
19541	Mill for reducing substances	Thomas Blanchard	Boston, Mass.	Mar. 9, 1858.
21340	Mill for sugar-cane	Jeremiah Howard	New York, N. Y.	Aug 31, 1858.
20288	Mill for treating Chinese sugar-cane	Henry Meyer	Bridgeton, N. J.	May 18, 1858.
19251	Mill, grain	James J. Johnston	Allegheny Pa.	Feb. 2, 1858.
19441	Mill, grain	Philander Perry	Troy, N. Y.	Feb. 23, 1858.
19093	Mill, grinding	Burton W. Leonard	Bridgeport, Conn.	Jan. 12, 1858.
19289	Mill, grinding	H. V. Duryea	Fulton, N. Y.	Feb. 9, 1858.
19521	Mill, grinding	Hosea Southwick	Little Cooley, Pa.	Mar. 2, 1858.
19587	Mill, grinding	Gelston Sanford	Poughkeepsie, N. Y.	Mar. 9, 1858.
19559	Mill, grinding	R. D. Granger	Philadelphia, Pa.	Mar. 9, 1858.
19826	Mill, grinding	David E Breinig	Philadelphia, Pa.	April 6, 1858.
20310	Mill, grinding	S. Vascow and A. Guirand	Cincinnati, Ohio	May 18, 1858.
20692	Mill, grinding	B. A. Beardsley	Waterville, N. Y.	June 29, 1858.
20734	Mill, grinding	William Scarlett	Kenosha, Wis.	June 29, 1858.
20941	Mill, grinding	Gerritt Erkson	New York, N. Y.	July 20, 1858.
19060	Mill, hominy	Ezra Fahrney, assignor to John Donaldson	Deep River, Iowa	Jan. 5, 1858.
19297	Mill, hominy	Philip Homrighaus	Royalton, Ohio	Feb. 9, 1858.
19691	Mill, hominy	T. E. Dake and J. W. Teal	Indianapolis, Ind.	Mar. 23, 1858.
20327	Mill, hominy	James M. Clark	Lancaster, Pa.	May 25, 1858.
21184	Mill pick-holder	J. P. Brady	Mount Joy, Pa.	Aug. 17, 1858.
19696	Mill, pug, grinding attachment to	D. H. Gage	Dover, N. H.	Mar. 23, 1858.
20012	Mill, quartz	L. W. Williams	Nevada City, Cal.	April 20, 1858.
20161	Mill, smut	J. C. Kelly and A. Frost	Edinburg, Ind.	May 4, 1858.
21199	Mill-spindles, mode of securing and adjusting the steps of.	Gideon Hotchkiss	Windsor, N. Y.	Aug. 17, 1858.
20083	Mill-stone dress	Gabriel Natcher	Indianapolis, Ind.	April 27, 1858.
20084	Mill-stone dress	Gabriel Natcher	Indianapolis, Ind.	April 27, 1858.
20029	Mill-stone dress	Franklin Bellinger	Lockport, N. Y.	April 27, 1858.
20462	Mill-stone dress	Samson Wolff	Vicksburg, Miss	June 1, 1858.
20950	Mill-stone dress	G. W. Loy	Jefferson, Texas	July 20, 1858.
22356	Mill stones, balancing	John Fairclough	Louisville, Ky.	Dec. 21, 1858.
19273	Mill-stones, dressing	Isaac Whissen	Mount Jackson, Va.	Feb. 2, 1858.
19156	Mill-stones, feeding	Winser Smith	Princeton, Iowa	Jan. 19, 1858.
21330	Mill-stones, hanging	J. A. Forsman	Cincinnati, Ohio	Aug. 31, 1858.
20818	Mill-stones, ventilating	L. Racine	Joliet, Ill.	July 6, 1858.
20124	Mill, sugar	Frederick E. Dake, assignor to himself and Thomas E. Hunt.	Indianapolis, Indiana	April 27, 1858.
21601	Mill, sugar	Samuel L. Denney	Lancaster county, Pa.	Sept. 28, 1858.
19545	Mill, sugar and cider	Hamilton J. Cox	Warren county, Ohio	Mar. 9, 1858.
20290	Mills, chasing	Charles Moore	Trenton, N. J.	May 18, 1858.
20540	Mills, grist, machine for gathering the toll in	Joseph Bartholomew	Dundee, N. Y.	June 15, 1858.
19605	Mills, hulling, dress of stones for	D. Collins, assignor to himself and W. L. Hanford.	Jersey City, N. J.	Mar. 9, 1858.
19302	Mills, scrapers for grinding	Thomas E. Little	Janesville, Wis.	Feb. 9, 1858.
20384	Motion, changing rotary into reciprocating	S. L. Wiegand	Philadelphia, Pa.	May 25, 1858.
19848	Motion, converting reciprocating into rotary	Forest H. Harwood	Rushville, N. Y.	April 6, 1858.
21065	Motion, converting reciprocating into rotary	Isaac Chapman	New York, N. Y.	Aug. 3, 1858.
20980	Motion, converting rotary into reciprocating	J. J. Weeks, assignor to Susan Weeks	Locust Valley, N. Y.	July 20, 1858.
19726	Motion, reciprocating and rotary	Isaac Van Doren	Somerville, N. J.	Mar. 23, 1858.
19586	Motion, reciprocating, mode of producing vertical and horizontal.	Matthias Steigers	St. Louis, Mo.	Mar. 9, 1858.
22445	Motion, rotary, device for transmitting	Henry Morris	West Philadelphia, Pa	Dec. 28, 1858.
21934	Motion, rotary, mechanism for transmitting	Gerard Bancker and A. Campbell	New York, N. Y.	Nov. 2, 1858.
21133	Motive-power, apparatus for heating and cooling air to be used as a.	W. Hidden and J Reeves	New York, N. Y.	Aug. 10, 1858.
20701	Motive-power, mode of obtaining	Peter Daniel, deceased John F. Dunnington, administrator	Franklin county, Ky. Washington, D. C.	June 29, 1858.
19183	Power, machinery for obtaining and preserving, from trains while passing railway stations.	Erastus T. Bussell	Shelbyville, Indiana	Jan. 26, 1858.
21611	Powers, mechanical	Elisha Matteson	Troy, N. Y	Sept. 28, 1858.
20881	Pulleys, machine	Caleb S. Hunt	Bridgewater, Mass	July 13, 1858.
21156	Rice, machine for pounding	John T. Tallon	New Orleans, La.	Aug. 10, 1858.
21913	Rice, machinery for pearling, polishing, and finishing	R. P. Walker	New York, N. Y.	Oct. 26, 1858.
22337	Rice, mode of cleaning	Wilson Ager	Rohrsburg, Penn.	Dec. 21, 1858.
19637	Separator and cleaner, grain	S. Howes, and G. E. Throop	Silver Creek, N. Y. Chicago, Ill.	Mar. 16, 1858.

List of patents for inventions, 1858—Class XIII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19629	Separator and smut-machine	Daniel M. Donehoo	Hookstown, Penn	Mar. 16, 1858.
	Separator, grain (See Class I, letter G.)			
	Separator, wheat. (See Class I, letter W.)			
20566	Shafting, adjustable hanger for	William Johnson	Lambertville, N. J.	June 15, 1858.
20634	Shafting, coupling-box for	W. B. Dunning	Geneva, N. Y	June 22, 1858.
21640	Shafting, hangers and boxes for	Frederick W. Howe, assignor to the Newark Machine Company.	Newark, N. J	Sept. 28, 1858.
19340	Shafting, hangers for	William B. Bement	Philadelphia, Penn	Feb. 16, 1858.
20800	Shafts without using a crank, rotating	Simon Ingersoll	Greenwich, Conn	July 6, 1858.
20104	Smut and grain-cleaning machine	Jeremiah Tobin	Newark, N. J	April 27, 1858.
19860	Smut-machine	Samuel B. Manning	Allegheny, Penn	April 6, 1858.
20420	Smut-machine	John German, jr., and S. R. Perkins	Smithfield, Mich. / Pontiac, Mich.	June 1, 1858.
20521	Smut-machine	D. M. Vance	Urbana, Ohio	June 8, 1858.
21202	Smut-machine	J. N. Lester	Oswego, N. Y	Aug. 17, 1858.
21563	Smut-machine	Hiram Hopkins	Evansville, Ia.	Sept. 21, 1858.
22128	Smut-machine	Hugh Marshman and C. F. Foulke	Carlisle, Iowa	Nov. 23, 1858.
22395	Smut-machine	J. A. Woodward	Burlington, Iowa	Dec. 21, 1858.
20683	Stuffing-boxes	H. F. Read, assignor to himself and Samuel J. Burr.	Brooklyn, N. Y	June 22, 1858.
21139	Wheat, cleaning, machine for	J. Lantz and J. Russell	Wheeling, Va	Aug. 10, 1858.
20318	Wheels, drawing, for portable steam engines and agricultural implements, &c.	G. W. Barnett	Springfield, Ohio	May 25, 1858.

Class XIV.—Lumber, *including machines and tools for preparing and manufacturing, such as sawing, planing, mortising, shingle and stave, carpenters' and coopers' implements.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22195	Auger for wood	Martin Norris	Broad Brook, Conn	Nov. 30, 1858.
22394	Auger shanks, method of attaching cutting-lips to	Norman S. White and Aaron Denio	Shaftsbury, Vt	Dec. 21, 1858.
21179	Augers, method of securing the centre of the spindles of.	Charles L. Barnes	New York, N. Y	Aug. 17, 1858.
19829	Augers, &c., method of attaching expansible cutting lips to.	N. Clare and J. Quigley	Malden, N. Y	April 6, 1858.
20261	Barrel-head machine	Benjamin Fitch	Mooers, N. Y	May 18, 1858.
19066	Barrel-head machinery, circular cutting, method of connecting the beveling knives in.	William Bevard	Muscatine, Iowa	Jan. 12, 1858.
19509	Barrel-heads, machine for cutting	William Manning	Rouse's Point, N. Y	Mar. 2, 1858.
19510	Barrel-heads, machine for cutting	James H. Mattison	Scriba, N. Y	Mar. 2, 1858.
20864	Barrel-heads, machine for cutting	A. H. Crozier	Oswego, N. Y	July 13, 1858.
20962	Barrel-heads, machine for cutting both bevels simultaneously on.	A. D. Stewart	Bennington, Vt	July 20, 1858.
21117	Barrels, machine for chamfering and crozing	A. H. Crozier and C. Carrier	Oswego, N. Y	Aug. 10, 1858.
21769	Barrels, machine for chamfering and crozing	James H. Mattison	Scriba, N. Y	Oct. 12, 1858.
21718	Barrels, machine for crozing, chamfering, and beveling.	William M. Arnall, assignor to himself, O. P. Smith, and A. C. Jordan.	Sperryville, Va	Oct. 5, 1858.
21725	Barrels, &c., machine for forming	Jacob Rees, assignor to Jonah L. Rees	Elk Horn, Ill	Oct. 5, 1858.
19595	Bench-hook	E. B. White	Nashua, N. H	Mar. 9, 1858.
21351	Bending felloes, machine for	John L. Mann	Ravenna, Ohio	Aug. 31, 1858.
19480	Bending shovel-handles, method of	Thomas Blanchard	Boston, Mass	Mar. 2, 1858.
22474	Bit, expanding	Harley Stone, assignor to P. P. Todd	Blackstone, Mass	Dec. 28, 1858.
21597	Bit, expansive	William A. Clark	Bethany, Conn	Sept. 28, 1858.
19028	Bit-holder	B. B. Hill and S. W. Adams	Chicopee, Mass	Jan. 5, 1858.
20010	Bit-holder	David H. Whittemore	Worcester, Mass	April 20, 1858.
21160	Bit, variable boring	William Tucker	Gloucester, R. I	Aug. 10, 1858.
20192	Bits, expansive, method of seating the movable cutter in.	W. A. Clark	Bethany, Conn	May 11, 1858.
	Boards, machine for measuring the superficies of. (See Class VIII, letter M.)			

List of patents for inventions, 1858—CLASS XIV.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20779	Boring-machine	L. A. Dole	Salem, Ohio	July 6, 1858.
22379	Boring wood, machine for	George F. Rice	Worcester, Mass.	Dec. 21, 1858.
20495	Brace, device for attaching bits to the	Samuel U. King	Windsor, Vt.	June 8, 1858.
22101	Bungs, machine for cutting	James Lyon and George H. Brady, assignors to themselves and Thomas J. Falls, jr.	New York, N. Y.	Nov. 16, 1858.
19700	Carpenters' brackets, &c. Holding-bolt for, carpenters' rules. (See Class VIII, letter R.)	John W. Kennedy	Plainfield, Conn	Mar. 23, 1858.
21247	Carpenters' work-bench	Justin Devoge	Randolph, Pa	Aug. 24, 1858.
20918	Chair-backs, machine for manufacturing	S. E. Foster, assignor to the Walter Heywood Chair Company.	Fitchburg, Mass	July 13, 1858.
20913	Clamp, floor	H. C. Wight	Worcester, Mass	July 13, 1858.
19982	Cutters rotary, sharpening device for	Edward Conroy	Boston, Mass.	April 20, 1858.
19035	Dovetailing rotary cutters in their heads, method of.	G. H. Mallory	New York, N. Y.	Jan. 5, 1858.
19406	Dovetaiing tool	G. W. Billings	Cleveland, Ohio	Feb. 23, 1858.
21503	Dovetails, machine for cutting	T. E. and Alexander, and Edwin King	Cherry Valley, Ohio	Sept 14, 1858.
22369	Hoop-lock	Edwin A. Jefferey	Corning, N. Y.	Dec. 2, 1858.
21507	Hoops, machine for notching and trimming	Sanford Littlefield	West Troy, N. Y.	Sept. 14, 1858.
21508	Hoops, wooden, machine for cutting and finishing the locks of.	Hiram Littlejohn	Troy, N. Y.	Sept. 14, 1858.
20345	Irregular forms, cutter-head and table-rest for cutting.	J. P. Grosvenor	Lowell, Mass	May 25, 1858.
20505	Irregular forms, machine for cutting	W. N. Oakes	Dana, Mass	June 8, 1858.
21379	Irregular forms, machine for cutting	H. D. Stover	Boston, Mass.	Aug. 31, 1858.
22302	Irregular forms, machine for cutting	Z. F. Nance	Richmond, Va	Dec. 14, 1858.
21861	Joiner's squares, device for adjusting to a right angle the.	Linus Yale, jr	Philadelphia, Pa	Oct. 19, 1858.
22058	Lath-machine	Josiah Black	Memphis, Tenn	Nov. 16, 1858.
22449	Lath-machine	Jacob Pefley	Bainbridge, Ind	Dec. 28, 1858.
21675	Lath, machine for cutting	Reuben Haynes	Oberlin, Ohio	Oct. 5, 1858.
20292	Lath-machines, method of feeding the bolt in	James Nevison	Morgan, Ohio	May 18, 1858.
20323	Lathe	J. T. Bunce	East Haddam, Conn	May 25, 1858.
20166	Lathe, automatic	John McNary	Brooklyn, N. Y.	May 4, 1858.
	Lathe, burnishing attachment for. (See Class H, letter B.)			
21232	Lathe, chuck for	S. Goodfellow, assignor to himself and John Fish.	Troy, N. Y.	Aug. 17, 1858.
20298	Lathe-dog	Nathan N. Phillips	New York, N. Y.	May 18, 1858.
21240	Lathe for turning beaded work	Frederick Baldwin	South Wardsboro', Vt.	Aug. 24, 1858.
22447	Lathe for turning masts, &c	Peter H. Niles	Boston. Mass.	Dec. 28, 1858.
20705	Lathe for turning oval frames	J. and W., and G. Gardner	New York, N. Y.	June 29, 1858.
19056	Lathe for turning wood	A. N. Wilcox	Watervliet, N. Y.	Jan. 5, 1858.
22043	Lathe for turning wood	Albin Warth	Stapleton, N. Y.	Nov. 9, 1858.
19395	Lathe, rest attachment for	Daniel White, jr	Lowell, Mass.	Feb. 16, 1858.
19051	Lathe, turning	William D. Sloan	New York, N. Y.	Jan. 5, 1858.
20956	Lathe, turning, method of feeding the tool-carriage in.	Adam Rennie	Binghamton, N. Y.	July 20, 1858.
20745	Lumber, machine for resawing	E. H. Titus and John Sharp	Wilkesbarre, Pa Phillipsburgh, Pa	June 29, 1858.
22386	Mitre-box	Asa F. Tarr	Rockport, Mass.	Dec. 21, 1858.
21194	Mitres, machine for cutting	S. W. Hall	Williamsport, Pa	Aug. 17, 1858.
22222	Mortises, dovetails, machine for cutting	Solander Withington	St. Louis, Mo	Nov. 30, 1858.
21783	Mortising-machines, mode of reversing the chisel in.	Frederick Stamm	Lancaster, Pa.	Oct. 12, 1858.
19492	Moulding for sash, machine for cutting the	O. K. Collins	Murfreesboro', Tenn	Mar. 2, 1858.
20824	Mouldings, arrangement of devices for planing	W. B. Smith	Lowell, Mass.	July 6, 1858.
20493	Plane, bench	H. Lee Kendall	Baltimore, Md	June 8, 1858.
19130	Plane, crozing	S. G. Crane	Rochester, N. Y	Jan. 19, 1858.
19539	Plane, floor	Charles E. Barlow	Philadelphia, Pa.	Mar. 9, 1858.
19359	Plane-iron to its stock, method of securing the	P. A. Gladwin	Boston, Mass.	Feb. 16, 1858.
20615	Plane-irons, device for adjusting	Leonard Bailey	Winchester, Mass.	June 22, 1858.
19620	Plane, joiner's beveling	T. A. Chandler	Rockport, Ill.	Mar. 16, 1858.
21311	Plane, bench; method of securing plane-irons to the stocks of.	Leonard Bailey	Winchester, Mass.	Aug. 31, 1858.
19619	Planing blind slats, machine for	Charles Carlisle and Leonard Worcester	Woodstock, Vt.	Mar. 16, 1858.
21782	Planing-cutter, rotary	John Sperry	New York, N. Y.	Oct. 12, 1858.
21618	Planing irregular surfaces, machine for	J. H. Nelson	Oskaloosa, Iowa	Sept. 28, 1858.
20527	Planing-machine	James A. Woodbury	Winchester, Mass.	June 8, 1858.
19702	Planing-machines, method of clamping polygonal pieces in	Joseph W. Killam	East Wilton, N. H.	Mar. 23, 1858.

List of patents for inventions, 1858—CLASS XIV.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20762	Planing-machines, rotary, device for securing cutters in.	S. F. Forman, assignor to Henry Z. Drew	New York, N. Y	June 29, 1858.
20999	Planing-machines, rotary, stock for holding the cutters in.	Ivers Gibbs	Worcester, Mass	July 27, 1858.
21720	Planing wood, machine for	C. B. Cottrell, assignor to himself and Nathan Babcock.	Westerly, R. I	Oct. 5, 1858.
	Plumb and level indicator, attaching the plumb line to a. (See Class VIII.)			
19110	Ratan-machine, device for retaining in proper position the splitting knife in.	Geo. S. Colburn, assignor to Cyrus Wakefield.	South Reading, Mass	Jan. 12, 1858.
	Saw filing machine. (See Class II.)			
19454	Saw-mill	Charles Strong	Hartford, Vt	Feb. 23, 1858.
21588	Saw-mill	John Pemberton, deceased, Lemuel Pemberton, administrator of.	Jonesboro', Ind	Sept. 21, 1858.
22268	Saw-mill	Samuel R. Smith and Philander P. Lane, assignors to Lane & Bodley.	Cincinnati, Ohio	Dec. 7, 1858.
20910	Saw-mill block	Hiram Wells	Florence, Mass	July 13, 1858.
20660	Saw-mills, method for clamping and laterally feeding the log in.	J. C. Past	Wilmington, Del	June 22, 1858.
20147	Sawing, cross-cut, feeding device for	Jeremiah Darling	Cincinnati, Ohio	May 4, 1858.
19099	Sawing, cross-cut, horse-power machine for	Ezra and John Z. Perin	Connellsville, Ind	Jan. 12, 1858.
19128	Sawing lumber, device for adjusting two circular saws to the same plane in.	Edwin P. Cavett	St. Louis, Mo	Jan. 19, 1858.
19145	Sawing machine	John Mays	Yazoo City, Miss	Jan. 19, 1858.
19536	Sawing-machine	Thomas J. Alexander	Westerville, Ohio	Mar. 9, 1858.
19644	Sawing-machine	d. H. Low	Galena, Ill	Mar. 16, 1858.
19906	Sawing-machine	John L. Beadle	Marengo, N. Y	April 13, 1858.
20184	Sawing-machine	H. S. Vrooman, assignor to Henry Albro	New York, N. Y / Covington, Ky	May 4, 1858.
20870	Sawing-machine	H. Featherstone and P. Engmann	New Orleans, La	July 13, 1858.
20995	Sawing-machine	W. H. Doane and C. Mason	Chicago, Ill	July 27, 1858.
20886	Sawing-machine, carriage for	A. C Miller	Morgantown, Va	July 13, 1858.
19801	Sawing-machine, cross-cut	George Telford	Pike, N. Y	Mar. 30, 1858.
19870	Sawing-machine, cross-cut	H. H. Potter	Carthage, N. Y	April 6, 1858.
19983	Sawing-machine, cross cut	R. M. Cosby	Indianapolis, Ind	April 20, 1858.
21177	Sawing-machine, cross-cut	John T. Armstrong	Jacksontown, Ohio	Aug. 17, 1858.
21256	Sawing-machine, cross cut	Albert Heth and Gaylon Hall	Adams Centre, N. Y	Aug. 24, 1858.
21482	Sawing-machine, endless sectional	Harvey Brown	New York, N. Y	Sept. 14, 1858.
21200	Sawing-machine, reciprocating, for sawing plank.	William C. Huntington	Newark, N. J	Aug. 17, 1858.
20696	Sawing-machine, rotary	Harvey Brown	New York, N. Y	June 29, 1858.
19168	Sawing-machine, scroll	Ulysses B. Vidal	Philadelphia, Pa	Jan. 19, 1858.
20900	Sawing-machine, scroll	E. Sirret, jr	Buffalo, N. Y	July 13, 1858.
19166	Sawing-machines, circular, arrangement of devices to feed and gig back the carriage in.	Hiram Wells	Florence, Mass	Jan. 19, 1858.
20150	Sawing-machines, circular, device for governing lateral motion of carriage in gigging back in	William M. Ferry, jr	Ferrysburgh, Mich	May 4, 1858.
21345	Sawing-machines, circular, method of attaching the spreader to saws of.	William D. Leavitt	Cincinnati, Ohio	Aug. 31, 1858.
22107	Sawing-machines, felloe, device for clamping and feeding the bolt in.	Derwin E. Butler	Chesterfield, Ohio	Nov. 23, 1858.
19774	Sawing-mill	William Hawkins and William C. Clary	Milwaukie, Wis	Mar. 30, 1858; reissued May 11, 1858.
21838	Sawing. re, machine	William D. Leavitt	Cincinnati, Ohio	Oct. 19, 1858.
19692	Sawing staves, machine for	Harry H. Evarts	Chicago, Ill	Mar. 23, 1858.
20135	Saws, band, device for sheltering from dust the lower carrying pulley of.	James Balla	Richmond, Ind	May 4, 1858.
21651	Saws, circular, deflecting plates for	J. D. C. Carpenter	Cincinnati, Ohio	Oct. 5, 1858.
22252	Saws, circular, guard for	Reuben S. Janes	Bethel, Vt	Dec. 7, 1858.
19978	Saws, dressing	Job Batchelor	Camden, N. Y	April 20, 1858.
20313	Saws, hand, devices attached to, for squaring and marking.	H. Smith, assignor to H. Disston	Camden, N. J	May 18, 1858.
20337	Saws, hand, leveling device attached to	H. Disston and T. L. Morss	Philadelphia, Pa	May 25, 1858.
	Saws, machine for grinding. (See Class II.)			
	Saws, reciprocating, horse-power for driving. (See Class XIII, letter H.)			
19300	Saws, reciprocating, method of straining	G. P. Ketcham, jr	Bloomington, Ind	Feb. 9, 1858.
19893	Saws, reciprocating scroll, method of guiding	J. C. Clime, assignor to himself and S. Rhodes.	Philadelphia, Pa	April 6, 1858.
19534	Saws, scroll, method of operating	Henry F. Shaw, assignor to himself and Moses H. Gragg.	Boston, Mass	Mar. 2, 1858.

List of patents for inventions, 1858—CLASS XIV.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19033	Shingle-machine	Robert Law	Portage City, Wis	Jan. 5, 1858.
19136	Shingle-machine	George Darby and J. E. Young	Augusta, Me	Jan. 19, 1858.
19199	Shingle-machine	Elijah Morgan	Morgantown, Va	Jan. 26, 1858.
19233	Shingle-machine	David M. Boyd	Indianapolis, Ind	Feb. 2, 1858.
19293	Shingle-machine	William Gregor	New York, N. Y	Feb. 9, 1858.
19349	Shingle-machine	George Craine	Fairfield, Iowa	Feb. 16, 1858.
20638	Shingle-machine	J. R. Hall	Brunswick, Me	June 22, 1858.
20876	Shingle-machine	E. Hall and J. F. Stewart	East Randolph, N. Y	July 13, 1858.
21490	Shingle-machine	Augustus Day	Detroit, Mich	Sept. 14, 1858.
21744	Shingle-machine, circular sawing	Jonathan Creager	Cincinnati, Ohio	Oct. 12, 1858.
20704	Shingle-machine, rotary	K. Freeman	Fond du Lac, Wis	June 29, 1858.
20174	Shingle-machines, device by which the width of the bolt checks the feed in.	A. C. Sawyer	Canton, N. Y	May 4, 1858.
20501	Shingle-machines, device for operating the bolt to obtain taper in.	Elijah Morgan	Morgantown, Va.	June 8, 1858.
19193	Shingle-machines, device for shifting the bolt to effect the taper in.	W. D. Guseman	Morgantown, Va.	Jan. 26, 1858.
20553	Shingle-machines, device in feed-motion of	Elbridge Drake	Gardiner, Me	June 15, 1858.
19275	Shingle-machines, method of feeding the bolt in	Twentyman Wood	Greenwich, Conn	Feb. 2, 1858.
22350	Shingles	Henry T. Clay	Gardiner, Me	Dec. 21, 1858.
21453	Shingles from the log, method of manufacturing.	C. L. Story	Owensboro', Ky	Sept. 7, 1858.
22083	Shingles, machine for sawing and planing	G. H. Mallory	New York, N. Y	Nov. 16, 1858.
19167	Shingles, method of butting and pointing the bolt to be sawed into.	M. D. and A. Wells	Morganton, Va	Jan. 19, 1858.
21886	Spoke-machine	Luke L. Knight and D. H. Rice	Barre, Mass	Oct. 26, 1858.
20459	Spoke shave	C. H. Weston	Nashua, N. H	June 1, 1858.
20855	Spoke-shave	Leonard Bailey	Winchester, Mass	July 13, 1858.
20642	Spokes in hubs, machine for setting	A. Hafer and G. Wilkinson	Colon, Mich	June 22, 1858.
21830	Stave-jointer	William Halderman	Freeport, Ill	Oct 19, 1858.
19064	Stave machine	L. B. Averill	Barre, Vt	Jan. 12, 1858.
19308	Stave-machine	E. Moore, William Clark, and James Lindsey.	Shelbyville, Ind	Feb. 9, 1858.
19444	Stave-machine	William Robinson	Augusta, Ga	Feb. 23, 1858.
20737	Stave-machine	W. M. Sloane	Buffalo, N. Y	June 29, 1858.
19853	Stave-machines, method of holding and feeding the bolt in.	Abraham Hupp	Lancaster, Ohio	April 6, 1858.
21856	Staves from the bolt, machine for cutting	William Steele	Wheeling, Va	Oct. 19, 1858.
22231	Staves from the bolt, machine for cutting	Isaac W. Forbes	Jefferson, Wis	Dec. 7, 1858.
19760	Staves, rotary reciprocating knives for smoothing	William B. Dunning	Geneva, N. Y	Mar. 30, 1858.
21512	Tenoning-machine	John McCreary	Delaware, Ohio	Sept. 14, 1858.
19292	Tenons on spokes, machine for cutting	Mahlon Gregg	Philadelphia, Pa	Feb. 9, 1858.
19806	Tonguing and grooving, rotary cutters for	James A. Woodbury	Winchester, Mass	Mar. 30, 1858.
20866	Tool for cutting cylindrical or tapering sticks	George Davies	Duquesne, Pa	July 13, 1858.
22430	Tool for slotting clothes-pins	John Humphrey	Keene, N. H	Dec. 28, 1858.
20693	Tool-handle, socket for	William Bennett	New York, N. Y	June 29, 1858.
22167	Turning hubs, arrangement of cutters for	George Cooper	Berlin, Wis	Nov. 30, 1858.
21443	Turning hubs, machine for	Alexander Rickart	Schoharie, N. Y	Sept. 7, 1858.
20344	Turning irregular forms, machine for	N. J. Glover	Waveland, Ind	May 25, 1858.
22400	Turning tapering twists on wood, machine for	Reuben K. Huntoon, assignor to himself and Jacob B. Rand.	Concord, N. H	Dec. 21, 1858.
19711	Turning tool-handles, &c., machine for	Hiram Plumb	Honesdale, Pa	Mar. 23, 1858.
21590	Veneers, machine for cutting	Gilbert Bishop Assignor to Edward White	Fairfield, Conn New York, N. Y	Sept. 21, 1858.
19243	Wheelwright's-machine	Nathaniel T. Edson	New Orleans, La	Feb 2, 1858.
19928	Wheelwright's machine	Samuel Holl	Reading, Pa	April 13, 1858.
21002	Wheelwright's-machine	William Hinds	Otsego, N. Y	July 27, 1858.
22193	Wood, angular pieces of, machine for cutting curvilinear surfaces on.	George Muller	Sacramento, Cal	Nov. 30, 1858.
19307	Wood, clamp for holding rectangular pieces of, while being bored, tapped, &c.	Henry Miller	Grafton, Va	Feb. 9, 1858.
20137	Wood, machine for bending	Thomas Blanchard	Boston, Mass	May 4, 1858.
19867	Wood, machine for splitting	Franz Noette	Brooklyn, N. Y	April 6, 1858.
19538	Wood of unequal lengths at once, method of bending several pieces of.	Heman A. Barnard	Moline, Ill	Mar. 9, 1858.
20016	Wooden dowel-pins, machine for making	Amos H. Boyd, assignor to Samuel F. Chase	Saco, Me	April 20, 1858.
21961	Wooden screws, die for cutting	W. O. Hickock	Harrisburg, Pa	Nov. 2, 1858.
21960	Wooden screws, tap for cutting	W. O. Hickock	Harrisburg, Pa	Nov. 2, 1858.

CLASS XV.—STONE AND CLAY MANUFACTURES, *including machines for pottery, glass-making, brick-making, dressing and preparing stone, cements, and other building materials.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22129	Bottles, moulds for making	John L. Mason	New York, N. Y	Nov. 23, 1858.
	Bottles, Screw-neck. (See Class XXII, letter B)			
21831	Bottles, &c., apparatus for making glass stoppers for.	Thomas R. Hartell	Philadelphia, Pa	Oct. 19, 1858.
21744	Brick, fire, manufacture of	J. Ostrander and J S. Heartt	Troy, N. Y	Oct. 12, 1858.
20146	Brick-kiln	John W. Crary	New Orleans, La	May 4, 1858.
19236	Brick-machine	Charles Connell	Philadelphia, Pa	Feb. 2, 1858.
19366	Brick-machine	George O. Houck and Henry Gore	Springfield, Ohio	Feb. 16, 1858.
19470	Brick-machine	Daniel Lombard, assignor to himself and George F. Richardson.	Boston, Mass	Feb. 23, 1858.
19792	Brick-machine	J. L. Ransom	Charleston, S. C	Mar. 30, 1858.
20109	Brick-machine	J. Z. A. Wagner	Philadelphia, Pa	April 27, 1858.
20107	Brick-machine	Stephen Ustick	Philadelphia, Pa	April 27, 1858.
20594	Brick-machine	George L. Smull	Meadville, Pa	June 15, 1858.
20536	Brick-machine	Gerard Bancker	New York, N. Y	June 15, 1858.
20612	Brick-machine	Francis Allen	Boston, Mass	June 22, 1858.
21025	Brick-machine	S. C. Salisbury	Milwaukie, Wis	July 27, 1858.
21186	Brick-machine	John W. Crary	New Orleans, La	Aug. 17, 1858.
21458	Brick-machine	Henry White	Cleveland, Ohio	Sept. 7, 1858.
21545	Brick-machine	John Booth	Mobile, Ala	Sept. 21, 1858.
21888	Brick-machine	John Kutts	Philadelphia, Pa	Oct. 26, 1858.
21876	Brick-machine	Thomas Forbes	Kansas City, Mo	Oct. 26, 1858.
20433	Brick, manufacture of	Thomas James	Canton, Md	June 1, 1858.
19309	Brick, mode of burning	A. J. Mullen and Robert Hall	Greensboro', Ala	Feb. 9, 1858.
22119	Brick-mould	James A. Hamer	Reading, Pa	Nov. 23, 1858.
	Cements, water-proof. (See Class IV, letter C)			
21419	Clay, machine for moulding	Thomas Hoadley	Cleveland, Ohio	Sept. 7, 1858.
21506	Clay, machine for working	Henry Leguay	St Louis, Mo	Sept. 14, 1858.
22450	Cores for moulding plastic substances	James Pilgrim	New Britain, Conn	Dec. 28, 1858.
	Earthenware dishes. (See Class XVII, letter D)			
22091	Glass-bottles, mould for	S. S. Shinn	Lancaster, N. Y	Nov. 26, 1858.
22393	Glass furnaces and pots, manufacture of	Ezra Wells	Covington, Pa	Dec. 21, 1858.
19569	Glass, machinery for polishing	Alexander Lindsay	Malone, N. Y	Mar. 9, 1858.
19023	Kiln, lime	H. R. Fell	Texas, Md	Jan. 5, 1858.
19525	Kiln, lime	Abner B. Weeks	Rockland, Me	Mar. 2, 1858.
20015	Kiln, lime	Bernard Zwart	Keokuk, Iowa	April 20, 1858.
20549	Kiln, lime	G. W. Calkins and H. White	Cleveland, Ohio	June 15, 1858.
22239	Kiln, lime	Clark D. Page	Rochester, N. Y	Dec. 7, 1858.
	Lime, furnace for burning. (See Class V, letter F.)			
20458	Marble, machine for working	Caleb Warner	Washington, D. C	June 1, 1858.
21622	Marble, stone, &c., machine for sawing	James Norman and Aaron R. McLean	West Dresden, N. Y	Sept. 28, 1858.
19194	Pug-mill	James A. Hamer	Reading, Pa	Jan. 26, 1858.
	Pug-mills, grinding attachment to. (See Class XIII, letter M.)			
19407	Stone-dressing machine	Elijah Brady	New York, N. Y	Feb. 23, 1858.
22113	Stone for ballasting railroads and turnpikes, machine for breaking.	A C. Ellithorpe and Ives Scoville	Chicago, Ill	Nov. 23, 1858.
21539	Stone holding machine	Eleazer B. Knight, assignor to himself and Nathan Kellogg.	Malden, N. Y	Sept. 14, 1858.
20542	Stone, machine for crushing	Eli W. Blake	New Haven, Conn	June 15, 1858.
21742	Stone, machine for dressing,	William Cooper	Mount Gilead, Ohio	Oct. 12, 1858.
20885	Stone, machine for drilling and splitting	John H. Lyon	Baltimore, Md	July 13, 1858.
20981	Stone sawing-machine	H. L. Arnold	Elk Horn, Wis	July 27, 1858.
	Stones, machine for gathering. (See Class I)			

CLASS XVI.—LEATHER, *including tanning and dressing, manufacture of boots, shoes, saddlery, harness, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20434	Back-band strap, self-adjusting and vibrating	R. Jancovins	Newark, N. J	June 1, 1858.
22102	Boot and shoe soles, instrument for trimming the edges of.	Isaac Rich, assignor to S. C. Arnold	Manchester, Conn	Nov. 16, 1858.
22095	Boot and shoe soles, machine for moulding	Daniel J. Tapley	Danver's Centre, Mass	Nov. 16, 1858.

List of patents for inventions, 1858.—Class XVI.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20992	Boot-fronts, method of cutting	John Dick	New York, N. Y	July 27, 1858.
	Boot jack. (See Class XVII.)			
19227	Boot-legs, method of securing straps upon	Leonard J. Worden, assignor to himself and Edwin L. Swartwout.	Utica, N. Y	Jan. 26, 1858.
22205	Boot-soles, crimping	Bradford and Lorenzo Stevens	Stoughton, Mass	Nov. 30, 1858.
19912	Boot-tops, circular, machine for turning the edges of.	Perez C. Clapp	Stoughton, Mass	April 13, 1858.
19508	Boot-tree	Reuben L. Lewis	Milford, Mass	Mar. 2, 1858.
20185	Boot-tree	W. W. Willmott, assignor to himself and H. F. Gardner.	Boston, Mass	May 4, 1858.
20914	Boot-tree	A. J. Wisner	Homer, N. Y	July 13, 1858.
21424	Boots and shoes, apparatus for applying soles to.	Jacob Jenkins	Charlestown, Mass	Sept. 7, 1858.
21564	Boots and shoes, apparatus for applying soles to.	Jacob Jenkins	Charlestown, Mass	Sept. 21, 1858.
20960	Boots and shoes, heel shavers for	Varanes Snell	North Bridgewater, Mass	July 20, 1858.
22328	Boots and shoes, heels for	Samuel Flint and Robert S. Rogers, assignors to William F. Johnson.	Lynn, Mass	Dec. 14, 1858.
20936	Boots and shoes, machine for cutting out the soles of	John Crawshaw	Rochester, N. Y	July 20, 1858.
21593	Boots and shoes, machine for pegging	B. F. Sturtevant, assignor to himself and Elmer Townsend	Boston, Mass	Sept. 21, 1858.
19611	Boots and shoes, machine for pricking and cutting heels of.	Edward S. Snell, assignor to himself and Francis B. Washburn.	North Bridgewater, Mass	Mar. 9, 1858.
19040	Boots and shoes, metal tips for toes of	George A. Mitchell	Turner, Maine	Jan. 5, 1858; reissued Dec. 7, 1858.
19305	Boots and shoes, method of attaching India rubber soles to.	Abram T. Merwin	New Haven, Conn	Feb. 9, 1858.
21334	Boots and shoes, method of stretching	George W. Griswold	Carbondale, Pa	Aug. 31, 1858.
20510	Boots and shoes, revolving heels of	J. H. Roome	New York, N. Y	June 8, 1858.
21760	Boots and shoes, soles for, tool for chamfering.	William Johnson	Hampstead, N. H	Oct. 12, 1858.
22248	Boots, edge-keys for	George C. Todd	Lynn, Mass	Dec. 7, 1858.
19269	Boots, gaiter shoes and, water-proof	Thomas C. Wales	Dorchester, Mass	Feb. 2, 1858.

21889	Bridle to prevent horses from kicking or running away.	John M. Lanier	Eufaula, Ala	Oct. 26, 1858.
22352	Buckles	John Cumberland and	Mobile, Ala	Dec. 21, 1858.
		James R. McClintock	New York, N. Y	
19169	Collar and hames, horse, combined	G. W. N. Yost	Cincinnati, Ohio	Jan. 19, 1858.
19846	Collar-block, horse	E. D. Gould	Darien, N. Y	April 6, 1858.
21301	Collar-block, horse	B. W. McClure and George Marsh, assignors to B. W. McClure and J. H. Windsor.	Pike Hollow, N. Y	Aug. 24, 1858.
21821	Collar, horse	C. K. Cuckler	Columbus, Ohio	Oct. 19, 1858.
20816	Collars, horse, machine for stuffing	Levi Plonk	Newton, N. C	July 6, 1858.
21674	Halters and bridles for horses	Samuel C. Hawkins	Patchogue, N. Y	Oct. 5, 1858.
22096	Hame fastener	John Tingley	Potter county, Pa	Nov. 16, 1858.
20278	Hame-tug fastener	E. D. Lockwood	Churchville, N. Y	May 18, 1858.
20246	Hame-tugs, fastening for	Joseph E. Ball	Newark, N. J	May 18, 1858.
21267	Harness	Freedom Monroe	Romeo, Mich	Aug. 24, 1858.
22383	Harness buckles	Oren B. Smith	Monticello, N. Y	Dec. 21, 1858.
21989	Harness, machine for creasing and blacking leather for.	Adolph Stempel	Oquaroka, Ill	Nov. 2, 1858.
20588	Harness-pads, construction of	R. M. Selleck	New York, N. Y	June 15, 1858.
19048	Harness-saddle	Henry Sanders	Utica, N. Y	Jan. 5, 1858.
20463	Harness-saddles, construction of wooden saddle-trees for.	F. P. Ambler, jr., assignor to F. P. Ambler & Sons.	Trumbull, Conn	June 1, 1858.
22290	Harness-snaps	B. B. Hotchkiss	Sharon, Conn	Dec. 14, 1858.
19078	Harness-tree	Thomas Dempsey	Newark, N. J	Jan. 12, 1858.
19371	Harness-tree	F. B. Kuehnhold and D. B. Sturges	Newark, N. J	Feb. 16, 1858.
20222	Harness tug-buckle	W. Straw and R. H. Armstrong	Hudson, Mich	May 11, 1858.
20997	Harness tug-buckle	John H. Feraw	Hinsdale, N. Y	July 27, 1858.
20861	Hides and leather, machine for dressing	J. R. Bumgarner and L. White	Davenport, Iowa	July 13, 1858.
20228	Last	S. S. Turner	Westboro', Mass	May 11, 1858.
20393	Last-holder, rotary	David Philbrick, assignor to himself, and Elmer Townsend	Manchester, N. H	May 25, 1858.
			Boston, Mass	
21721	Leather, artificial	William Kemble Hall, assignor to	West Hoboken, N. J	Oct. 5, 1858.
		Amos Broadnax	St. Louis, Mo	
19583	Leather, enamelling	John Rose	Newark, N. J	Mar. 9, 1858.
20093	Leather from vats, apparatus for raising	Charles E. Robinson & L. D. Sanborn	Concord, N. H	April 27, 1858.
21114	Leather into bales, machine for rolling	Nathan Burk	Fulton, N. Y	Aug. 10, 1858.
22108	Leather, machine for splitting	H. E. Chapman	Albany, N. Y	Nov. 23, 1858.
20911	Leather shaving-knife	J. B. Wentworth	Lynn, Mass	July 13, 1858.
20098	Leather-sticker	H. Lee Seiltzbach	Marietta, Pa	April 27, 1858.

No.	Inventions or discoveries	Patentees.	Residence.	Date.
21937	Leather-straps, tool for chamfering	James Bridger	Richland, Iowa	Nov. 2, 1858.
20821	Leathering tacks, machine for	Charles L. Russell	Derby, Conn	July 6, 1858.
20819	Leathering tacks, machine for	Jesse Reed	Marshfield, Mass	July 6, 1858.
22340	Pegging-jack	Thomas D. Bailey	Lowell, Mass	Dec. 21, 1858.
21091	Pegging-machine	E. M. Stevens	Boston, Mass	Aug. 3, 1858.
19354	Reins, horse, device for holding	J. A. & F. Dunworth	Dobb's Ferry, N. Y	Feb. 16, 1858.
22130	Saddle-tree	Jesse Nece	Philadelphia, Pa	Nov. 23, 1858.
20439	Shoe, over, straw and wood	F. W. Michel, W. C. Willcox, & H. T. Miller.	Utica, N. Y	June 1, 1858.
19461	Shoe-peg machine	Abijah Woodward	Keene, N. H	Feb. 23, 1858.
19730	Shoe-peg machine	Amos H. Boyd, assignor to Samuel F. Chase.	Saco, Me	Mar. 23, 1858.
22061	Shoe-peg machine	Azro Brown	West Waterford, Vt	Nov. 16, 1858.
21104	Shoe-pegs, machine for manufacturing	I. G. Worth	Vassalboro' Me	Aug. 3, 1858.
19282	Shoe-pegs, method of preparing blanks for	B. F. Sturtevant, assignor to himself and Elmer Townsend.	Boston, Mass	Feb. 2, 1858.
21223	Shoe-tool, combination	D. J. Tapley	Danvers, Mass	Aug. 17, 1858.
20882	Shoemaker's edge plane	Freeman Killbrith	Pembroke, Mass	July 13, 1858.
19284	Shoes, bags, &c., implement for holding open	John Allender	New London, Conn	Feb. 9, 1858.
21500	Shoes, cemented sole, heating apparatus for the manufacture of.	Jacob Jenkins	Charlestown, Mass	Sept. 14, 1858.
21051	Shoes, machine for pegging	L. Lackey, assignor to himself, and Elmer Townsend	Sutton, Mass Boston, Mass	July 27, 1858.
19542	Skins, artificial, manufacture of	John H. Browne	Abbey Mills, England	Mar. 9, 1858; England, Nov. 18, 1853.
21764	Stirrups	John Loudon & Hans Iverson	New York, N. Y	Oct. 12, 1858.
21755	Tanning	Barzillai Harrington & Nelson Russell	China, Me	Oct. 12, 1858.
21705	Tanning, apparatus for	A. C. Taggart & A. Gray	Allegheny, Pa	Oct. 5, 1858.
21168	Tanning hides	Theodore Klenam, assignor to Edward Marse	Pfullirger, Wurtemburg, Germany. London, England	Aug. 10, 1858.
21126	Tanning hides, apparatus for	Lewis C. England	Owego, N. Y	Aug 10, 1858.
19201	Tanning leather	Butler G. Noble	Whitewater, Wis	Jan. 26, 1858.
20565	Tanning leather	H. G. Johnson	Cleveland, Ohio	June 15, 1858.
	Tanning leather, composition for. (See Class IV, letter C.)			
20502	Tanning, method of	Jesse Morgan	Sumpterville, S. C	June 8, 1858.
19211	Tanning skins, apparatus for	Charles A Shaw & James Clark	Biddeford, Me	Jan. 26, 1858.
21394	Trace fastening	John C. De Witt, assignor to himself and T. Benedict.	West Bloomfield, N. J	Aug. 31, 1858.
22454	Trace-fastening	Uel J. Reynolds	Webster, N. Y	Dec. 28, 1858.
19934	Trunk-handles, mode of constructing	Samuel Lagowitz	Newark, N. J	April 13, 1858.
20832	Trunk-protector	R. M. Wade	Wadesville, Va	July 6, 1858.
20259	Trunks, card-plates for	Joseph Dudley	Fall River, Mass	May 18, 1858.

CLASS XVII.—HOUSEHOLD FURNITURE, *machines and implements for domestic purposes, including washing machines, bread and cracker machines, feather dressing, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21218	Andiron	J. B. Sargent	New Britain, Conn	Aug. 17, 1858.
19402	Apple-corer	A. N. Alcott	Gowanda, N. Y	Feb. 23, 1858.
21695	Apple-paring knife	Adam Oot	Minetto, N. Y	Oct. 5, 1858.
20295	Apples, device for slicing	H. & J. S. B. Norton	Farmington, Me	May 18, 1858.
21141	Apples, machine for coring and quartering	Charles Lounsberry, jr	Nichols, N. Y	Aug. 10, 1858.
20814	Apples, machine for paring, slicing, and coring	J. J. Parker	Marietta, Ohio	July 6, 1858.
20550	Basins, water-closet, attachment of pipes to	William S. Carr	New York, N. Y	June 15, 1858.
21042	Batter-machine	Ellyson Yerby	Washington, D. C	July 27, 1858.
20362	Bed-bottom	James M. Noble	Delhi, Iowa	May 25, 1858.
20486	Bed-bottom	Benjamin Griffin	Lawrence, Mass	June 8, 1858.
21123	Bed-bottom	W. H. Elliot	Plattsburgh, N. Y	Aug. 10, 1858.
21263	Bed-bottom	Rufus Leavitt	Cambridge, Mass	Aug. 24, 1858.
21519	Bed-bottom	Franklin Russell	Otselic, N. Y	Sept. 14, 1858.
19473	Bed-bottom, spring	C. Schroeder, assignor to himself and P. H. Tuska.	New York, N. Y	Feb. 23, 1858.
19410	Bed-bottom, spring	Jacob Coover	Chambersburg, Penn	Feb. 23, 1858.
19922	Bed-bottom, spring	Elbridge Foster	Hartford, Conn	April 13, 1858.

List of patents for inventions, 1858—CLASS XVII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20609	Bed-bottom, spring	George E. Safford, assignor to himself and F. G. and F. T. Ward.	New York, N. Y	June 15, 1858.
22098	Bed-bottom, spring	Noah Warlick	Chambers C. H., Ala	Nov. 16, 1858.
20097	Bedstead	N. W. Speers	Cincinnati, Ohio	April 27, 1858.
20435	Bedstead	W. B. Johns	U. S. A	June 1, 1858.
20518	Bedstead	William St. Charles	Fairmont, Va	June 8, 1858.
20750	Bedstead	C. A. Warner	Bristol, Conn	June 29, 1858.
20723	Bedstead	Norman Lanphear	Monmouth, Ill	June 29, 1858.
21527	Bedstead	William S. Todd	Mechanicsville, Iowa	Sept. 14, 1858.
21841	Bedstead	Rufus Maxwell	Tucker county, Va	Oct. 19, 1858.
21878	Bedstead-bottom	Samuel E. Hartwell	New York, N. Y	Oct. 26, 1858.
21926	Bedstead, bureau	Francis Hoffman, assignor to himself and John Menzell.	New York, N. Y	Oct. 26, 1858.
19451	Bedstead, cast iron, fastening of	A. C. Semple	New York, N. Y	Feb. 23, 1858.
19544	Bedstead-fastening	William Clark	Weymouth, Ohio	Mar. 9, 1858.
20478	Bedstead-fastening	George Burket	Croghan, Ohio	June 8, 1858.
20839	Bedstead-fastening	E. S. Wright	Buffalo, N. Y	July 6, 1858.
21511	Bedstead-fastening	Isaac M. May	Anderson, Ia	Sept. 14, 1858.
22456	Bedstead-fastening	Oliver Robinson	Rochester, N. Y	Dec. 28, 1858.
19254	Bedstead, invalid	George Miller	Fremont, Ohio	Feb. 2, 1858.
20580	Bedstead, invalid	Joseph Parker	Liverpool, England	June 15, 1858; England, Dec. 14, 1857.
19987	Bedstead, portable invalid	Zebulon C. Favor	Chicago, Ill	April 20, 1858.
20092	Bedstead-rail	Charles Robinson	Cambridgeport, Mass	April 27, 1858.
20206	Bedstead, sofa	John Irwin	Philadelphia, Penn	May 11, 1858.
19649	Bedstead, spring	Nathan M. Phillips	New York, N. Y	Mar. 16, 1858.
19449	Bedstead, wardrobe	Chandler Robbins	Chicago, Ill	Feb. 23, 1858.
21108	Beef and other steaks tender, machine for making	T. W. Moore, assignor to Elliot & Moore	Plattsburgh, N. Y	Aug. 3, 1858.
19082	Bell-hanging	N. G. Dubois	Brooklyn, N. Y	Jan. 12, 1858.
21335	Bell, house, portable	Albert W. Hale	New Britain, Conn	Aug. 31, 1858.
21422	Bells, hanging	George R. Meneely	West Troy, N. Y	Sept. 7, 1858.
19075	Blacking boots, shoes, &c., machine for	James M. Connel and John Connel	Newark, Ohio	Jan. 12, 1858.

20307	Boot-jack	O. S. Sikes	Suffield, Conn	May 18, 1858.
22404	Boot-jack	Frederick Ahl	West Meriden, Conn	Dec. 28, 1858.
19844	Boot-jack and burglar's alarm, combined	F. C. Goffin	Newark, N. J	April 6, 1858.
21619	Bread and cracker machine	W. R. Nevins and J. J. Yates	New York, N. Y	Sept. 28, 1858; England, Mar. 13, 1857.
19238	Bread-cutter	Matthew Chapman	Greenfield, Mass	Feb. 2, 1858.
19190	Brooms, art of making	Thomas Floyd, assignor to himself, Daniel K. Wunderlick, and Benjamin F. Nead.	Chambersburg, Penn	Jan. 26, 1858.
19039	Brooms, construction of	Oliver Mitchell	Eaton, Penn	Jan. 5, 1858.
19971	Brooms, machine for manufacturing splints for	J. W. Wheeler, assignor to himself and C. B. Williams.	Cleveland, Ohio	April 13, 1858.
20226	Brush	J. H. Tatum	New York, N. Y	May 11, 1858.
22381	Brush	Reuben Shaler	Madison, Conn	Dec. 21, 1858.
19459	Brush-block, whitewash	Charles Williams	Philadelphia, Penn	Feb. 23, 1858.
21092	Brush, case-shoe	Charles D. Thum	Philadelphia, Penn	Aug. 3, 1858.
20447	Brush, whitewash	David W. Shaw and William A. Megraw	Baltimore, Md	June 1, 1858.
21464	Brushes, manufacture of	Stephen Barnes, assignor to himself, Henry S. Parsons, and Samuel Rowland.	New Haven, Conn	Sept. 7, 1858.
19069	Bureaus and wash-stands, construction of	J. D. Burton	Boston, Mass	Jan. 12, 1858.
21220	Butter-bucket	James H. Stimpson	Baltimore, Md	Aug. 17, 1858.
20902	Butter-cooler	James H. Stimpson	Baltimore, Md	July 13, 1858.
19103	Butter-worker	Justin M. Smith	Lyme, Conn	Jan. 12, 1858.
21106	Butter-worker	N. W. Bancroft, assignor to himself and H. N. Proctor.	Burlington, Vt	Aug. 3, 1858.
21460	Butter-worker	Ziba Williams	Ithaca, N. Y	Sept. 7, 1858.
20054	Cabbage-cutter	Adam Fischer	Dayton, Ohio	April 27, 1858.
20209	Can for preserving food	A. S. Lyman	New York, N. Y	May 11, 1858.
20722	Can for preserving food, &c	A. S. Lyman	New York, N. Y	June 29, 1858.
22436	Can, fruit	W. W. Lyman	West Meriden, Conn	Dec. 28, 1858.
19063	Can, instrument for opening	Ezra J. Warner, assignor to himself, Wm. H. Warner, and Rufus E. Hitchcock.	Waterbury, Conn	Jan. 5, 1858.
20203	Can, preserve	Edwin W. Gilmore	North Easton, Mass	May 11, 1858.
20485	Can, preserve	H. G. Dayton	Maysville, Ky	June 8, 1858.
21078	Can, preserve	Emmons Manley	Marion, N. Y	Aug. 3, 1858.
22351	Can, preserve	P. H. Cotton	Demopolis, Ala	Dec. 21, 1858.
21348	Can, preserve, method of sealing	W. W. Lyman	West Meriden, Conn	Aug. 31, 1858.
22247	Can, preserve, sealing	Allen Taylor	Baltimore, Md	Dec. 7, 1858.

Candlesticks, &c. (See Class V.)

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19465	Carpet beating-machine	Joseph Harris, jr, and Daniel Holmes, assignors to Daniel Holmes.	Roxbury, Mass. / Chelsea, Mass.	Feb. 23, 1858.
21211	Carpet-cleaner	A. W. Noney	Bridgeport, Conn	Aug. 17, 1858.
19164	Carpet-fastener	Charles A. Wakefield	Dalton, Mass	Jan. 19, 1858.
20341	Carpet-fastener	Warren Filkins	Lancaster, N. Y	May 25, 1858.
21325	Carpet-fastener	M. Dewey and I. Phillips	Clarendon, N. Y	Aug 31, 1858.
21365	Carpet-fastener	Joseph Reynolds	New Britain, Conn	Aug. 31, 1858.
22354	Carpet-fastener	Richard DeCharms	Philadelphia, Penn	Dec. 21, 1858.
19882	Carpet-holder	Horace Thayer	Warsaw, N. Y	April 6, 1858.
19230	Carpet-stretcher	Hermann Blau	Washington, D. C	Feb. 2, 1858.
19596	Carpet-stretcher	Joseph Warner	New Britain, Conn	Mar. 9, 1858.
21303	Carpet-stretcher	Henry Ridley, assignor to S. P. Thatcher and Walter Stillman.	Hartford, Conn	Aug. 24, 1858.
21654	Carpet-stretcher	W. C. Conant	New York, N. Y	Oct. 5, 1858.
21233	Carpet-sweeper	H. H. Herrick, assignor to L. Culver	East Boston, Mass	Aug. 17, 1858.
21451	Carpet-sweeper	Reuben Shaler	Madison, Conn	Sept. 7, 1858.
21660	Carpet-sweeper	Jacob Edson	Boston, Mass	Oct. 5, 1858.
21673	Carpet-sweeper	Daniel Harris	Boston, Mass	Oct. 5, 1858.
21701	Carpet-sweeper	Stephen P. Rowell	Reading, Mass	Oct. 5, 1858.
21815	Carpet-sweeper	Augustus C. Carey	Ipswich, Mass	Oct. 19, 1858.
19824	Casters, sirup	Edmund Bigelow	Springfield, Mass	April 6; reissued May 5, 1858.
20376	Chair and cradle, combined rocking	A. S. Smith	Lawrence, Mass	May 25, 1858.
	Chair-backs, machine for manufacturing. (See Class XIV.)			
22297	Chair, folding	R. McG. Lytle, I. Alston, and Lorenzo W. True.	Williamson county, Tenn	Dec. 14, 1858.
20198	Chair, reclining	Augustus Eliaers	Boston, Mass	May 11, 1858.
22145	Chair, reclining	Amos E. Kendall and Peter K. Keyes, assignors to themselves and C. W. Elton.	New York, N. Y	Nov. 23, 1858.
21320	Chair, recumbent	David Buzzell	Charlestown, Mass	Aug. 31, 1858.
19352	Chair, rocking	Thomas W. Currier	Lawrence, Mass	Feb. 16, 1858.
20863	Chair, rocking	I. P. Carrier	South Glastonbury, Conn	July 13, 1858.
19343	Chair, rotary blast-producing	L. R. Breisach	New York, N. Y	Feb. 16; add'l imp't June 1, 1858.
22419	Chairs and other seats, spring-bottom for	Patrick Gallagher	Pleasant Unity, Pa	Dec. 28, 1858.
21409	Chairs, cane-seat for	John R. Cannon	New Albany, Ind	Sept. 7, 1858.
19582	Chairs, sofas, &c., spring-seats of	Charler Robinson	Cambridgeport, Mass	Mar. 9, 1858.
20663	Cheese-vat	Henry A. Roe	West Andover, Ohio	June 22, 1858.
19476	Cherries, machine for stoning	Joseph Baker	Washington county, D. C	Mar. 2, 1858.
22464	Closet for sewing-machines	William P. Uhlinger	Philadelphia, Pa	Dec. 28, 1858.
19772	Clothes-dryer	James J. Hamilton	New Castle, Ind	Mar. 30, 1858.
20964	Clothes-dryer	S. H. Tift	Morrisville, Vt	July 20, 1858.
21035	Clothes-dryer	S. H. Tift	Morrisville, Vt	July 27, 1858.
21639	Clothes-dryer	E. G. Gibson, assignor to H. G. Finkham	Owego, N. Y	Sept. 28, 1858.
21626	Clothes-dryer	Emma T. Porter	Washington, D. C	Sept. 28, 1858.
20868	Clothes-drying apparatus	O. R. Dinsmoor	Auburn, N. H	July 13, 1858.
20579	Clothes-frame	Enos Page	Streetsboro', Ohio	June 15, 1858.
22398	Clothes-frame	William Hathaway, assignor to William G. Maynard.	Worcester, Mass	Dec. 21, 1858.
20669	Clothes, frame for drying	Chester Stone	Ravenna, Ohio	June 22, 1858.
21231	Clothes-horse	E. Culver, jr., assignor to himself and S. M. Blackwell.	Shelburne Falls, Mass	Aug. 17, 1858.
22435	Clothes-horse	Tristram S. Lewis	Kendall's Mills, Me	Dec. 28, 1858.
21818	Clothes-line, post for	Benjamin Chesnut	Philadelphia, Pa	Oct. 19, 1858.
20470	Clothes, machine for wringing	E. L. Hagar, assignor to himself and T. D. Aylsworth.	Frankfort, N. Y	June 1, 1858.
22451	Clothes, pestles for cleansing	Ezra Pollard, assignor to himself and B. W. Seeley.	Albany, N. Y	Dec. 28, 1858.
20364	Clothes-pins	Dexter, Pierce	Sunapee, N. H	May 25, 1858,
21029	Clothes-wringer	Isaac A. Sergeant	Springfield, Ohio	July 27, 1858.
21066	Coffee, apparatus for making	J. Dealey and T. H. Heberling	Warsaw, Ill	Aug. 3, 1858.
19827	Coffee, apparatus for roasting	Robert Brown	Ashtabula, Ohio	April 6, 1858.
	Coffee-roaster. (See Class V.)			
20577	Cracker-machine	Charles Neer	Troy, N. Y	June 15, 1858.
21606	Cracker-machine	J. & J. C. Holyland	Rochester, N. Y	Sept. 28, 1858.
22056	Cradle, infant's	Thomas C. Ball	Keene, N. H	Nov. 16, 1858.
20284	Cradle, spring-rocking	Jean B. Malbert and Augusti Cheviron	St. Louis, Mo	May 18, 1858.
22349	Cruet, pepper	Henry T. Clawson	Newbern, N. C	Dec. 21, 1858.
19560	Curtain-fixtures	Joseph F. Hall	Bangor, Me	Mar. 9, 1858.
20013	Curtain-fixtures	Thomas K. Work	Hartford, Ct	April 20, 1858.

List of patents for inventions, 1858—CLASS XVII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22153	Curtain-fixtures	Thomas C. Baldwin	Newton, Mass.	Nov. 30, 1858.
20906	Dishes, earthen-ware	A. & T Vali	Berlin, Wis.	July 13, 1858.
21683	Dough for bread, apparatus for raising	Josee Johnson	New York, N. Y.	Oct. 5, 1858.
19968	Dough, machine for rolling and cutting	J. S. Schuyler, assignor to J. McCollum	New York, N. Y.	April 13, 1858.
19610	Dough, raising	James Perry and E. Fitzgerald, assignors to James Perry, Daniel Fitzgerald, and Horatio Bogert.	New York, N. Y.	Mar. 9, 1858.
19738	Egg-beater	P. Mihan, assignor to P. Mihan and G. Davis.	Boston, Mass.	Mar. 23, 1858.
22161	Eggs, apparatus for assorting	Henry Burt	Newark, N. J	Nov. 30, 1858.
20032	Eggs, beating, churning, and the like processes, apparatus for.	William Borrman	Cincinnati, Ohio	April 27, 1858.
20359	Foot-cleaner	Allan McKeachnie	New York, N. Y.	May 25, 1858.
19733	Freezer, cream	Enoch S Farson, assignor to himself and Henry H. Brown.	Philadelphia, Pa.	Mar. 23, 1858.
19147	Freezer, ice-cream	H. B. Masser	Sunbury, Pa.	Jan. 19, 1858.
19635	Fruit, apparatus for drying	William Heaton	Green county, Pa	Mar 16, 1858.
21415	Fruit-box	Nicholas Hallock	Flushing, N. Y	Sept. 7, 1858.
22433	Fruit, preserving	John K. Jenkins	Kingston, Pa	Dec. 28, 1858.
20031	Furniture-casters	Henry D. Blake	New Hartford Centre, Ct.	April 27, 1858.
22243	Furniture-casters, device for supporting	Henry E. Richards	Newark, N. J	Dec. 7, 1858.
19369	Furniture, casters for	Jacob Kinzer	Pittsburg, Pa	Feb. 16, 1858.
19127	Furniture, construction of	A. D. Brown	Glasgow, Scotland	Jan. 19, 1858.
19405	Furniture, method of manufacturing	John H. Belter	New York, N. Y.	Feb. 23, 1858.
	Gridiron, folding. (See Class V.)			
19507	Hominy-mortar	John Keezer	Chillicothe, Ohio	Mar. 2, 1858.
20538	Housebell	Jason Barton	East Hampton, Ct	June 15, 1858.
21891	Iron, flat	David Lithgow	Philadelphia, Pa	Oct. 26, 1858.
21450	Ironing clothes, machine for	John Schaeffer	Lancaster, Pa	Sept. 7, 1858.
19964	Jar, preserving	J. Borden, assignor to David Potter and F. L. Bodine.	Bridgeton, N. J	April 13, 1858.
22066	Jar, sealing preserve	Reuben M. Dalbey	Mount Washington, Ohio	Nov. 16, 1858.
21442	Kneading-machine	W. S. Reinert	Philadelphia, Pa	Sept. 7, 1858.
20724	Knife and spoon cleaner	James McNish	Berlin, Wis.	June 29, 1858.
20391	Knife-cleaner	W. Miller, assignor to himself and D. S. French.	Waltham, Mass.	May 25, 1858.
20929	Knife-cleaner	Jacob J. Banta	Jersey City, N. J	July 20, 1858.
20340	Knife-polisher	H. T. Field	New Braintree, Mass	May 25, 1858.
21058	Knife-sharpener	John J. & A. T. Armstrong	Brooklyn, N. Y.	Aug. 3, 1858.
22055	Knife-sharpener	Alexander Annan	New York, N. Y.	Nov. 16, 1858.
21746	Knives, grinding and polishing	James Dodge	Waterford, N. Y.	Oct. 12, 1858.
19419	Ladle, culinary	Joseph C. Haines	Dublin, Ind.	Feb. 23, 1858.
21044	Mangle	D. Cumming, jr., assignor to D. Cumming, sr.	Mobile, Ala	July 27, 1858.
20002	Mangle, domestic	Samuel Nolan	New York, N. Y.	April 20, 1858.
19347	Mat, door, India rubber	Edwin M. Chaffee	Providence, R. I.	Feb. 16, 1858.
20112	Mattress, folding	William Wells	Harrisburg, Pa	April 27, 1858.
22037	Mattresses and cushions, elastic material for	Thomas Briggs Smith	Marietta, Ohio	Nov. 9, 1858.
19681	Meat-chopper	P. H. Chesley	Lynn, Mass	Mar. 23, 1858.
20258	Meat-chopper	L. A. Dole	Salem, Ohio	May 18, 1858.
19547	Meat-cutter	Abner B. Davenport	Petersham, Mass.	Mar. 9, 1858.
20019	Meat-cutter	Pierre Demuere, assignor to Charles Chefy	Brooklyn, N. Y.	April 20, 1858.
21421	Meat-cutter	Jacob K. Hoyer	Reading, Pa.	Sept. 7, 1858.
21514	Meat-cutter	M. Newman	Oak Hill, N. Y	Sept. 14, 1858.
19728	Meat-cutting machine	Frederick Wolfersberger	Salem Station, Ohio	Mar. 23, 1858.
21016	Milk, closet for	E. H. Nash	Westport, Ct	July 27, 1858.
21842	Mop and brush, combined	Henry McClay	Niles, Mich	Oct. 19, 1858.
21019	Musquito-bars, means of adjusting	F. C. Payne	Hebron, Ct	July 27, 1858.
19965	Oven	J. S. Brown, assignor to himself and Joseph Kent.	Washington, D. C	April 13, 1858.
	Oven. (See Class V.)			
19050	Oyster-opener	John Seipel and William Rupp	Washington, D. C	Jan. 5, 1858.
19648	Pail, milking	Solomon Oppenheimer	Peru, Ind	Mar. 16, 1858.
20811	Pan, dust	T. E. McNeill	Philadelphia, Pa.	July 6, 1858.
19182	Pepper-box, air-tight	Edmund Brown	Lynn, Mass	Jan. 26, 1858.
19855	Pitcher, ice	Ernest Kauffman	Philadelphia, Pa	April 6, 1858.
20592	Pitcher, ice	George W. Smith	Hartford, Ct	June 15, 1858.
21717	Pitcher, ice	James Stimpson, deceased, Jas. H. Stimpson, executor of.	Baltimore, Md	Oct. 5, 1858.
20499	Pitcher, refrigerating	W. W. Lyman	West Meriden, Ct	June 8, 1858.
21808	Pot, coffee	Nelson Barlow	New York, N. Y.	Oct. 19, 1858.

List of patents for inventions, 1858—CLASS XVII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19780	Pot, coffee and tea	James M. Ingraham	New York, N. Y	Mar. 30, 1858.
21589	Pot, tea	William Austin, assignor to himself and William Oblyke.	Philadelphia, Pa	Sept. 21, 1858.
22278	Pot, tea and coffee	Stephen Culver	Newark, N. J	Dec. 14, 1858.
20517	Provision-cutter	William Smith	Cincinnati, Ohio	June 8, 1858.
20543	Quilting-frame	Alanson Brown	Rochester, N. Y	June 15, 1858.
20764	Quilting-frame	John King, assignor to himself, W. Higbie, H. Link, and G. R. Comstock.	Little Falls, N. Y	June 29, 1858.
19107	Rack, clothes	Chester Stone	Ravenna, Ohio	Jan. 12, 1858.
20974	Rack, clothes	George Young, jr	Saratoga Springs, N. Y	July 20, 1858.
21131	Rack, clothes	A. A. Harris	Ravenna, Ohio	Aug. 10, 1858.
19373	Refrigerator	W. D. Ludlow	New York, N. Y	Feb. 16, 1858.
19837	Refrigerator	W. Ferris, P. Garrett, and J. Megratten	Wilmington, Del	April 6, 1858.
20621	Refrigerator	J. D. Burton	Charlestown, Mass	June 22, 1858.
20907	Refrigerator	Nathaniel Waterman	Boston, Mass	July 13, 1858.
20895	Refrigerator	Henry Rehahn	New York, N. Y	July 13, 1858.
21897	Refrigerator	James Naughten	Cincinnati, Ohio	Oct. 26, 1858.
21977	Refrigerator	Benjamin M. Nyce	Kingston, Ind	Nov. 2, 1858.
22104	Refrigerator	Abel H Bartlett	Spuyten Duyvil, N. Y	Nov. 23, 1858.
22127	Refrigerator	Adolphus Lippmann	New York, N. Y	Nov. 23, 1858.
19432	Refrigerator, table	Charles A McEvoy	Richmond, Va	Feb. 23, 1858.
21337	Sad-iron heater cover	William Heath	Lincoln, Me	Aug. 31, 1858.
20815	Sausage-filler	J. G. Perry	South Kingston, R. I	July 6, 1858.
21965	Sausage-machine	R. V. Jones	Johnstown, Pa	Nov. 2, 1858.
	Scissors, manufacture of. (See Class II.)			
19106	Scissors-sharpener	Andrew Stevely	New Haven, Ct	Jan. 12, 1858.
19467	Scissors-sharpener	George Hinman, assignor to himself and John H. Pardee.	New Haven, Ct	Feb. 23, 1858.
19784	Scissors-sharpener	John C. Loveland	Springfield, Vt	Mar. 30, 1858.
21868	Scrubbing-machine	Samuel M. Barnett	New Orleans, La	Oct. 26, 1858.
20018	Smoothing and polishing-iron	Francis A. Cannon, assignor to John Phillips.	Brooklyn, N. Y	April 20, 1858.

20445	Smoothing-iron	Abraham Rudisill	York, Pa	June 1, 1858.
20451	Spittoon	W. Staehlen	Williamsburg, N. Y	June 1, 1858.
21799	Stair-pad, elastic	Thomas J. Mayall, assignor to himself and Benjamin F. Cook.	Roxbury, Mass	Oct. 12, 1858.
22301	Stair-sweeper	F. H. Moore	Boston, Mass	Dec. 14, 1858.
21633	Stand, embroidery and sewing	William H. Trowbridge	Saginaw, Mich	Sept. 28, 1858.
21275	Stand, ice	H. A. Roberts	Hartford, Ct	Aug. 24, 1858.
20088	Table, convertible extension	Michael Quigley	Watertown, Wis	April 27, 1858.
20530	Table, extension	George Pratt, assignor to J. A. Ellis and J. E. Hazleton.	Boston, Mass	June 8, 1858.
20489	Table, extension	William Heerdt	New York, N. Y	June 8, 1858.
22224	Table, extension	Adolphus Bader	New York, N. Y	Dec. 7, 1858.
22294	Table, folding	Charles Lammrich	New York, N. Y	Dec. 14, 1858.
19390	Table, ironing	William Vandenburg and J. Harvey	New York, N. Y	Feb. 16, 1858.
19883	Table, ironing	William Vandenburg	New York, N. Y	April 6, 1858.
29231	Table, ironing	William Vandenburg	New York, N. Y	May 11, 1858.
19773	Table, self-waiting	G. W. Hagey	Smithland, Ky	Mar. 30, 1858.
21832	Table, writing	Jacob S. Haskell	Salem, Mass	Oct. 19, 1858.
21885	Tables, dining and other	Alexand Kinkead	Washington county, D. C	Oct. 26, 1858.
22086	Tongs for coal, &c	James M. Meschutt	New York, N. Y	Nov. 16, 1858.
22070	Vegetable-cutter and coffee-mill combined	Bartholomew Essig	Pittsburg, Pa	Nov. 16, 1858.
20473	Wash-board	S. M. Barrett, R. S. Lee, and J. M. Waters.	Cincinnati, Ohio	June 8, 1858.
20644	Wash-board	Joseph Keech	Waterloo, N. Y	June 22, 1858.
22087	Wash-board	John Miner and Silas Merrick	New Brighton, Pa	Nov. 16, 1858.
22053	Wash-board	John Adams	Pittsburg, Pa	Nov. 16, 1858.
20428	Wash-stand and night-stool combined	F. W. Hamilton	Conshohocken, Pa	June 1, 1858.
19694	Wash-stand, water-tight	Christian Gies	New York, N. Y	Mar. 23, 1858.
19037	Washing-machine	Samuel P. Mecay	Killbourne, Ohio	Jan. 5, 1858.
19181	Washing-machine	Nicholas Bennet, assignor to David Parker.	New Lebanon, N. Y	Jan. 26, 1858.
19257	Washing-machine	W. W. Neal	Yellow Springs, Ohio	Feb. 2, 1858.
19299	Washing-machine	Edward Julier	McConnellsville, Ohio	Feb. 9, 1858.
19315	Washing-machine	W. H. Tambling	Berlin, Wis	Feb. 9, 1858.
19474	Washing-machine	Benjamin R. Smith, assignor to John Hellings.	East Whiteland, Pa	Feb. 23, 1858.
19609	Washing-machine	H. Lawrence, assignor to himself and J. M. Connel.	Newark, Ohio	Mar. 9, 1858.
19653	Washing-machine	James Robb	Lewistown, Pa	Mar. 16, 1858.
19634	Washing-machine	Lewis Hannum	Homer, N. Y	Mar. 16, 1858.
19788	Washing-machine	James McVicker	Green county, Pa	Mar. 30, 1858.

List of patents for inventions, 1858—Class XVII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19911	Washing-machine	Henry Cassell	Fredericktown, Ohio	April 13, 1858.
20101	Washing-machine	Edmund Tharp	Cincinnati, Ohio	April 27, 1858.
20099	Washing-machine	Charles M. Swany	Richmond, Ind	April 27, 1858.
20123	Washing-machine	Henry Yost	St. Louis, Mo	April 27, 1858.
20154	Washing-machine	Ashman Hall	Dansville, N. Y	May 4, 1858.
20244	Washing-machine	D. E. Rohr, assignor to himself and Thomas W. Davis.	Charlestown, Va	May 11, 1858.
20230	Washing-machine	Miner Van Auken	Chazy, N. Y	May 11, 1858.
20369	Washing-machine	Abraham Quimby	Terre Haute, Ind	May 25, 1858.
20365	Washing-machine	F. B. Pratt and F. Tylee	Cleveland, Ohio	May 25, 1858.
20408	Washing-machine	J. L. Conklin, sr., and J. Foust	St. Louis, Mo	June 1, 1858.
20482	Washing-machine	E. B. Clement	Barnet, Vt	June 8, 1858.
20574	Washing-machine	Benjamin D. Morrell	Windham, Me	June 15, 1858.
20732	Washing-machine	P. C. Rude	Morgantown, Va	June 29, 1858.
20791	Washing-machine	R. H. Harrison	Laurel, Md	July 6, 1858.
20872	Washing-machine	B. T. Ghormley	New Frankfort, Ind	July 13, 1858.
20932	Washing-machine	William Brown	Duncannon, Pa	July 20, 1858.
21216	Washing-machine	D. C Rood	Altona, Ill	Aug. 17, 1858.
21175	Washing-machine	David Allan	St. Louis, Mo	Aug. 17, 1858.
21261	Washing-machine	W A. Jordan	Thibodeaux, La	Aug. 24, 1858.
21385	Washing-machine	Thomas J. Tindall	New York, N. Y	Aug. 31, 1858.
21477	Washing-machine	W. T. Armstrong	Sandwich, Ill	Sept. 14, 1858.
21476	Washing-machine	John Allen	Galena, Mo	Sept. 14, 1858.
21565	Washing-machine	Henry R. June	Millport, N. Y	Sept. 21, 1858.
21665	Washing-machine	John Fordyce	Morgantown, Va	Oct. 5, 1858.
21653	Washing-machine	Samuel W. Cole	Millington, Md	Oct. 5, 1858.
21875	Washing-machine	T. G. Eiswald	Providence, R. I.	Oct. 26, 1858.
21867	Washing-machine	W. T. Armstrong	Sandwich, Ill	Oct. 26, 1858.
21909	Washing-machine	Hamilton E. Smith	Philadelphia, Pa	Oct. 26, 1858.
21903	Washing-machine	Joseph F. Pond	Cleveland, Ohio	Oct. 26, 1858.
22236	Washing-machine	John G. Haley, Isaac Wilson, and Jackson Lyon.	Cameron, Ill	Dec. 7, 1858.
22227	Washing-machine	Jesse Bowen	Yellow Bud, Ohio	Dec. 7, 1858.
22461	Washing-machine	George W. Swigert	Monmouth, Ill	Dec. 28, 1858.
21819	Water-coolers, arrangement of means for making tight joints around the faucets of.	John S. Clark	Philadelphia, Pa	Oct. 19, 1858.
19226	Window-shade fixtures	Charles Schleier, assignor to John H. Bonn	Brooklyn, N. Y	Jan. 26, 1858.
19336	Window-shades, rollers for	J. B. Bailey	New York, N. Y	Feb. 16, 1858 Reissued April 13, 1858.

Class XVIII.—Arts polite, fine, and ornamental, *including music, painting, sculpture, engraving, books, paper, printing, binding, jewelry, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22199	Bag-machines, &c., pasting apparatus for	S. E. Pettee	Mansfield, Mass	Nov. 30, 1858.
19046	Bank-notes, &c., shears for cutting	S. P. Ruggles	Boston, Mass	Jan. 5, 1858.
21984	Book and slate, combined	Forrest Shepherd	New Haven, Conn	Nov. 2, 1858.
21759	Book-marker, index or	Josee Johnson	New York, N. Y	Oct. 12, 1858.
21708	Books, machine for numbering the pages of	Edward and Calvin E. Town	Jersey City, N. J	Oct. 5, 1858.
19654	Books, machine for trimming	A. C. Semple	New York, N. Y	Mar. 16, 1858.
21748	Boxes, portable	Adolphe Dreyspring	Montgomery, Ala	Oct. 12, 1858.
21381	Bracelets	Francis M. Sweet	Syracuse, N. Y	Aug. 31, 1858.
21208	Cerotypography, feed motion for	John McElheran	Brooklyn, N. Y	Aug. 17, 1858.
20183	Chains, sheet-metal	J. Lancelott, assignor to Sackett, Davis, & Co.	Cranston, R. I	May. 4, 1858.
21456	Copying-apparatus, portable	William Van Anden	Poughkeepsie, N. Y	Sept. 7, 1858.
20436	Daguerreotype and other cases, hinge for	E. G. Kinsley and S. A. W. Parker, jr	Stoughton, Mass	June 1, 1858.
20718	Daguerreotype-plates, machine for cleaning	Charles Ketcham	Penn Yan, N. Y	June 29, 1858.
19770	Doll-heads, constructing	Ludwig Greiner	Philadelphia, Pa	Mar. 30, 1858.
21336	Drawing-board	Isachar P. Hansell	Springfield, Ill	Aug. 31, 1858.
19602	Drums, military, construction of	Charles M. Zimmermann	Philadelphia, Pa	Mar. 9, 1858.
21509	Electrotype-moulds, machine for coating	Henry Lovejoy and Robert Wheeler	Brooklyn, N. Y	Sept. 14, 1858.
	Electrotype-plate, production of. (See Class IV, letter P.)			

List of patents for inventions, 1858.—CLASS XVIII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20711	Engravers, &c., ring-clamp for	T. R. Hopkins	Petersburg, Va	June 29, 1858.
19607	Engraving-machine, pantographic, device for	John Hope, assignor to himself and Thomas Hope.	Providence, R. I	Mar. 9, 1858.
20528	Engraving-machines, apparatus for supporting and adjusting gravers for.	John Hope, assignor to himself and Thomas Hope.	Providence, R. I	June 8, 1858.
20087	Envelopes for letters, &c	Charles Phelps	Salem, Mass	April 27, 1858.
22405	Envelopes, letter	James G. Arnold	Worcester, Mass	Dec. 28, 1858.
22149	Envelopes, machine for making	Milton G. Puffer, assignor to Cyrus White and Lewis A. Corbin.	Rockville, Conn	Nov. 23, 1858.
21430	Gilding, apparatus for preparing elliptical frames for.	Robert I. Marcher	New York, N. Y	Sept. 7, 1858.
21173	Gilding, machine for preparing frames for	J. W. Campbell	New York, N. Y	Aug. 10, 1858; antedated Mar. 25, 1858.
20078	Gilding on glass, mode of protecting	P. V. Mathews	Philadelphia, Pa	April 27, 1858.
21896	Glass, ornamenting	Jasper S. Miles	Ann Arbor, Mich	Oct. 26, 1858.
19707	Graphotype	John McElheran	Brooklyn, N. Y	Mar. 23, 1858.
20512	Ink-roller	Alexander Schimmelfennig and Julius Ende.	Washington, D. C	June 8, 1858.
20710	Ink-roller	A. A. Hanscom	Saco, Me	June 29, 1858.
19613	Inkstand	Lucien E. Hicks, assignor to David C. Field.	Boston, Mass	Mar. 9, 1858.
20028	Inkstand	John M. Batchelder	Cambridge, Mass	April 27, 1858.
21395	Inkstand	Valentine Fogerty, assignor to Francis Houghton.	Cambridgeport, Mass	Aug. 31, 1858.
21554	Inkstand	Samuel Darling	Bangor, Me	Sept. 21, 1858.
22123	Inkstand	Orlando H. Jadwin	Carbondale, Pa	Nov. 23, 1858.
22429	Inkstand	Thomas S. Hudson	East Cambridge, Mass	Dec. 28, 1858.
19497	Jewelry, loop-chains for	C. W. Dickinson	Newark, N. J	Mar. 2, 1858.
19783	Lead-pencil and eraser, combination of	Hymen L. Lipman	Philadelphia, Pa	Mar. 30, 1858.
19624	Lenses, fluid, mounting	Almira M. Cole	Windham, Me	Mar. 16, 1858.
22089	Melodeons, &c	Isaac Rehn	Philadelphia, Pa	Nov. 16, 1858.
21262	Music-stool	Edwin Leach	Norwich, Conn	Aug. 24, 1858.
19296	Musical instrument	U. C. Hill and C. F. Hill	Jersey City, N. J / New York, N. Y	Feb. 9, 1858.
20397	Musical instrument	John D. Akin	Spartansburg, Pa	June 1, 1858.
19345	Musical instruments, machine for cutting keyboards, &c., for.	Derwin E. Butler	Chesterfield, Ohio	Feb. 16, 1858.
22139	Musical instruments, wind	Cornelius J. Van Oecklen	New York, N. Y	Nov. 23, 1858.
19187	Musical wind instrument	C H. Eisenbrandt	Baltimore, Md	Jan. 26, 1858.
19814	Musicians, hard-exerciser for	J. Monestier, assignor to R. F. Spangenberg.	St. Dennis, near Paris, France.	Mar. 30, 1858; Fr'nce Jan. 12, 1857.
19312	Organs, &c., pedals for	Thomas Robjohn	New York, N. Y	Feb. 9, 1858.
20480	Ornaments to the ear, method of attaching	W. B. Carpenter	Brooklyn, N. Y	June 8, 1858.
19316	Painting and varnishing machine	Horace Thayer and Levi L. Martin	Warsaw, N. Y	Feb. 9, 1858.
20111	Paper, apparatus for damping	C. A. Waterbury	New York, N. Y	April 27, 1858.
19506	Paper-bags, machine for making	Jacob Keller	Fairview, Pa	Mar. 2, 1858.
20838	Paper-bags, machine for making	Francis Wolle	Bethlehem, Pa	July 6, 1858.
21657	Paper-bags, &c., knives to cut	Henry R. David	New York, N. Y	Oct. 5, 1858.
21775	Paper-clamp	Arnold Palmer	Lee, Mass	Oct. 12, 1858.
19748	Paper-file	W. Z W. Chapman	New York, N. Y	Mar. 30, 1858.
22363	Paper-file	Edward K. Godfrey	New York, N. Y	Dec. 21, 1858.
20965	Paper-hangings, apparatus for hanging up and carrying off.	T. Van Deventer	New Brunswick, N. J	July 20, 1858.
21710	Paper-hangings, machine for trimming the edges of.	John Waugh	Elmira, N. Y	Oct. 5, 1858.
20858	Paper, machine for cutting	M. B. Bigelow	Boston, Mass	July 13, 1858.
21172	Paper, machine for folding	John North, assignor (through mesne assignments) to Steuben T. Bacon.	Middletown, Conn	Aug. 10, 1858.
21411	Paper, machine for ruling	J. C. Forman	Cleveland, Ohio	Sept. 7, 1858.
20077	Paper, machine for wetting	John A Lynch	Boston, Mass	April 27, 1858.
22009	Paper, wetting, apparatus for	Moses S. Beach	Brooklyn, N. Y	Nov. 9, 1858.
21584	Paper, &c., coloring, apparatus for	Charles Williams	Philadelphia, Pa	Sept. 21, 1858.
19831	Pen and pencil cases	John Cockburn	New York, N. Y	April 6, 1858.
20065	Pen-cleaner and holder	Thomas S Hudson	Boston, Mass	April 27, 1858.
20741	Pen-fountain	Susan E. Taylor	East Cambridge, Mass	June 29, 1858.
21881	Pen-fountain	Josee Johnson	New York, N. Y	Oct. 26, 1858.
22017	Pen-fountain	John C Cutts	Philadelphia, Pa	Nov. 9, 1858.
21758	Pen-holder	Josee Johnson	New York, N. Y	Oct. 12, 1858.
20056	Pencil-sharpener	Walter K. Foster	Bangor, Me	April 27, 1858.
20262	Pencil-sharpener	Walter K. Foster	Bangor, Me	May 18, 1858.
21649	Pencil-sharpener, slate	William Burnet	New York, N. Y	Oct. 5, 1858.

List of patents for inventions, 1858.—CLASS XVIII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19191	Pencil-sharpeners, making blades for	Walter K. Foster	Bangor, Me	Jan. 26, 1858.
20219	Pencils, slate, instrument for sharpening	Gerard Sickels	Brooklyn, N. Y	May 11, 1858.
21679	Photographic bath	Bernhard Hufnagle	New York, N. Y	Oct. 5, 1858.
21470	Photographic cameras, diaphragm for	C. C. Harrison and Joseph Schnitzer, assignors to C. C. Harrison.	New York, N. Y	Sept. 7, 1858.
19252	Photographic cameras, plate-holders for	William and W. H. Lewis	New York, N. Y	Feb. 2, 1858.
20401	Photographic cameras, plate-holders for	A. D. Bollens	Newburgh, N. Y	June 1, 1858.
22158	Photographic plate-shield	Henry Bryant and R. D. O. Smith	Washington, D. C	Nov. 30, 1858.
21829	Photographic shield	Ebenezer Gordon	New York, N. Y	Oct. 19, 1858.
20213	Photographs, compound	Thomas Miltenberger	Bellefontaine, Ohio	May 11, 1858.
19626	Photolithography	James A. Cutting and L. H. Bradford	Boston, Mass	Mar. 16, 1858.
19081	Piano-forte	Spencer B. Driggs	New York, N. Y	Jan. 12, 1858.
19857	Piano-forte action	Henry A. Seaman	New York, N. Y	April 6, 1858.
20500	Piano-forte action	J. V. Marshall	Albany, N. Y	June 8, 1858.
20595	Piano-forte action	Henry Steinway	New York, N. Y	June 15, 1858.
21990	Pianos, pedal attachment for	William B. Stetson	Taylor, N. Y	Nov. 2, 1858.
21192	Picture-frames, oval, machinery for preparing	William Gardner	New York, N. Y	Aug. 17, 1858.
20670	Portfolio file	P. W. Toy	New York, N. Y	June 22, 1858.
21902	Press, copying	Edwin and Jacob B. Platt	Clark county, Ga	Oct. 26, 1858.
21997	Press, hand, self-inking	Daniel Zuern and L. L. Bevan	Shamokin, Pa	Nov. 2, 1858.
21976	Presses for embossing and figuring velvet, &c.	John Nagele	Altoona, Pa	Nov. 2, 1858.
20276	Presses for zincographic printing	G. H. Korff	Hoboken, N. J	May 18, 1858.
21321	Printers' composing sticks	Alexander Calhoun	Hartford, Conn	Aug. 31, 1858.
20714	Printers, type case for	W. A. Hunter	Bryan, Ohio	June 29, 1858.
21429	Printing addresses on newspapers, &c., machine for.	James Lord	Pawtucket, Mass	Sept. 7, 1858.
21418	Printing and numbering press	George J. Hill	Buffalo, N. Y	Sept. 7, 1858.
21723	Printing calico, rollers for	John Hope, assignor to himself and Thos. Hope.	Providence, R. I	Oct. 5, 1858.
19797	Printing, casting types for	George Schaub	Hamburg, Germany	Mar. 30, 1858.
21148	Printing-ink rollers	Elisha Pratt	Salem, Mass	Aug. 10, 1858.
22136	Printing names or directions on packages, &c., machine for.	James Spencer	Toronto, Canada	Nov. 23, 1858.
19672	Printing-press	Henry A. Bills and Stephen W. Wood	West Winstead, Conn. Cornwall, N. Y	Mar. 23, 1858; England Jan. 28, 1858.
19758	Printing-press	G. W. Davis	Seneca Falls, N. Y	Mar. 30, 1858.
21090	Printing-press	T. S. Reynolds	Athens, Ga	Dec. 27, 1858.
20204	Printing-press	G. P. Gordon and F. O. Degener	New York, N. Y	May 11, 1858.
20874	Printing-press	George P. Gordon	New York, N. Y	July 13, 1858.
21080	Printing-press	F. B. Nichols	Morrisania, N. Y	Aug. 3, 1858.
21154	Printing-press	E. E. Sneider	New York, N. Y	Aug. 10, 1858.
21228	Printing-press	Daniel Wolfe	Dixon, Ohio	Aug. 17, 1858.
21528	Printing-press	Ervin B. Tripp	New York, N. Y	Sept. 14, 1858.
21484	Printing-press	James A. Campbell	New Orleans, La	Sept. 14, 1858.
22027	Printing-press	Charles Montague	Hartford, Conn	Nov. 9, 1858.
22010	Printing-press	Moses S. Beach	Brooklyn, N. Y	Nov. 9, 1858.
22181	Printing-press	David E. James	Utica, N. Y	Nov. 30, 1858.
22414	Printing-press	S. R. Cotton	Green Bay, Wis	Dec. 28, 1858.
21591	Printing-press, automatic paper-feeder for	William Bullock, assignor to George W. Taylor.	Newark, N. J	Sept. 21, 1858.
20039	Printing-press, card	W. W. Clarkson	Baltimore, Md	April 27, 1858.
22011	Printing-press, feeding out paper from	Moses S. Beach	Brooklyn, N. Y	Nov. 9, 1858.
20556	Printing-press, hand	Charles A. Haskins	New York, N. Y	June 15, 1858.
21980	Printing-press, hand	James N. Phelps	New York, N. Y	Nov. 2, 1858.
21859	Printing-press, paper-feeder for	Lemuel T. Wells	Cincinnati, Ohio	Oct. 19, 1858.
20179	Printing-press, tympan for	L. T. Wells	Cincinnati, Ohio	May 4, 1858.
19881	Printing-stamp, hand	Benjamin B. Stanton	New York, N. Y	April 6, 1858.
22358	Ring, finger, extension	Samuel Friend and George Seiler	New York, N. Y	Dec. 21, 1858.
20273	Signs	James Harrison	Albany, N. Y	May 18, 1858.
19970	Signs, door-plates, &c.	John T. Wellman, assignor to Charles O. Thompson.	Lowell, Mass	April 13, 1858.
21798	Spelling-block	Samuel L. Hill, assignor to himself, A., Palmer, and A. S. Doane.	New York, N. Y	Oct. 12, 1858.
20922	Stamp, hand	W. Morse and J. Hughes, assignors to G. H. and A. T. Devereux and O. W. and E. E. Barrett.	Boston, Mass	July 13, 1858.
20217	Stamp, hand, self-making	S. E. Pettee and E. G. Cobb	Mansfield, Mass Foxboro', Mass	May 11, 1858.
22272	Stencil	R. A. Adams	St. Louis, Mo	Dec. 14, 1858.
19943	Stencil-pallet	J. H. Merriam	Boston, Mass	April 13, 1858.

List of patents for inventions, 1858.—CLASS XVIII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20081	Stereotype-plates, method of preparing	John H. McElheran	Brooklyn, N. Y.	April 27, 1858.
21341	Studs, &c., lock-joint fastener for	Ira A. Ives	New York, N. Y.	Aug. 31, 1858.
19645	Types, picture	John McElheran	Brooklyn, N. Y.	Mar. 16, 1858.
22423	Typographer, mechanical	Henry Harger	Delhi, Iowa	Dec. 28, 1858.

CLASS XIX.—FIRE-ARMS AND IMPLEMENTS OF WAR, *and parts thereof, including the manufacture of shot and gunpowder.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21219	Bomb-lance	Rufus Sibley	Greenville, Conn.	Aug. 18, 1858.
22054	Bomb-lance	A. F. and J. H. Andrews	Avon, Conn	Nov. 16, 1858.
21463	Bullet-machine	Calvin Young	Auburn, N. Y.	Sept. 7, 1858.
21505	Bullet-machine	John Aris Knight	St. Louis, Mo.	Sept. 14, 1858.
22286	Bullets, hollow, machine for making	Richard Gornall	Baltimore, Md.	Dec. 14, 1858.
20608	Cannon, breech-loading	J. H. Murrill, assignor to himself, J. Flynn, and P. Emrich.	Baltimore, Md.	June 15, 1858.
22299	Cannon, breech-loading	Edward Marshall	New York, N. Y.	Dec. 14, 1858.
22325	Cannon, breech-loading	Edward S Wright and Theordore P. Gould	Buffalo, N. Y.	Dec. 14, 1858.
22427	Cannon, breech-loading	John W. Hollensbury	Alexandria, Va.	Dec. 28, 1858.
20727	Cartridge	George W. Morse	Baton Rouge, La.	June 29, 1858.
20214	Cartridge-case	George W. Morse	Baton Rouge, La.	May 11, 1858.
21253	Cartridge for fire-arms	E. Gomez and W. Mills	New York, N. Y.	Aug. 24, 1858.
19327	Fire-arm	F. D. Newbury, assignor to Richard V. De Witt, jr.	Albany, N. Y.	Feb. 9, 1858.
20041	Fire-arm, breech-loading	Calvin Cox	Coxville, N. C.	April 27, 1858.
20073	Fire-arm, breech-loading	Thomas Lee	New York, N. Y.	April 27, 1858.
20503	Fire-arm, breech-loading	George W. Morse	Baton Rouge, La.	June 8, 1858.
20825	Fire-arm, breech-loading	George H. Soule	Jersey City, N. J.	July 6, 1858.
20776	Fire-arm, breech-loading	E. Brooks, and G. Walker	Philadelphia, Pa.	July 6, 1858.
20954	Fire-arm, breech-loading	James H. Merrill	Baltimore, Md.	July 20, 1858.
21523	Fire-arm, breech-loading	E. T. Starr	New York, N. Y.	Sept. 14, 1858.
21802	Fire-arm, breech-loading	John P. Schenkl, assignor to himself and Edward A. Dana.	Worcester, Mass.	Oct. 12, 1858.
22094	Fire-arm, breech-loading	John C. Symms	Watertown Arsenal, Mass.	Nov. 16, 1858.
22348	Fire-arm, breech-loading revolving	E. Claude	New York, N. Y.	Dec. 21, 1858.
20129	Fire-arm, continuous priming for	Daniel G. Rollin, assignor to George G. Martin.	New York, N. Y.	April 27, 1858.
19213	Fire-arm, nipple-guard of	David W. Smith	Boston, Mass.	Jan. 26, 1858.
19387	Fire-arm, repeating	Charles C. Terrel	Shalesburg, Wis.	Feb. 16, 1858.
19553	Fire-arm, repeating	A. C. Falvre	Meadville, Pa.	Mar. 9, 1858.
21149	Fire-arm, repeating	F. B. Prindle	New Haven, Conn.	Aug. 10, 1858.
19739	Fire-arm, revolving	F. D. Newbury, assignor to Richard V. De Witt, jr.	Albany, N. Y.	Mar. 23, 1858.
19961	Fire-arm, revolving	Rollin White	Hartford, Conn	April 13, 1858.
20160	Fire-arm, revolving	B. F. Joslyn	Worcester, Mass	May 4, 1858.
20144	Fire-arm, revolving	Samuel Colt	Hartford, Conn	May 4, 1858.
20496	Fire-arm, revolving	Moses Kinsey	Newark, N. J.	June 8, 1858.
20607	Fire-arm, revolving	F. H. Harrington, assignor to Horace Smith and Daniel B. Nesson.	Springfield, Mass.	June 15, 1858.
20765	Fire-arm, revolving	F. D. Newbury, assig'r to R. V. De Witt, jr.	Albany, N. Y.	June 29, 1858; additional improvement Sept. 28, 1858.
21054	Fire-arm, revolving	E. A. Raymond and C. Robetaille, assignors to themselves, J. B. Richards, and T. K. Austin	Brooklyn, N. Y.	July 27, 1858.
21215	Fire-arm, revolving	Joseph Rider	Newark, Ohio	Aug. 17, 1858.
21188	Fire-arm, revolving	W. H. Elliott	Plattsburgh, N. Y	Aug. 17, 1858.
21400	Fire-arm, revolving	Ethan Allen	Worcester, Mass	Sept. 7, 1858.
21478	Fire-arm, revolving	Fordyce Beals	New Haven, Conn	Sept. 14, 1858.
21623	Fire-arm, revolving	William Palmer	New York, N. Y.	Sept. 28, 1858.
21730	Fire-arm, revolving	Thomas K Austin	New York, N. Y.	Oct. 12, 1858.
22005	Fire-arm, revolving	Ethan Allen	Worcester, Mass	Nov. 9, 1858.
22412	Fire-arm, revolving	John W. Cochran	New York, N. Y.	Dec. 28, 1858.
19868	Fire-arm, revolving, removeable rammer of	Henry S North	Middletown, Conn.	April 6, 1858.
19328	Gun, cane	John F. Thomas, assignor to himself and Samuel Remington.	Ilion, N. Y.	Feb. 9, 1858.

List of patents for inventions, 1858—CLASS XIX.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20597	Gun-carriage	G. J. Van Brunt	Dedham, Mass	June 15, 1858.
22377	Gun-carriages, quoins for	David D. Porter	U. S. Navy	Dec. 21, 1858.
21109	Gun, centrifugal	C. B. Thayer, assignor to himself and Chas. Robinson.	Boston, Mass	Aug. 3, 1858.
20757	Gun-lock, double-acting	Elias Brey, assignor to himself and J. L. Swartley.	Pennsburgh, Pa	June 29, 1858.
19121	Gun, lock of double-barrel	Henry Barnes	Wilson, N. C	Jan. 19, 1858.
19063	Gun, needle	William Burghart	Lawrence, Mass	Jan. 12, 1858.
19086	Gun, spring	Albert Gernunder	Springfield, Mass	Jan. 12, 1858.
19674	Gun, walking-stick	Robert R. Beckwith	New York, N. Y	Mar. 23, 1858.
21773	Ordnance, compound shell for	Lorenzo B. Olmstead	Binghamton, N. Y	Oct. 12, 1858.
20229	Ordnance, repeating	Grey Utley	Louisburg, N. C	May 11, 1858.
19342	Powder flask	J. H. Breckenridge	Meriden, Conn	Feb. 16, 1858.
20315	Rifle, breech-loading	C. W. Alexander	Moorefield, Va	May 25, 1858.
21924	Rifle, breech-loading, patching balls for	Lucius H. Gibbs, assignor to Gibbs Arms Company.	New York, N. Y	Oct. 26, 1858.
19505	Shell, eccentric explosive	William W. Hubbell	Philadelphia, Pa	Mar. 2, 1858.
20250	Shot, making	Alfred Booth	New York, N. Y	May 18, 1858.

CLASS XX.—SURGICAL AND MEDICAL INSTRUMENTS, *including trusses, dental instruments, bathing-apparatus, &c.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
22293	Bandages	N. Jensen	Washington, D. C	Dec. 14, 1858.
22298	Bath, shower	Joseph Mansfield	Jefferson, Wis	Dec. 14, 1858.
21138	Bathing-apparatus	Frederick Kraemer	Brooklyn, N. Y	Aug. 10, 1858.
22080	Breast-pipes	Thomas Lewis	Malden, Mass	Nov. 16, 1858.
21790	Corn-eradicator	Corydon Wheat	Geneva, N. Y	Oct. 12, 1858.
19858	Dental-plate, atmospheric pressure	Morris Levett	New York, N. Y	April 6, 1858.
21562	Dentists' chair	Alexander M. Holmes	Morrisville, N. Y	Sept. 21, 1858.
19052	Dentists' operating chair	George W. Tripp	Auburn, N. Y	Jan. 5, 1858.
22063	Forceps, tooth, mode of connecting electro-magnetic apparatus with.	James J. Clark	Philadelphia, Pa	Nov. 16, 1858.
22018	Lacteal instrument	C. H. Davidson	Charlestown, Mass	Nov. 9, 1858.
21289	Legs, artificial, attachments to	O. D. Wilcox	Elmira, N. Y	Aug. 24, 1858.
22364	Medicated fabrics	Henry Glynn	Baltimore, Md	Dec. 21, 1858.
20896	Medicated vapor apparatus	A. F. Rose	Brooklyn, N. Y	July 13, 1858.
21291	Obstetrical chair	C. C. Wingo	Newport, Va	Aug. 24, 1858.
21189	Pessary	William Elmer	New York, N. Y	Aug. 17, 1858.
20754	Plate, use of dentists' pattern	William M. Wright	Pittsburg, Pa	June 29, 1858.
19025	Splints, attachment of adjustable foot-boards to	John Gruol	New York, N. Y	Jan. 5, 1858.
21872	Splints, extension	William Bunce	Sullivan, Ohio	Oct. 26, 1858.
19916	Teeth, bases for artificial	George Dieffenbach	New York, N. Y	April 13, 1858.
20905	Teeth, extracting, apparatus as aids in	Charles C. Thomas	Natchez, Miss	July 13, 1858.
21853	Teeth, method of applying electricity during extraction of.	Jacob S. Simmerman	Glassborough, N. J	Oct. 19, 1858.
20390	Teeth, method of extracting	Jerome B. Francis, assignor through mesne assignments to James J. Clark.	Philadelphia, Pa	May 25, 1858.
19914	Truss-pad	William F. Dailey	Baltimore, Md	April 13, 1858.
20444	Truss-pad	H. H. Reynolds	Buffalo, N. Y	June 1, 1858.
21548	Truss-pad	Cornelius Campbell	St Louis, Mo	Sept. 21, 1858.
21767	Truss-pad	Lazarus B McLain, sr	New Lisbon, Ohio	Oct. 12, 1858.

CLASS XXI.—WEARING APPAREL, ARTICLES FOR THE TOILET, &c., *including instruments for manufacturing.*

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19932	Bonnet-frame	Whitten E. Kidd	New York, N. Y	April 13, 1858.
	Bonnets and other articles of varying thickness, machinery for pressing. (See Class III, letter B.)			
22242	Bustle	Charles A. Pestley	Jersey City, N. J	Dec. 7, 1858.
20865	Bustles and skirts	H. N. Daggett	Attleboro', Mass	July 13, 1858.
22133	Bustles for ladies' dresses	George V. and Edwin A. Pierce	New York, N. Y	Nov. 23, 1858.
20707	Button-fastening	Lester Goodwin	New York, N. Y	June 29, 1858.
20632	Button-holes, implement for cutting	Charles Currier	Providence, R. I	June 22, 1858.
19120	Buttons	Jean Felix Bapterosses	Paris, France	Jan. 19, 1858; France Jan. 17, 1857.
20194	Buttons, sleeve, fasteners for	Henry Cogswell	Providence, R. I	May 11, 1858.
22443	Corsets	Ann S. McLean	Williamsburg, N. Y	Dec. 28, 1858.
19418	Diapers, infants, substitute for	J. H. Hall	Kittanning, Pa	Feb. 23, 1858.
22366	Fans, portable, manufacture of	John C. Hall	Fayette, Miss	Dec. 21, 1858.
19271	Garments, machine for drafting	James M. Weston	Chesterfield, N. Y	Feb. 2, 1858.
19228	Hair in curl, ladies', clamp for holding	Francis Arnold	Middle Haddam, Conn	Feb. 2, 1858.
20069	Hose-supporter	Asa Johnson	Cairo, N. Y	April 27, 1858.
20834	Muff, ear, cheek, and chin	William P. Ware	Cincinnati, Ohio	July 6, 1858.
20708	Pantaloons	B. J. Greeley	Springfield, Mass	June 29, 1858.
19280	Pin, diaper or shawl	John G. Klinger, assignor to Ignatius Sturn.	Jersey City, N. J	Feb. 2, 1858.
21966	Pin, shield	Josee Johnson	New York, N. Y	Nov. 2, 1858.
22159	Scissors	Joel Bryant	Brooklyn, N. Y	Nov. 30, 1858.
	Scissors, manufacture of. (See Class II.)			
21369	Shears	J. H. Roome	New York, N. Y	Aug. 31, 1858.
22039	Shirt-bosom folders	John Stevens	New York, N. Y	Nov. 9, 1858.
22442	Shirt-stud	Charles McIntyre	Newark, N. J	Dec. 28, 1858.
22375	Shirts, drafting	John Peckham	New Haven, Conn	Dec. 21, 1858.
21839	Skirt, hoop	George Mallory	Watertown, Conn	Oct. 19, 1858.
20561	Skirt-hoop	David Holmes	Westfield, Mass	June 15, 1858; reissued Aug. 17, 1858.
20681	Skirt hoop	R. J. Mann, assignor to L. A. Osborn and I. J. Vincent.	Brooklyn, N. Y	June 22, 1858.
20720	Skirt-hoop	Martin Landenberger	Philadelphia, Pa	June 29, 1858.
20801	Skirt-hoop	Austin Kelley	New York, N. Y	July 6, 1858.
22385	Skirt-hoop, buckle for	John Stevens and James Hanley	New York, N. Y	Dec. 21, 1858.
20598	Skirt-hoop, clasp for	Thomas Wallace, jr	Ansonia, Conn	June 15, 1858.
21373	Skirt-hoop, clasp for	A. Smart	New York, N. Y	Aug. 31, 1858.
21747	Skirt-hoop, fastening for	Alexander Douglas and Samuel S. Sherwood.	New York, N. Y	Oct. 12, 1858.
22355	Skirt-hoop, slide and fastening for	Alexander Douglas and Samuel S. Sherwood.	New York, N. Y	Dec. 21, 1858.
21709	Skirt-hoop, slide for	William M. Warren	New York, N. Y	Oct. 5, 1858.
21581	Skirt, ladies', eyelet fastening for	W. S. Thomson	New York, N. Y	Sept. 21, 1858.
21479	Skirt, ladies' hoop	Samuel Beberdy	Philadelphia, Pa	Sept. 14, 1858.
22197	Skirt, ladies' hoop	Samuel Peberdy	Philadelphia, Pa	Nov. 30, 1858.
22426	Skirt, ladies' hooped	John Holmes	Boston, Mass	Dec. 28, 1858.
21806	Skirt, skeleton	E. G. Atwood	Derby, Conn	Oct. 19, 1858.
22051	Skirt, skeleton-hoop	R. J. Mann, assignor to L. A. Osborn and I. J. Vincent.	Brooklyn, N. Y	Nov. 9, 1858.
19576	Skirt-supporter	N. C. Nelson	Concord, N. H	Mar. 9, 1858.
19946	Skirts, cords for	David Perry	Godwinsville, N. J	April 13, 1858; antedated Oct. 13, 1857.
22308	Skirts, hoop, forceps for fastening clasps on	George D. and Samuel A. and Charles L. Russell	Birmingham, Conn	Dec. 14, 1858.
21324	Sun-shade	Anthony G. Davis	Watertown, Conn	Aug. 31, 1858.
20424	Suspender, shoulder-brace	B. J. Greeley	Springfield, Mass	June 1, 1858.
20826	Tailor's measure	W. R. Stace	Rochester, N. Y	July 6, 1858.
20519	Tailor's pressing-machine	L. B. Storrs	Canton, N. Y	June 8, 1858.
20879	Tailor's shears	Rochus Heinisch	Newark, N. J	July 13, 1858.
22124	Tournures	Benjamin Johnson	Philadelphia, Pa	Nov. 23, 1858.
19998	Umbrella	Henry Kurth	Brooklyn, N. Y	April 20, 1858.
21313	Umbrella	Charles Boernicke	Baltimore, Md	Aug. 31, 1858.
21855	Umbrella	Henry Steele	Jersey City, N. J	Oct. 19, 1858.
	Umbrella and head-rest combined. (See Class X, letter H.)			
22033	Umbrellas and parasols, frames for	Frederick Reichhold	New York, N. Y	Nov. 9, 1858.
22142	Umbrellas, parasols and	Edward Young	Philadelphia, Pa	Nov. 23, 1858.
22274	Wristband-fastener	Daniel S. Baker	Providence, R. I	Dec. 14, 1858.

Class XXII.—Miscellaneous.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
19527	Alarm, burglars'	William D. Wright	Baltimore, Md	Mar. 2, 1858.
19973	Alarm, burglars'	H. Hersch, B. Bauman, and H. C. Locher	Lancaster, Pa	April 13, 1858.
21555	Alarm, burglars'	A. W. Decrow	Bangor, Maine	Sept. 21, 1858.
21849	Alarm, burglars'	Henry R. Robbins	Baltimore, Md	Oct. 19, 1858.
22024	Alarm, burglars'	N. Jensen	Washington, D. C	Nov. 9, 1858.
20852	Alarm-clock, burglars'	G. D. Sargent, assignor to himself and T. R. Abbott.	Boston, Mass	July 6, 1858.
20819	Alarm-clock, burglars'	John Matthewman	New Haven, Conn	July 6, 1858.
	Alarm, house, electro-magnetic. (See Class VIII, letter E.)			
19295	Alarm-lock	Horace L. Hervey	Windsor, Conn	Feb. 9, 1858.
19926	Alarm-lock	Horace L. Hervey	Windsor, Conn	April 13, 1858.
21457	Alarm-lock	Jonathan W. Wells	Pittsburg, Pa	Sept. 7, 1858.
20333	Alarm-lock, burglars'	Addison Corey	Canstown, Ohio	May 25, 1858.
21339	Alarm, prison, apparatus for	William O. Hills	Nottingham, N. H	Aug. 31, 1858.
19195	Alarm, sash-balance	Thomas Denham and Joseph W. Briggs	Cleveland, Ohio	Mar. 2, 1858.
19196	Alarm, tidal	Abel Hildreth	Thomaston, Maine	Jan. 26, 1858.
21719	Aquaria, construction of	J. Chilcott and James Scrimgeour, assignors to themselves and George F. Taylor.	Brooklyn, N. Y	Oct. 5, 1858.
22619	Aquarium	Elijah D. Davis	Brooklyn, N. Y	Nov. 9, 1858.
22176	Ashes and garbage safe	William Gee	New York, N. Y	Nov. 30, 1858.
20085	Awning, metal	William O. Parisen	New York, N. Y	April 27, 1858.
20256	Ballot-box	Allan Cummings	New York, N. Y	May 18, 1858.
21684	Ballot-box	Samuel C. Jollie	New York, N. Y	Oct. 5, 1858.
19384	Bank-check canceller	William M. Simpson	Newark, N. J	Feb. 16, 1858.
19229	Basket-splints, tool for manufacturing	Artemas Baker	Templeton, Mass	Feb. 2, 1858.
22371	Bench, folding	Tristram L. Lewis	Kendall's Mills, Maine	Dec. 21, 1858.
21444	Billiard-balls	C. B. & J. & W. C. Rogers	Deep River, Conn	Sept. 7, 1858.
21159	Billiard-cushion	W. K. Winant	Brooklyn, N. Y	Aug. 10, 1858.
22001	Billiard-table	D. D. Winant, assignor to W. R. Winant	New York, N. Y	Nov. 2, 1858.
22064	Billiard-table	H. W. Collender	New York, N. Y	Nov. 16, 1858.
20156	Billiard-table cushion	George W. Holman	New York, N. Y	May 4, 1858.

22263	Billiard-table cushion	John E. Came, assignor to himself and James E. Came.	Boston, Mass	Dec. 7, 1858.
19101	Billiard table, cushion for	Michael Phelan, assignor to H. W. Collender	New York, N. Y	Jan. 12, 1858.
19074	Billiard table, cushion for	H. W. Collender	New York, N. Y	Jan. 12, 1858.
22020	Billiard table, cushion for	Levi Decker	Bergen, N. J	Nov. 9, 1858.
19755	Billiard table, folding	Charles Croley	Cincinnati, Ohio	Mar. 30, 1858.
20548	Billiard table, pocket supporter for	J. E. Came and S. Havens	Boston, Mass	June 15, 1858.
19546	Billiard table tops or beds	Charles Croley	Cincinnati, Ohio	Mar. 9, 1858.
	Bottle for containing mercury. (See Class IV, letter M.)			
22186	Bottle, screw-neck	John L. Mason	New York, N. Y	Nov. 30, 1858.
19323	Bottle-stopper	J. B. Williams	New York, N. Y	Feb. 9, 1858.
22370	Bottle-stopper	Thomas Lewis	Malden, Mass	Dec. 21, 1858.
20778	Bottle, stopper for	M. C. Cronk	Auburn, N. Y	July 6, 1858.
20843	Bottle, stopper for	J. Ewing, assignor to F. V. Rushton	New York, N. Y	July 6, 1858.
	Bottles, apparatus for making glass stoppers for. (See Class XV.)			
	Bottles, glass, mould for. (See Class XV, letter G.)			
20520	Bottles, jars, &c., metallic caps for	W. J. Stevenson	New York, N. Y	June 8, 1858.
20113	Bottles, machine for washing	W. B. White and John A. Whitford	Saratoga Springs, N. Y	April 27, 1858.
20240	Candy-machine	George K. Farrington and Samuel Brown, jr., assignors to themselves and David B. Tiffany.	Xenia, Ohio	May 11, 1858.
21384	Casket, travelling	T. R. Timby	Medina, N. Y	Aug. 31, 1858.
21677	Checks, baggage	Edmund Hoole	Mount Vernon, N. Y	Oct. 5, 1858.
19717	Cigar-lighting cinders	Henrich Reimann	Hartford, Conn	Mar. 23, 1858.
19580	Cigar-lighting cinders, apparatus for containing and lighting.	Henrich Reimann	Hartford, Conn	Mar. 9, 1858.
21558	Cigar-wrapper	Henry Durell	Morrisania, N. Y	Sept. 21, 1858.
19746	Cigars	Thomas Blanchard	Boston, Mass	Mar. 30, 1858.
19341	Cigars, machine for making	Louis Beauché	Paris, France	Feb. 16, 1858; France, May 22, 1856.
21704	Cigars, wrappers for	James S. Suter and George M. Palmer	Baltimore, Md	Oct. 5, 1858.
19503	Coffin	Daniel and Solomon E. Hooker	West Poultney, Vt	Mar. 2, 1858.
20095	Coffins, constructing	Isaac C. Shuler	Amsterdam, N. Y	April 27, 1858.
20770	Corks, machine for cutting	R. P. Abernethy, assignor to Union Cork Manufacturing Company.	Cincinnati, Ohio	July 6, 1858.
20771	Corks, machine for cutting	R. P. Abernethy and M. M. Wombaugh	Cincinnati, Ohio	July 6, 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
21944	Corks, machine for cutting	Edward Conroy	Boston, Mass	Nov. 2, 1858.
19109	Creepers	Leonhardt Witting	Philadelphia, Penn	Jan. 12, 1858.
21955	Cup, drinking	Louis Grosholz	Philadelphia, Penn	Nov. 2, 1858.
19791	Desk-seat for schools	Charles Perley	New York, N. Y	Mar. 30, 1858.
20487	Desk, writing	J. H. Grimsley and P. J. Aukney	New Lexington, Ohio	June 8, 1858.
21249	Desk, writing	John W. Fiester	New Lexington, Ohio	Aug. 24, 1858.
20859	Door-plate	Jeremy W. Bliss	Hartford, Conn	July 13, 1858.
20100	Drawer for closets, bureaus, &c	H. R. Taylor	Roxbury, Mass	April 27, 1858.
20703	Eels, apparatus for skinning	Adam Emeigh	Jerusalem, N. Y	June 29, 1858.
21282	Fire-escape	Owen Sweeney	Brooklyn, N. Y	Aug. 24, 1858.
20752	Fire-ladder	Joseph Welte	Buffalo, N. Y	June 29, 1858.
20961	Fireman's trumpet	William Stachlen	Williamsburgh, N. Y	July 20, 1858.
20343	Fish, apparatus for catching	Jacob Garl	Suffield, Ohio	May 25, 1858.
20725	Fish at sea, net for catching	Benjamin Merritt, jr	Charlestown, Mass	June 29, 1858.
20309	Fishing-rods, tips for	J. C. Underwood and T. J. Bargis	Richmond, Ia	May 18, 1858.
	Fog-signal machine. (See Class VIII, letter S.)			
20539	Glaziers' pins, machine for cutting	John G. Baker	New Brunswick, N. J	June 15, 1858.
19205	Heel spur to prevent slipping on ice	Horatio Pollard	Boston, Mass	Jan. 26, 1858.
19761	Horse and cattle tie, self-loosening	J. J. Eshlemann	Lancaster, Penn	Mar. 30, 1858.
22210	Ice, apparatus for hoisting and storing	Hiram Van Steenburgh and Joel Egnor	Catskill, N. Y	Nov. 30, 1858.
19195	Ice in rivers, machine for planing away	R. W. Heywood	Baltimore, Md	Jan. 26, 1858.
20322	Ice, machine for hoisting	W. G. Brower	Staatsburgh, N. Y	May 25, 1858.
22403	Ice-pick	John L. Rowe, assignor to Frederick Stevens	New York, N. Y	Dec. 21, 1858.
19376	Ice-spur	Charles Monnin	Buffalo, N. Y	Feb. 16, 1858.
22390	Labels for trees, &c	William W. Wade and Francis T. Cordis	Long Meadow, Mass	Dec. 21, 1858.
	Ladder, fire-escape. (See Class V, letter F.)			
19578	Letter boxes to lamp-posts, mode of attaching metallic.	Albert Potts	Philadelphia, Penn	Mar. 9, 1858.
21716	Marks on cloth, &c., trâde, machine for stamping	Algernon S. Wright	Lawrence, Mass	Oct. 5, 1858.
21794	Match cards, rack for holding comb	E. G. Byam and B. E. Parkhurst, assignors to E. and E. G. Byam and S. A. Carlton.	Boston, Mass. and Brunswick, Me	Oct. 12, 1858.
19608	Match-machine	Samuel Miller and William Gates, jr. Assignors to William Gates, jr.	Hammond, N. Y and Frankfort, N. Y	Mar. 9, 1858.
21770	Match-safe, friction, portable and water-proof	Platt Merrill	Port Sanilac, Mich	Oct. 12, 1858.
21082	Money-table	William Painter	Wilmington, Del	Aug. 3, 1858.
20125	Net, fishing	Thomas Hall, assignor to Thomas Hall & Co.	Gloucester, Mass	April 27, 1858.
20235	Net, fly	Robert Wilson	Milton, Pa	May 11, 1858.
21274	Packages for dry goods	Alexander Robertson	[illegible]esex Co., England	Aug. 24, 1858; England, June 26, 1855.
20715	Picket, screw	Oliver Hyde	Benicia, Cal	June 29, 1858.
19832	Pocket-books, &c., method of securing	Oliver Cox	Alexandria, Va	April 6, 1858.
	Ratan-machines, device for retaining in proper position the splitting-knife in. (See Class XIV.)			
20055	Ruler	Thomas Fisler	Camden, N. J	April 27, 1858.
21585	Skate-irons	C. A. and R. Williams and G. A. Morse	Bloomfield, Me	Sept. 21, 1858.
21973	Smoking-tube	Charles Mathews	New York, N. Y	Nov. 2, 1858.
21473	Stamping milk-cans, apparatus for	William M. Storm, assignor to A. Cummings.	New York, N. Y	Sept. 7, 1858.
20306	Stamps to letters, post office, machine for affixing.	George K. Snow	Watertown, Mass	May 18, 1858.
20303	Street-sweeping machine	A. J. Roberts	Boston, Mass	May 18, 1858.
21743	Streets, machine for sweeping	Amzi Crane	Newark, N. J	Oct. 12, 1858.
21933	Swords, method of hanging	Jonathan Ball	Utica, N. Y	Nov. 2, 1858.
	Tacks, leathering, machine for. (See Class XVI, letter L.)			
21703	Ticket-holder	J. W. Shaler	New York, N. Y	Oct. 5, 1858.
19856	Tobacco, machine for crimping	Rhodolphus Kinsley	Springfield, Mass	April 6, 1858.
20199	Tobacco, pipes and cigar holds or mouth-pieces for smoking.	James W. Evans	New York, N. Y	May 11, 1858.
20075	Toy	Conrad Liebrich	Philadelphia, Pa	April 27, 1858.
22078	Trap, animal	C. Jillson	Worcester, Mass	Nov. 16, 1858.
21647	Trap, animal, constructing	Moses H. Biddle	Mount Carmel, Ill	Oct. 5, 1858.
21676	Trap, animal, constructing	Edmund Hill	Cincinnati, Ohio	Oct. 5, 1858.
19382	Trap, fly	Thomas M. Scott	La Grange, Ga	Feb. 16, 1858.
20091	Trap, fly	William Riley	Madison Co., Miss	April 27, 1858.
21646	Trap, fly	Bryan Atwater	Berlin, Ct	Oct. 5, 1858.
19825	Trap for animals	John L. Brabyn	New York, N. Y	April 6, 1858.

List of patents for inventions, 1858—CLASS XXII.

No.	Inventions or discoveries.	Patentees.	Residence.	Date.
20873	Trap for animals	Samuel Gibson	Mastic Township, Pa	July 13, 1858.
21302	Trap for animals	Frederick Reutha, assignor to Moritz Loth	Hartford, Ct	Aug. 24, 1858.
21454	Trap for animals	Rufus M. Turner	Woodland, Mich	Sept. 7, 1858.
21978	Trap for animals	Rufus L. Payne	Halifax, Va	Nov. 2, 1858.
19355	Trap for catching rats and other animals	Earl D. Fink	Columbus, Ohio	Feb. 16, 1858.
20042	Trap, rat	W. H. Cox	Virden, Ill	April 27, 1858.
21726	Trap, roach	A. N. Shell, assignor to W. S Wood and T. N. Shell.	Richmond, Va	Oct. 5, 1858.
20931	Twine-box	W. R. Bennett and C. Storer	Boston, Mass	July 20, 1858.
19875	Wallet-fastener	J T. Sargent	Carlinville, Ill	April 6, 1858.
20299	Whalebone, manufacture of artificial	C. Poppenhusen	New York, N. Y	May 18, 1858.
21740	Willow, machine for peeling	George J. Colby	Waterbury, Vt	Oct. 12, 1858.

LIST OF REISSUES GRANTED DURING THE YEAR 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date of patent.	Date of reissue.
603	Acid, sulphuric, manufacture of	A. Monnier	Camden, N. J	Aug. 11, 1857; reissued Oct. 6, 1857.	Sept. 21, 1858.
551	Arithmometer for adding	O. L. Castle	Upper Alton, Ill	Nov. 24, 1857	May 11, 1858.
	Bagasse furnaces. (See Furnaces.)				
533	Barrels and other casks, machine for making.	Isaac Crossett	Bennington, Vt	July 1, 1844	Mar. 2, 1858.
531	Billiard-cues	Conrad Leicht	New York, N. Y	May 27, 1856	Feb. 23, 1858.
544	Boilers, steam	W. M. and J. B. Ellis	Washington, D. C	Sept. 29, 1857	April 13, 1858.
594	Boilers, steam	F. P. Dimp'el	Philadelphia, Pa	April 1, 1856	Aug. 31, 1858.
530	Boilers, steam, safety indicators for	Lucius J. Knowles	Warren, Mass	Feb. 10, 1857	Feb. 23, 1858.
612	Bolting flour	Edward Bradfield	Rochester, N. Y	Sept. 15, 1846	Oct. 12, 1858.
523	Books, account, machine for numbering the pages of.	John McAdams	Boston, Mass	Aug. 12, 1851	Jan. 26, 1858.
632	Boots and shoes, metal tips for toes of	George A. Mitchell	Turner, Me	Jan. 5, 1858	Dec. 7, 1858.
550	Boxes for receiving passengers' fares	I. B. Slawson	New Orleans, La	July 28, 1857	May 4, 1858.
620	Caoutchouc, treatment of	Austin G. Day	Seymour, Conn	Aug. 10, 1858	Nov. 9, 1858.
541	Car-wheels, railroad	W. B. Treadwell	Albany, N. Y	Jan. 9, 1849	Mar. 30, 1858.
532	Carding-machine	S R. Parkhurst	New York, N. Y	June 0, 1848	Feb. 23, 1858.
609	Carriages, wear-iron for	I. George Lefler	Philadelphia, Pa	Sept. 8, 1857	Oct. 5, 1858.
615	Cars, railroad, elliptic cushion for	Samuel R. Jones	York, Pa	April 27, 1858	Oct. 26, 1858.
602	Cars, railroad, for day and night service	J. B. Creighton	Tiffin, Ohio	May 18, 1858	Sept. 21, 1858.
598	Cartridges	Gilbert Smith	Buttermilk Falls, N. Y.	June 30, 1857	Sept. 14, 1858.
547	Casters, syrup	Edmund Bigelow	Springfield, Mass	April 6, 1858	May 4, 1858.
539	Casting iron-pipe, employing centrifugal force in.	Thomas J. Lovegrove	Baltimore, Md	Dec. 26, 1848	Mar. 23, 1858.
611	Chairs	James Fernald	Boston, Mass	July 22, 1856	Oct. 12, 1858.
630	Churn	James Macnish	Berlin, Wis	April 20, 1858	Nov. 30, 1858.
636	Cloth, elastic, manufacture of	Horace H. Day, assignee of Richard Solis, through mesne assignments.	New York, N. Y	Nov. 7, 1848	Dec. 14, 1858.
583	Coffee-pot	Charles B. Waite and Joseph W. Sener	Fredericksburg, Va	April 22, 1856	Aug. 10, 1858.
566	Electro-magnetic alarm	A. R. Pope	Somerville, Mass	June 21, 1853	June 8, 1858.
584	Engines, steam, surface condensers for	J. P. Pirsson	New York, N. Y	April 2, 1850	Aug. 10, 1858.

List of reissues for 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date of patent.	Date of reissue.
631	Felting for coats, hats, &c	Marmaduke Osborn	New York, N. Y	May 28, 1842; extended for 7 years from May 28, 1856.	Nov. 30, 1858.
558	Fertilizers, machine for sowing	Warren S. Bartle, assignor to Lyman Bickford, and Henry Hoffman	Newark, N. Y / Macedon, N. Y	April 22, 1856	May 18, 1858.
555	Flour from bran, machinery for separating.	J. Frost and J. Monroe, assignors to H. A. Burr, I. D. Condit, A. Swift, D. Barnum, and J. M. Carr.	New York, N. Y	Feb. 27, 1849; reissued Mar. 13, 1855.	May 11, 1858.
549	Furnace, bagasse	A. Hager and Youngs Allyn	Baton Rouge, La	May 6, 1856	May 4, 1858.
619	Furnace for burning bagasse	Elizabeth Ann Harris, administratrix of Alfred Stillman, deceased.	New York, N. Y	May 1, 1855	Nov. 9, 1858.
642	Gas-burner	A. H. Wood, assignor to I. R. Foster	Boston, Mass	Sept. 21, 1858	Dec. 28, 1858.
610	Gas-meters, dry	Alexander Angus Croll	London, England	Feb. 22, 1853	Oct. 5, 1858.
536	Gas-tube joint	Charles Monson	New Haven, Conn	Jan. 19, 1858	Mar. 9, 1858.
527	Gun, walking-stick	Ira Buckman, jr	New York, N. Y	Aug. 4, 1857	Feb. 16, 1858.
548	Harvester	Charles Crook	New Hope, Pa	May 5, 1857	May 4, 1858.
590	Harvester, (Reissue A)	N. Platt, assignor to W. H. Seymour and D. S. Morgan.	Brockport, N. Y	June 12, 1849; reissued May 23, 1854.	Aug. 31, 1858.
591	Harvester, (Division B)	N. Platt, assignor to W. H Seymour and D. S. Morgan.	Brockport, N. Y	June 12, 1849; reissued May 23, 1854.	Aug. 31, 1858.
592	Harvester, (Division C)	N. Platt, assignor to W. H. Seymour and D. S. Morgan.	Brockport, N. Y	June 12, 1849; reissued May 23, 1854	Aug. 31, 1858.
593	Harvester, (Division D)	N. Platt, assignor to W. H. Seymour and D. S. Morgan.	Brockport, N. Y	June 12, 1849; reissued May 23, 1854.	Aug. 31, 1858.
618	Harvester, corn	R. C. Mauck and / W. T. McGahey	Conrad's Store, Va. / McGaheysville, Va.	April 22, 1856	Nov. 2, 1858.
545	Harvester, grass	Jonathan Haines	Pekin, Ill	Sept. 4, 1855	April 13, 1858.
561	Harvesters, cutting device for, No. 1	Henry Green	Ottawa, Ill	Mar. 21, 1854; antedat'd Sept. 21, 1853.	May 25, 1858.
564	Harvesters, cutting device for, No. 4	Henry Green	Ottawa, Ill	Mar. 21, 1854; antedat'd Sept. 21, 1853.	May 25, 1858.
538	Hat-bodies, machinery for making	William Fasket	Meriden, Conn	Jan. 23, 1846	Mar. 23, 1858.
616	Heat, generating, mode of	William Hartell and Joseph Lancaster, assignors to Thomas R. Hartell.	Philadelphia, Pa	Nov. 23, 1852	Nov. 2, 1858.
595	Hose, textile, manufacture of	L. B. Cooley and James C. Cooke, assignors to L. B. Cooley, S. Babcock, and B. G. Cooley.	Middletown, Conn	March 16, 1858	Aug. 31, 1858.
627	Journals of axles on railways, reducing the friction of.	Leon Joseph Pomme de Mirimond, assignor to James H. Deming.	New York, N. Y	Feb. 2, 1858; France Aug. 23, 1856.	Nov. 23, 1858.
580	Knife polisher	R. Shaler, assignor to W. H. Horstman.	New York, N. Y.	Nov. 28, 1848	Aug. 10, 1858.
537	Lamp, lard	Isaac N. Coffin	Washington, D. C	March 17, 1857	Mar. 16, 1858.
576	Lathing surface, continuous sheet-metal	John B. Cornell	New York, N. Y.	May 13, 1856	Aug. 3, 1858.
535	Life preserving raft	Lorenzo Taggart	Philadelphia, Pa	Jan. 26, 1858	Mar. 2, 1858.
621	Locomotive, automatic steam whistles in	James Harrison	New York, N. Y.	April 1, 1856	Nov. 9, 1858.
534	Locomotive, engines, running gear of	Septimus Norris	Philadelphia, Pa	Sept. 26, 1854	Mar. 2, 1858.
639	Looms for weaving figured fabrics	George Crompton	Worcester, Mass	Nov. 14, 1854	Dec. 28, 1858.
625	Mill, grinding	Edward Harrison	New Haven, Conn.	June 6, 1854	Nov. 16, 1858.
662	Mowing machine (No. 2)	Henry Green	Ottowa, Ill	Mar. 21, 1854; antedated Sept. 21, 1853.	May 25, 1858.
663	Mowing machine, reel supports in (No. 3)	Henry Green	Ottawa, Ill	Mar. 21, 1854; antedated Sept. 21, 1853.	May 25, 1858.
577	Omnibus fare-box	Israel S. Reeves, assignor to J. B. Slawson.	New Orleans, La	Feb. 23, 1858	Aug. 3, 1858.
635	Organ	William Sumner	Worcester, Mass	Feb. 28, 1854	Dec. 14, 1858.
608	Paper from wood, manufacture of	William F. Ladd and / Morris L. Keen, assignees of / Charles Watt and Hugh Burgess	New York, N. Y / Philadelphia, Pa / London, England	July 18, 1854; antedated Aug. 19, 1853.	Oct. 5, 1858.
574	Paper, machine for folding	J. North, assignor to / A. Hardy, assignor to S. T. Bacon	Middletown, Conn. / Boston, Mass	April 15, 1856	July 27, 1858.
596	Pavement, side-walk	John B. Cornell	New York, N. Y	April 28, 1857	Sept. 7, 1858.
528	Pencil-sharpeners, moulds for casting	Walter K. Foster	Bangor, Me	April 17, 1855	Feb. 23, 1858.
633	Pistols and other fire-arms	Ethan Allen	Worcester, Mass	April 16, 1845	Dec. 14, 1858.
525	Planter, corn	Martin Robbins	Cincinnati, Ohio	Feb. 10, 1857	Feb. 9, 1858.
634	Planter, corn	Nathaniel Drake	Newton, N. J	Feb. 2, 1858; add. imp't Sept. 8, 1858.	Dec. 14, 1858.
526	Planter, seed	George W. Brown	Galesburg, Ill	Aug. 2, 1853; antedated Feb. 2, 1853.	Feb. 16, 1858.
553	Planter, seed	B. Kuhns and / M. J. Haines	Dayton, Ohio. / Delaware city, Del.	Sept. 30, 1856	May 11, 1858.
623	Planter, seed	Jarvis Case	Bloomington, Ill	Jan. 16, 1855	Nov. 16, 1858.
519	Printing press	Stephen P. Ruggles	Boston, Mass	Jan. 1, 1851	Jan. 19, 1858.
529	Printing press	George P. Gordon	New York, N. Y	Aug. 31, 1852	Feb. 23, 1858.

List of reissues for 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date of patent.	Date of reissue.
581	Printing press	George P. Gordon	New York, N. Y.	Jan. 1, 1856	Aug. 10, 1858.
624	Printing press	George P. Gordon	New York, N. Y.	June 13, 1854	Nov. 16, 1858.
546	Printing-press, power	Isaac Adams	Boston, Mass	Oct. 4, 1830; extended by Congress Aug. 16, 1856.	April 20, 1858.
589	Pump	Hosea Lindsey	Ashville, N. C.	Dec. 4, 1855	Aug. 24, 1858.
614	Pumps ventilating attachment to be applied to.	C. N. Lewis and G. C. King, assignors to George C. King.	Seneca Falls, N. Y.	Nov. 17, 1857	Oct. 26, 1858.
582	Railroads, turning and sliding tables for.	W. Sellers	Philadelphia, Pa.	March 23, 1858	Aug. 10, 1858.
578	Reaping-machine (A)	Cyrus H. McCormick	Chicago, Ill.	Jan. 31, 1845	Aug. 3, 1858.
579	Reaping-machine (division B)	Cyrus H. McCormick	Chicago, Ill.	Jan. 31, 1845	Aug. 3, 1858.
637	Reaping-machine	Cyrus H. McCormick	Chicago, Ill.	Oct 23, 1847; reissued May 24, 1853.	Dec. 21, 1858.
588	Rubber goods, hard, manufacture of	Gustavus Cuppers	New York, N. Y.	July 20, 1858	Aug. 24, 1858.
556	Rubber, India, manufacture of	Henry B. Goodyear, administrator of Nelson Goodyear, deceased.	New York, N. Y.	May 6, 1851	May 18, 1858.
557	Rubber, india, manufacture of (division)	Henry B. Goodyear, administrator of Nelson Goodyear, deceased.	New York, N. Y.	May 6, 1851	May 18, 1858.
629	Saw-mill	Hazard Knowles	New York, N. Y.	Sept. 28, 1852	Nov. 30, 1858.
542	Sawing-mill	W. M. Ferry, jr	Ferrysburgh, Mich.	July 21, 1857	April 6, 1858.
552	Sawing-mill	W. Hawkins and W. C. Clary	Milwaukie, Wis.	March 30, 1858	May 11, 1858.
641	Screws, machinery for cutting	Thomas W. Harvey, assignor (through Charles Ely) to H. A. Harvey.	New York, N. Y.	May 30, 1846	Dec. 28, 1858.
626	Screws, wood	Thomas J. Sloan, assignor to the Eagle Screw Company	New York, N.Y. / Providence, R.I.	Aug. 20, 1846; reissued Feb. 22, 1848.	Nov. 23, 1858.
524	Scythe fastenings	Pinckney Frost	Springfield, Vt.	Jan. 11, 1853	Feb. 9, 1858.
554	Seeding machine	C. W. Cahoon, assignor to J. B. Cahoon and D. H. Furbish	Portland, Me.	Sept. 1, 1857	May 11, 1858.
540	Separator, grain	John R. Moffitt	St. Louis, Mo.	Nov. 30, 1852	Mar. 23, 1858.
517	Sewing-machine, (A)	C. Morey and J. B. Johnson, assignors to J. M. Singer and Edward Clark	Boston, Mass / New York, N. Y.	Feb. 6, 1849; reissued June 27, 1854.	Jan. 12, 1858.
518	Sewing-machine, (Division)	C. Morey and J. B. Johnson, assignors to J. M. Singer and Edward Clark	Boston, Mass / New York, N. Y.	Feb. 6, 1849; reissued June 27, 1854.	Jan. 12, 1858.
560	Sewing-machine	T. J. W. Roberteon	New York, N. Y.	Feb. 26, 1856	May 18, 1858.
568	Sewing-machine	W. O. Grover and W. E. Baker, assignors to the Grover and Baker Sewing-Machine Company.	Boston, Mass	Feb. 11, 1851	June 15, 1858.
567	Sewing-machine	C. A. Durgin	New York, N. Y.	May 22, 1855	June 15, 1858.
572	Sewing-machine	W. O. Grover and W. E. Baker, assignors to the Grover and Baker Sewing-Machine Company.	Boston, Mass	June 22, 1852	July 6, 1858.
573	Sewing-machine	James E. A. Gibbs, assignor to J. A. Rucknan.	Millpoint, Va.	June 2, 1857	July 13, 1858.
600	Sewing-machine	James Harrison, jr	New York, N. Y.	April 11, 1854	Sept. 14, 1858.
599	Sewing-machine	T. J. W. Robertson	New York, N. Y.	May 22, 1855	Sept. 14, 1858.
613	Sewing-machine	Grover and Baker Sewing-Machine Co, assignees of Sherburne C. Blodgett	Boston, Mass / Georgetown, Mass	Dec. 20, 1853	Oct. 12, 1858.
617	Sewing-machine	John Bachelder, assignor to Isaac M. Singer and Edward Clarke.	New York, N. Y.	May 8, 1849	Nov. 2, 1858.
638	Shears	Joseph A. Braden	La Grange, Ga.	Sept. 21, 1858	Dec. 28, 1858.
521	Shells, eccentric explosive	William W. Hubbell	Philadelphia, Pa	Jan. 22, 1856	Jan. 19, 1858.
604	Shingle-machine	James Crary	Middleport, Ohio	Nov. 24, 1857	Sept. 28, 1858.
601	Ship-board, hoisting winches for	Joel Bryant	Brooklyn, N. Y	April 7, 1857	Sept. 21, 1858.
570	Ships, &c, method of ventilating	Rudolph Knecht	New York, N. Y.	Nov. 11, 1856	July 6, 1858.
585	Skirt-hoops	David Holmes	Westfield, Mass	June 15, 1858	Aug. 17, 1858.
565	Steam-cylinder with steam-chests, mode of connecting the.	F. E. Sickels	New York, N. Y.	Sept. 19, 1845	June 1, 1858.
606	Steam-pistons, metallic packing for	Daniel Lasher	Brooklyn, N. Y	June 30, 1857	Sept. 28, 1858.
622	Stove	Joseph C. Henderson	Albany, N. Y	May 18, 1858	Nov. 9, 1858.
522	Stove, air tight	Zephaniah Bosworth, assignor to / James M. McKinley	Harmar, Ohio / Dubuque, Iowa	April 6, 1842; extended April 6, 1856.	Jan. 19, 1858.
559	Stove, cooking	Austin Bronson	East Port Chester, Ct.	Aug. 22, 1848	May 18, 1858.
640	Stove, steam	J. L. Sutton, assignor to / H. Downing	Norristown, Pa / Philadelphia, Pa	July 20, 1858	Dec. 28, 1858.
569	Stumps, mode of extracting	William W. Willis	Orange, Mass	Mar. 6, 1855	June 22, 1858.
607	Sugar, cleansing	Francis P. Hurd, assignee by mesne assignment of Joseph Hurd.	Stoneham, Mass	Oct. 3, 1844; extended Oc. 2, 1858.	Sept. 28, 1858.
605	Telegraph, magnetic printing	Royal E. House	Binghamton, N. Y.	Dec. 28, 1852	Sept. 28, 1858.
597	Trap for catching flies	Joel B. Fuller and George W. Pierce	Worcester, Mass	April 16, 1850	Sept. 7, 1858.
520	Vault-covers	George R. Jackson	New York, N. Y.	April 21, 1857	Jan. 19, 1858.

List of reissues for 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date of patent.	Date of reissue.
587	Watch-cases, (A)	John F. Watson, assignor to W. E. Baldwin and E. Bliss	St. John's Square, Clerkenwell, Eng. Newark, N. J	April 13, 1858; England, June 16, 1857.	Aug. 17, 1858.
586	Watch-cases, (Division B)	John F. Watson, assignor to W. E. Baldwin and E. Bliss	St. John's Square, Clerkenwell, Eng. Newark, N. J	April 13, 1858; England, June 16, 1857.	Aug. 17, 1858.
628	Watch-cases	Elihu Bliss, assignor to Baldwin & Co	Newark, N. J	April 13, 1858	Nov. 23, 1858.
543	Window-shades, rollers for	J. B. Bailey	New York, N. Y	Feb. 16, 1858	April 13, 1858.
571	Workmen, machine for marking time of the attendance of.	B. T. Harris, assignor to M. E. Harris	Brooklyn, N. Y	Aug. 11, 1857	July 6, 1858.

LIST OF ADDITIONAL IMPROVEMENTS GRANTED DURING THE YEAR 1858.

No.	Inventions or discoveries.	Patentees.	Residence.	Date of patent.	Imp'ts added.
206	Bolt, swing, for fastening shutters	J. Gunner, jr	New York, N. Y	May 20, 1856	Sept. 28, 1858.
190	Bullet-mould	Henry L. De Zeng	Geneva, N. Y	March 31, 1857	Feb. 16, 1858.
197	Car-brake, automatic railroad	W. R. Jackson	Baltimore, Md	Sept. 8, 1857	March 30, 1858.
214	Car-seats and couches	Alexander M. Holmes, assignor to himself and Albert G. Purdy.	Morrisville, N. Y	Sept. 14, 1858	Dec. 21, 1858.
196	Carriage-bodies, hanging	J. M. Jones	Palmyra, N. Y	July 22, 1851	March 30, 1858.
200	Carriage-wheels, tightening the tires of.	R. B. Scott	Philadelphia, Pa	March 23, 1858	June 8, 1858.
199	Chairs, rotary blast-producing	L. R. Breisach	New York, N. Y	Feb. 16, 1858	June 1, 1858.
185	File-cutting machine	Isaac H. Coller	Poughkeepsie, N. Y	Feb. 24, 1857	Jan. 12, 1858.
204	Fire arm, revolving	Frederick D. Newbury	Albany, N. Y	June 29, 1858	Sept. 28, 1858.
210	Gin-feeder, cotton	Jedediah Prescott	Memphis, Tenn	Oct. 13, 1857	Nov. 30, 1858.

195	Hoops, metallic clasps for	James R. Speer	Pittsburg, Pa	Dec. 1, 1857	March 23, 1858.
207	Hoops, metallic clasps for	James R. Speer	Pittsburg, Pa	Dec. 1, 1857	Oct. 26, 1858.
208	Lanterns, method of attaching lamps to.	John Fleming	Pittsburg, Pa	July 6, 1858	Nov. 2, 1858.
191	Life-preserving berths for steam and other vessels.	Elbridge Foster	Hartford, Conn	Sept. 1, 1857	Feb. 16, 1858.
193	Lime-kiln	Powell Griscom and Charles S. Denn	Baltimore, Md	Nov. 17, 1857	Feb. 23, 1858.
187	Mill, cider	Benjamin Mackerley	New Petersburg, Ohio	Nov. 4, 1856	Jan 19, 1858.
193	Mill, cutting flour	Jonathan Burdge	Cincinnati, Ohio	June 10, 1856	March 9, 1858.
189	Mill-stone dress for hulling rice	Charles R. Barnes	New York, N. Y	Feb. 20, 1855	Jan. 26, 1858.
205	Planter, corn	Nathaniel Drake	Newton, N. J	Feb. 2, 1858	Sept. 28, 1858.
184	Plough	Benaiah C. Hoyt	Port Washington, Wis	Sept. 2, 1856	Jan. 5, 1858.
194	Plough, steam	P. Klingle	Washington, D. C	Feb. 23, 1858	March 9, 1858.
198	Printing-press, hand	Samuel J. Smith	New York, N Y	Nov. 3, 1857	April 6, 1858.
209	Propeller	Henry Link	Little Falls, N. Y	May 8, 1855	Nov. 16, 1858.
211	Pump, rotary	Levi Burnell	Milwaukie, Wis	Aug. 31, 1858	Dec. 14, 1858.
188	Rolls, drawing, covering for	Joseph M. Smith	Manchester, N. H	July 7, 1857	Jan. 26, 1858.
202	Shingle-machine	E. Webber	Gardiner, Me	June 28, 1857	June 15, 1858.
212	Soap, manufacture of	Dalrymple Crawford	Toronto, Canada	March 30, 1858	Dec. 14, 1858.
203	Trap for animals	F. Reuthe	Hartford, Conn	May 12, 1857	July 6, 1858.
213	Warps, dressing and sizing, machinery for.	Baxter D. Whitney	Winchendon, Mass	Aug. 11, 1857	Dec. 21, 1858.
201	Watchmakers' lathes, polishing apparatus for.	J. M. Bottum	New York, N. Y	March 13, 1855	June 8, 1858.
186	Wooden surfaces, planed, machine for smoothing.	William Bradley	Manchester, Va	Aug. 11, 1857	Jan. 12, 1858.

LIST OF DISCLAIMERS ENTERED DURING THE YEAR 1858.

Inventions or discoveries.	Patentees.	Residence.	Date of disclaimer.	Date of patent.
Ceilings, fire-proof	Palmer Sumner	New York, N. Y.	July 17, 1858	April 25, 1844; extended April 22, 1858.
Hoe	Horace A. Lothrop	Sharon, Mass	Jan. 29, 1858	Dec. 29, 1857.
Vessels for holding liquids	Sophia E. and Julia M. Stimpson and Edmund F. Coburn, assignees of James H. Stimpson.	Baltimore, Md	Nov. 12, 1858	Oct. 17, 1854.

LIST OF EXTENSIONS GRANTED DURING THE YEAR 1858.

Inventions or discoveries.	Patentees.	Residence.	Date of extension.	Date of patent.
Barrels and other casks, machine for making.	Isaac Crossett	Bennington, Vt	June 26, 1858	July —, 1844; reissued Mar. 2, 1858.
Boot-crimps	Josiah Copeland	Weymouth, Mass	Jan. 11, 1858	Jan. 20, 1844; reissued Aug. 11, 1857.
Bridges, truss-frames of	Caleb Pratt T. Willis Pratt	Newton, Mass. Middletown, Conn.	Mar. 27, 1858	April 4, 1844.
Car-wheels, railroad, method of making cast-iron.	E. A. Lester	Boston, Mass	Aug. 9, 1858	Aug. 10, 1844.
Cloth, machinery for folding and measuring.	Silas C. Durgin	Holyoke, Mass	Mar. 3, 1858	Mar. 9, 1844.
Gates, lock, manner of suspending, opening, and closing.	Henry McCarty	Pittsburg, Pa	Mar. 15, 1858	Mar. 16, 1844.
Gin, cotton, saw	Eleazer Carver	Bridgewater, Mass.	Dec. 27, 1858	Jan. 4, 1845.
India-rubber fabrics	Charles Goodyear	New Haven, Conn.	June 14, 1858	June 15, 1844; reissued in two patents Dec. 25, 1849.
Lard, method of rendering	Charles Wilson, administrator of Ebenezer Wilson, deceased.	St. Louis, Mo	Oct. 7, 1858	Oct. 9, 1844.
Lath, metallic	Palmer Sumner	New York, N. Y.	April 22, 1858	April 25, 1844.
Leather, machinery for splitting strips or pieces of.	Hubbard Harris, administrator of Alpha Richardson, deceased.	North Enfield, N. H.	April 16, 1858	April 17, 1844.
Presses, hay	Joseph Eaton, Administrator of Charles F. Paine, deceased	Winslow, Me	April 21, 1858	April 25, 1844.
Saws, circular, method of applying, for cutting off piles under water.	Erastus E. Cole	Somerville, Mass	Sept 2, 1858	Sept. 14, 1844.
Ships' blocks	Isaac D. Russell and Cornelia Waterman, administratrix of Stephen Waterman, deceased.	New York, N. Y.	Jan. 31, 1858	Jan 31, 1844; reissued June 9, 1857.
Stone, coal	Henry Stanley	Albany, N. Y.	Dec. 24, 1858	Jan. 4, 1845.
Straw-cutter	H. M. Smith	Richmond, Va	Feb. 17, 1858	Feb. 20, 1844.
Sugar, cleansing	F. P. Hurd, administrator of J. Hurd, deceased, and assignee through mesne assignments of said J. Hurd.	South Reading, Mass.	Oct. 2, 1858	Oct. 3, 1844; reissued Sept. 28, 1858.
Tonguing and grooving machine	C. W. Brown	Boston, Mass	July 28, 1858	Aug 14, 1844; reissued Feb. 5, 1856.
Type-casting machine	David Bruce, jr	Brooklyn, N. Y.	June 28, 1858	Nov. 6, 1843.
Valves of steam-engines, method of opening and closing.	F. E. Sickels	New York, N. Y.	Oct. 8, 1858	Oct. 19, 1844.

LIST OF PATENTS FOR DESIGNS GRANTED DURING THE YEAR 1858.

No.	Designs.	Patentees.	Residence.	Date.
1008	Aquarium	A. L. Blanchard	Albany, N. Y.	June 1, 1858.
1024	Bedsteads	H. Neidig	New York, N. Y.	July 13, 1858.
1025	Bedsteads	H. Neidig	New York, N. Y.	July 13, 1858.
1050	Bedsteads, cast-iron	Philip Tabb	New York, N. Y.	Sept. 14, 1858.
995	Bedsteads, iron, legs and posts of	John P. Koch	New York, N. Y.	Mar. 23, 1858.
1074	Book-marks	William B. French	Charlestown, Mass	Dec. 14, 1858.
1049	Bottles, nursery	Francis Kern	Sandwich, Mass	Sept 14, 1858.
1001	Box, tool	Herrick Aiken	Franklin, N. H	May 11, 1858.
1030	Can-covers	John F. Bodine, assignor to himself and William H. & J. Alfred Bodine.	Williamstown, N. J	Aug. 3, 1858.
993	Carriage-hub sand-bands	James Ives	Hamden, Conn	Mar. 9, 1858.
1000	Clock-case fronts	Samuel B. Jerome	Waterbury, Conn	May 4, 1858.
1070	Coffins, metallic	William H. Forbes	New York, N. Y.	Dec. 7, 1858.
990	Compass stands	E. A. Tuttle & Thomas Barry	New York, N. Y.	Feb 23, 1858.
1034	Door lock plates	Cornelius B. Erwin	New Britain, Conn.	Aug. 10, 1858.
1035	Door-lock plates	Cornelius B. Erwin	New Britain, Conn.	Aug. 10, 1858.
1036	Door-lock plates	Henry E. Russell	New Britain, Conn.	Aug. 10, 1858.
1053	Fences, cast-iron	Martin Briggs	Rochester, N. Y.	Oct. 5, 1858.
1069	Fences, iron	Edwin Gomez	New York, N. Y.	Nov. 30, 1858.
1057	Lockets	A. C. Randall	Providence, R. I	Oct. 19, 1858.
1054	Marks, trade	Richard P. & Charles Bruff & George A. Seaver	New York, N. Y.	Oct. 5, 1858.
1046	Pans, bread	Nathaniel Waterman	Boston, Mass	Aug. 31, 1858.
1028	Pitchers	George W. Smith	Hartford, Conn	July 20, 1858.
991	Pots, tea and coffee	Allen Leonard, assignor to Rodgers Brothers Manufacturing Co.	Hartford, Conn	Feb. 23, 1858.
994	Press-stand, copying	Charles H. Clayton	New York, N. Y.	Mar. 23, 1858.
1023	Range-fronts	A. C. Barstow	Providence, R. I	July 6, 1858.
1073	Ranges, cooks'	G. Smith & H. Brown, assignors to G. Abbott & A. Lawrence.	Philadelphia, Pa	Dec. 14, 1858.
1043	Roll-pans	Nathaniel Waterman	Boston, Mass	Aug. 17, 1858.
1045	Screens	James L. Jackson	New York, N. Y.	Aug. 31, 1858.
997	Screens for steam-pipes, &c. (No. 1)	J. L. Jackson	New York, N. Y.	April 13, 1858.
998	Screens for steam-pipes, &c. (No. 2.)	James L. Jackson	New York, N. Y.	April 13, 1858.

1012	Sewing-machine stands	J. Willcox	Philadelphia, Pa.	June 1, 1858.
989	Sewing-machines, tables for	S. F. Pratt	Roxbury, Mass.	Feb. 16, 1858.
1056	Shovels, cast-iron fire	William Bennett	New York, N. Y.	Oct. 12, 1858.
988	Spoons, &c., handles of	Henry Hebbard & John Polhamus	New York, N. Y.	Feb. 16, 1858.
1062	Stand, hat and cane	Edward Reynolds, assignor to Thomas W. Brown.	Boston, Mass.	Nov. 16, 1858.
1007	Stand, towel	N. Waterman	Boston, Mass.	May 25, 1858.
1032	Stand, towel	Nathaniel Waterman	Boston, Mass.	Aug. 3, 1858.
1060	Statuette of Henry Clay	T Ball, assignor to George W. Nichols	Boston, Mass.	Nov. 9, 1858.
973	Stove	N. S Vedder, assignor to George W. Eddy	Troy, N. Y.	Jan. 5, 1858.
975	Stove	Charles J. Shepard	Brooklyn, N. Y	Jan. 5, 1858.
984	Stove	N. S. Vedder & William L. Sanderson, assignors to George Warren.	Troy, N. Y.	Jan. 12, 1858.
983	Stove	N. S. Vedder & William L. Sanderson, assignors to L. Potter & Co.	Troy, N. Y.	Jan. 12, 1858.
982	Stove	N. S. Vedder & Ezra Ripley, assignors to L. Potter & Co.	Troy, N Y.	Jan. 12, 1858.
980	Stove	Peter A. Palmer	Troy, N. Y.	Jan. 12, 1858.
976	Stove. (Leader)	David Hathaway, assignor to Fuller, Warren, & Morrison.	Troy, N. Y.	Jan. 12, 1858.
977	Stove. (Consul.)	David Hathaway, assignor to Fuller, Warren, & Morrison.	Troy, N. Y.	Jan. 12, 1858.
978	Stove. (Viola.)	David Hathaway, assignor to Fuller, Warren, & Morrison.	Troy, N. Y.	Jan. 12, 1858.
979	Stove. (Pride of the West.)	David Hathaway, assignor to Fuller, Warren, & Morrison.	Troy, N. Y.	Jan. 12, 1858.
986	Stove	A. C. Barstow	Providence, R. I	Jan 19, 1858.
1017	Stove	J. A. Reed, assignor to D. Stuart & J. Peterson.	Philadelphia, Pa.	June 29, 1858.
1016	Stove	J. Horton, assignor to D. Stuart & J. Peterson.	Philadelphia, Pa.	June 29, 1858.
1027	Stove	N. S. Vedder, assignor to G. W. Eddy	Troy, N. Y.	July 13, 1858.
1029	Stove	G. Smith & H. Brown, assignors to G. Abbott & A. Lawrence.	Philadelphia, Pa.	July 20, 1858.
1041	Stove. (Fancy Egg.)	Jacob Steffe, James Horton, & John Currier, assignors to David Stuart & Richard Peterson.	Philadelphia, Pa.	Aug. 17, 1858.
1042	Stove. (Ironsides.)	Jacob Steffe, James Horton, & John Currier, assignors to David Stuart & Richard Peterson.	Philadelphia, Pa.	Aug. 17, 1858.
1048	Stove	Nathaniel P. Richardson	Portland, Me	Sept. 7, 1858.
1052	Stove	G. Smith & H. Brown, assignors to North, Chase, & North.	Philadelphia, Pa.	Sept. 21, 1858.
1059	Stove	E. J. Cridge	Troy, N. Y.	Nov. 2, 1858.

List of patents for designs, 1858.

No.	Designs.	Patentees.	Residence.	Date.
1061	Stove	Lyman L. Thomas, assignor to Dighton Furnace Company.	North Dighton, Mass.	Nov. 9, 1858.
1037	Stove, box	N. P. Vedder and Ezra Ripley, assignors to N. S. Vedder.	Troy, N. Y.	Aug. 10, 1858.
1038	Stove, cooking	N. S Vedder	Troy, N. Y.	Aug. 10, 1858.
974	Stove, cooks'	G. Smith, H. Brown, and S. H Sailor, assignors to Alexander Small and E. G Smyzer.	Philadelphia, Pa	Jan. 5, 1858.
996	Stove, cooks'	G. W Pittock, G. G. Richmond, and C. Phelps, assignors to themselves and J. Sown.	Troy, N. Y.	April 6, 1858.
999	Stove, cooks'	R Wheeler and S. A. Bailey	Utica, N. Y.	May 4, 1858.
1003	Stove, cooks'	S. W. Gibbs, assignor to Rathbone & Co.	Albany, N. Y.	May 11, 1858.
1002	Stove, cooks'	T. H. Wood, J. E. Roberts, and H. S. Hubbell	Utica, N. Y.	May 11, 1858.
1010	Stove, cooks'	E. J. Delany and J. Martino, assignors to W. P. Cresson, D. Stuart, and R Peterson	Philadelphia, Pa	June 1, 1858.
1018	Stove, cooks'	G. Smith and H. Brown, assignors to Leibrandt, McDowell, & Co.	Philadelphia, Pa	June 29, 1858.
1019	Stove, cooks'	G. Smith and H. Brown, assignors to Leibrandt, McD owell, & Co.	Philadelphia, Pa	June 29, 1858.
1026	Stove, cooks'	E J. Delany, assignor to H. E. March and J. Johnson.	Philadelphia, Pa	July 13, 1858.
1031	Stove, cooks'	R Ham, assignor to Smith, Sheldon, & Co.	Troy, N. Y.	Aug. 3, 1858.
1044	Stove, cooks'	William P Abendroth	Port Chester, N. Y.	Aug. 31, 1858.
1055	Stove, cooks'	N. S. Vedder, assignor to G. W. Eddy	Troy, N. Y.	Oct. 5, 1858.
1063	Stove, cooks'	A. C Barstow	Providence, R I	Nov. 16, 1858.
1047	Stove, cooks' oven	William W. Stevens, assignor to Nathaniel P. Richardson & Co.	Westbrook, Maine	Sept. 7, 1858.
1071	Stove, dining-room	George D. Sprecher	Lancaster, Pa	Dec. 7, 1858.
1005	Stove-doore	J. Beesley, assignor to J. C. Clark and Washington Harris.	Philadelphia, Pa	May 11, 1858.
1013	Stove-doors	R. H. N Bates, assignor to himself, Isaac Backus, and J. P. Barstow.	Providence, R. I	June 8, 1858.
1004	Stove, parlor	S. W. Gibbs, assignor to Rathbone & Co.	Albany, N. Y.	May 11, 1858

1039	Stove, parlor	N. S. Vedder	Troy, N. Y.	Aug. 10, 1858.
1072	Stove, parlor	G. Smith and H. Brown, assignors to Leibrandt, McDowell, & Co.	Philadelphia, Pa	Dec. 14, 1858.
987	Stove-plates	E. S. Delany and John Martino, assignors to Cresson, Stuart, and Peterson	Philadelphia, Pa	Feb. 16, 1858.
992	Stove-plates	N. S Vedder and Ezra Ripley, assignors to Louis Potter	Troy, N. Y.	Feb. 23, 1858.
1015	Stove-plates	S W. Gibbs, assignor to Rathbone & Co.	Albany, N. Y.	June 22, 1858.
1065	Stove-plates	Samuel D. Vose	Albany, N. Y.	Nov. 23, 1858.
1066	Stove-plates	Samuel D. Vose	Albany, N. Y.	Nov. 23, 1858.
1067	Stove-plates	Samuel D. Vose	Albany, N. Y.	Nov. 23, 1858.
1068	Stove-plates	Samuel D Vose	Albany, N. Y.	Nov. 23, 1858.
1011	Stoves, &c., ornament in bas-relief for	G. T. Seavey	Boston, Mass.	June 1, 1858.
1058	Tablets, cast metal	Ezra Clarke, assignor to Seth Clarke	Portland, Maine	Oct. 26 1858.
981	Tea-service	Henry G. Reed, assignor to himself and Charles E. Burton.	Taunton, Mass	Jan. 12, 1858.
985	Types	George Bruce	New York, N. Y.	Jan. 19, 1858.
1020	Types	James Conner	New York, N Y	July 6, 1858.
1009	Types, a font of	James Conner	New York, N. Y.	June 1, 1858.
1014	Types, printers'	George Bruce	New York, N. Y	June 15, 1858.
1021	Types, printers'	James Conner	New York, N. Y	July 6, 1858.
1022	Types, printers'	James Conner	New York, N. Y.	July 6, 1858.
1033	Types, printers'	George Bruce	New York, N Y.	Aug. 10, 1858.
1064	Types, script	James Conner	New York, N. Y.	Nov. 16, 1858.
1006	Types, set of printing	George Bruce	New York, N. Y	May 25, 1858.

DESCRIPTIONS AND CLAIMS OF PATENTS,

ISSUED IN THE YEAR 1858.

ILLUSTRATED WITH ENGRAVINGS.

[To find the Plates, see Index at the end of this Report.]

I.—AGRICULTURE.

No. 19,520.—Solomon Stansberry, of Knoxville, Tenn.—*Improvement in Bee-Hives.*—Patent dated March 2, 1858.—The hives B are not provided with bottoms, and the lower ends of their sides *d* rest on the upper surfaces of concaves *e*, which extend from the front to the back end of the case A. D D D D represent cylinders, the front and back ends of which are fitted in the case A, a cylinder being underneath its concave. A part F is placed directly underneath each hive B, the parts F adjoining each other, and having their edges at their upper sides hollowed out to form a concave, as shown at *g*; so that when the parts F are raised, the concave of the two adjoining parts F will form a concave for the under part of the cylinder directly above them.

The inventor says: I do not claim enclosing one or more hives within a case or box A, for this has been previously done.

Nor do I claim spare honey-boxes C applied to the hives B, for these are commonly used.

But I *claim* the cylinders D placed within the hives, or below them, and fitted within concaves *e g*, arranged in any proper way so as to operate substantially as and for the purpose set forth.

No. 19,931.—Kimball P. Kidder, of Burlington, Vt.—*Improvement in Bee-Hives.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the particular construction of the hive, so that the smaller portion may fit within the larger portion and leave a dead air space between them, or raised up and supported on the division or partition boards to form two hives; the whole being constructed and operating as herein set forth.

And I also claim, in combination with the hive constructed as described, the device *w* for regulating or entirely cutting off the ingress or egress openings; said device being susceptible of four distinct adjustments, as set forth and explained.

No. 20,202.—Edward P. French, of Nashua, N. H.—*Improvement in Bee-Hives.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that it is not new to place a feeding-chamber in front of the hive, or the end thereof; also, that it is not new to arrange a feeding-chamber in one of the secondary chambers or honey boxes. I do not claim such, as, in the one case, the feed-chamber is exposed to robber bees; while, in the other, it is arranged in an inconvenient manner, and is objectionable in many respects.

I *claim* making the lower part, or both sides, of the main chamber B inclined towards the orifice of entrance *e*, in combination with the arrangement of an exercising and entrance chamber D, chamber F, feeding-box *h*, warm air spaces G G G, and air or ventilating passage O leading from the exercising chamber D upwards against the front sides of the secondary chambers, and over their tops into the chamber I, the main chamber communicating with said passage only by means of orifice *e* at its bottom, whereby the main and secondary chambers are kept warm, and at the same time relieved of bad air or carbonic acid gas by a ventilating current of air induced by their heat; the several parts being arranged as respects each other, and constructed as described, for the purpose set forth.

No. 20,417.—Philander J. Furlong, of Galen, N. Y.—*Improvement in Bee-Hives.*—Patent dated June 1, 1858.—The nature of this invention consists in the employment of a glass roof or condenser A A^1 with tin conductors C C^1, whereby all moisture as it rises to the top of the hive in the form of vapor is condensed and conducted out of the hive.

Claim.—The arrangement of the glass roof AA^1 with relation to the cover of a bee-hive and to the conductors $C C^1$; the whole being constructed and operated in the manner and for the purpose described.

No. 20,508.—Thomas Prosser, of Birmingham, Penn.—*Improvement in Bee-Hives.*—Patent dated June 8, 1858.—The nature of this invention consists in providing, intermediate between the external ingress passage and the internal entrance passage to the ante-chamber of the hive, a series of auxiliary indirect or labyrinthian passages *a a a*, in combination with isolated suspended shafts H and glass-covered entrances G G to the working chamber. The object of this invention is to effect a perfect exclusion of vermin from the honey.

Claim.—The combination in bee-hives of the labyrinthian passages *a a a*, suspended shafts H H, and glass entrances G G, when said parts are constructed and arranged, relatively to each other, in the manner and for the purposes set forth.

No. 21,163.—Thomas H. Windle, of Wagontown, Penn.—*Improvement in Bee-Hives.*—Patent dated August 10, 1858.—This invention consists in a peculiar mode of constructing the moth-trap and a self-cleaning sliding bottom to each of the sections of the bee apartments, so that the moths and their deposits may be more effectually secured and removed from the hive, without damage either to the bees or the apiarist.

The inventor says: I am aware that bee-hives have been made with a moth-trap attached, and also with sections of separate bee apartments, arranged together and communicating with each other, and having ventilating holes therein, substantially as described; therefore, I do not claim, broadly, either of these devices; but—

First, I *claim* the combined arrangement, in the moth-trap B, of the tapering moth-tubes 11, 11, 11, and the ventilated bee escape tubes 12 12, when the same are used in combination with the hive, the whole being constructed in the manner and for the purposes set forth and described.

Second, I also claim making each of the larger bee apartments C with the self-cleaning slide 4, the said slide being constructed as described, and applied in connexion with the tongued piece 7, so as to operate substantially in the manner and for the purpose set forth and described.

No. 21,912.—Peter Taltavull, of Washington, D. C.—*Improvement in Bee-Hives.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of a simple rectangular containing-box, suspended diagonally, in combination with honey boxes therein arranged similarly, all having outlets or passages downward from their extreme lower edges; whereby the entire hive is rendered self-clearing, and a sloping roof, by the same arrangement, is produced, substantially as specified.

No. 22,030.—Ebenezer W. Phelps, of Elizabeth, N. J.—*Improvement in Bee-Hives.*—Patent dated November 9, 1858.—The interior of the hive consists of movable frames A, arranged side by side, supported and kept in proper place at top and bottom by means of small wire staples *d* and d^1 driven into the case, to correspond with wire hooks secured to the upper and lower corners of the frames in front. The rear part of the frame is supported by means of a pin *f* in the upper end of the frame, falling into a groove in the cross-piece B^1, one and a half inch wide, extending across the rear of the case, forming a support for the upper edge of the pane of glass L in the rear.

Claim.—The small sectional adjustable frames *a*, set in the main frame A by means of half round grooves and rod *g*, operating as described and for the purposes set forth.

No. 22,059.—Asa Blood, sr., of Norfolk.—*Improvement in Bee-Hives.*—Patent dated November 16, 1858.—The nature of this invention consists in so constructing a hive that the breeding bees are separated from the working bees, while the honey made can be removed without disturbing either.

Claim.—The main or breeding core B, in enclosing case C, in combination with the honey cores D in cap E; the several parts being constructed and arranged in the manner and for the purposes specified.

No. 22,309.—Joseph D. Sanderson, of Stetson, Me.—*Improvement in Bee-Hives.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: I do not claim the employment or use of space honey boxes placed around a hive and communicating with it; for these have been previously used.

Neither do I claim, broadly, ventilating the hive by having a cur-

rent of air passing vertically through it by means of apertures or openings at the top and bottom; for this has been previously done.

Nor do I claim the perforated horizontal tubes I I, nor the box J.

But I *claim* the holes *h*, in the back of the hive, communicating with the grooves *i* in the doors E E, and the grooves *j* in the under side of the top F of the box A, in connexion with the boxes G, provided with perforated plates K, whereby the hive is perfectly ventilated, and the rain excluded.

No. 19,288.—C. Sumner Dickerman, of Lansingburg, N. Y.—*Improvement in Cards for Currying Cattle.*—Patent dated February 9, 1858.—The straight wire teeth A are forced into the face side of the wooden card stock B, but not through the stock. C is the handle of the card; but a strap or thumb-piece may be attached to the card stock to fit it for hand use, instead of the handle C.

The inventor says: I disclaim a wooden cylinder furnished with teeth, and furthermore restrict my claim to a hand card made as described.

I *claim* a hand card consisting of a flat wooden stock having straight wire teeth forced into but not through the stock, as described, and provided with a handle C, or its equivalent, to fit the card for hand use, as set forth.

No. 19,034.—Silas F. Lefler, of Racine, Wis.—*Improved Churn.*—Patent dated January 5, 1858.—This invention is described by the claim and engravings.

Claim.—A churn constructed in two compartments, A and B, the one open and the other closed, when provided with gate-ways *x* and *y*, and gate G, or their equivalents; the whole being arranged in the manner substantially as set forth, whereby the cream during the operation of churning is passed in a continuous current through them, and the butter gathered together for the purposes described.

No. 19,117.—Michael L. Bauder, of Elyria, Ohio.—*Improved Churn.*—Patent dated January 19, 1858.—The nature of this invention consists in two sets of beaters, on two shafts, so situated in an elongated vessel that the beater on one shaft whirls all the cream in one end of the churn alternately forwards and backwards, whilst the beater on the other shaft whirls all the cream in the other end of the churn in an opposite direction; for the purpose of driving the currents of cream violently into each other at the central parts of the churn, where the air is drawn into the cream, thus hastening the churning of the entire mass.

The inventor says: I am aware that shafts armed with beaters have been employed in circular churns, but this arrangement does not enable the beaters to control the masses of cream, and drive them through each other, as in my machine; and I also know that such beaters have been employed with a reciprocating motion of the shafts. These I do not claim.

But I *claim* the arrangement of the elongated vessel F, provided with shafts D D, armed with beaters, in connexion with the case A, constructed and operated substantially as set forth.

No. 19,310.—Enos Page, of Streetsborough, Ohio.—*Improved Churn.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim the simple use of spiral dashers, arranged so as to force the cream alternately in opposite directions, being aware that such is not new.

But I *claim* the arrangement of the spiral wing dashers E E, on opposite sides and ends of the dasher shaft, in combination with a cylindrical churn body, in such a manner that the outer radial edges *d d* thereof shall respectively sweep or move in close proximity to the ends of the churn body, and their spiral edges *e e' e' e'* sweep respectively one-half the length of the periphery of the churn body, substantially in the manner and for the purpose specified.

No. 19,334.—H. D. Baker, of Pittstown Corners, N. Y.—*Improved Churn.*—Patent dated February 16, 1858.—The operator sits in the chair C, places one foot on treadle E, and the other on the platform B. The chair C is then oscillated, being moved forward by the inclination of the body, and thrown back by the foot which rests on the platform. This movement vibrates the treadle E, which rotates shaft F and wheel G; the latter, in consequence of the guides *f f* of the bar H fitting in the grooves *e e*, giving the dash-rod *k* a reciprocating motion, two complete strokes being given to the rod at every revolution of the shaft F and wheel G.

The inventor says: I *claim* operating the dash-rod K of the churn L through the medium of the oscillating chair C, treadle E, crank shaft F, grooved wheel G, and bar H, connected with lever I; it being understood that I do not claim, separately, any of the described parts, but the whole, when combined and arranged to operate as and for the purpose set forth.

No. 19,389.—Charles M. Vail, of Susquehannah Depot, Pennsylvania.—*Improved Churn.*—Patent dated February 16, 1858.—A frame for support of machinery, B churn, C dasher, D balance-wheel and belt-wheel combined, D^1 connecting pulley, D^2 strap or belt, E crank for hand, F attaching crank from pulley D^2 to horizontal connecting rod, G H graduated lever, I connecting shaft of lever H and lever J, L perpendicular connecting rod of levers H and J, M attaching arm and support of regulator, M^1 passing through connecting shaft N, N^1 continuation of shaft N passing through frame A, Q director passing through upper part of framework.

Claim.—The use of the graduated levers in connexion with the governor M^1, the whole constructed as described, and operating on the dasher-staff through the director Q, keeping it in a vertical position, and avoiding friction, as set forth.

No. 19,782.—John A. Jordan, of Shelbyville, Tennessee.—*Improved Churn.*—Patent dated March 30, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The employment of the revolving wheel D and stationary wheel C, constructed and operating in the churn as set forth, the

bottom of the same being fitted to a stove casing in the manner and for the purposes specified.

No. 19,828.—Harvey Brown, of New York, N. Y.—*Improvement in Churns.*—Patent dated April 6, 1858.—A are the trailing paddles, of which there are twelve in the model; any number desired can be put in; B are the disks or wheels upon which the gearing are mounted, and by which they are moved by means of the crank; C are the shafts, D the links, and E the connecting rods.

The object of this invention is the churning of butter by agitation incidentally, but more particularly by friction, from the operation of the trailing paddles as attached to an endless chain.

Claim.—The arrangement of the trailing paddles, wheels, and gearing, operated substantially in the manner and for the purpose set forth.

No. 20,025.—James Macnish, of Berlin, Wisconsin.—*Improved Churn.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of a central spiral flanched or winged agitating shaft C, with a series of encircling expressing rollers A A, a portion of which have a direct motion in one direction, while the others have an indirect motion in an opposite direction.

No. 20,062.—T. B. Harper, of Xenia, Ohio.—*Improved Churn.*—Patent dated April 27, 1858.—In using this churn, when the winch is turned so as to couple the pinion H to the shaft D, the dashers will be made to turn in opposite directions, and cause the bevelled wings *c c* and *d d* to produce an intense agitation of the cream for the purpose of churning. In gathering butter, the winch is turned in the other direction, so that but slight agitation is produced on account of the inner dasher being stopped.

Claim.—The combination of the pinion H, disk L, and pin *h*, constructed and arranged as described, and operating, in relation to the winch I and dashers B C, in the manner and for the purpose specified.

No. 20,089.—G. S. Rarey, of Columbus, Ohio.—*Improved Churn.*—Patent dated April 27, 1858.—This invention consists in a novel means employed for giving a reciprocating motion to a vertical dasher from a rotating driving shaft, whereby the necessary length of stroke may be given to the dasher, and also the requisite speed.

Claim.—Operating or giving the dasher K a reciprocating rectilinear motion from the driving rotary wheel E, through the medium of the pinion F, crank pulley F, connecting rod G, segment H, and rack bar I, arranged to operate as shown and described.

No. 20,189.—William Brown, of Duncannon, Pa.—*Improved Churn.*—Patent dated May 11, 1858.—The churn dasher is agitated by giving the dasher a continuous rotating motion in the direction of the arrow; and as fast as the butter is produced the flanges collect and retain it upon the slatted wings, until the wings rise out of the cream and assume a position which compels it to fall into the concaves of the solid hub. As the butter rolls into the concaves of the hub, the milk escapes between the slats of the wings.

Claim.—The combination in a churn dasher of a series of slatted agitating and separating wings *c c c c*, a series of gathering and retaining flanges *e e e e*, and a solid concaved roll-forming hub *a*; all substantially as and for the purposes set forth.

No. 20,740.—William H. Tambling, of Berlin, Wis.—*Improved Churn.*—Patent dated June 29, 1858.—This invention consists in arranging a skeleton semi-sphere H on the upper side of the upper dasher G^1 of reverse-acting or forward and back acting churns; so that the tendency of the cream or milk to fly out centrifugally will be counteracted and its direction reversed, and it rolled over and compelled to move centripetally, or toward the centre.

Claim.—Arranging a skeleton semi-sphere H on the upper side of the upper dasher G^1 of reverse-acting or forward and back acting churns, substantially as and for the purposes set forth.

No. 20,730.—Alfred Rose, of Penn Yan, N. Y.—*Improvement in Churns.*—Patent dated June 29, 1858.—The arm or cross piece D is attached to the lower end of the staff *c*, and is made to support the cam-wheels E E and F F. The wheels E E are placed on the upper side of the piece D, and the wheels F F on the under side. H is a semicircular support for the upper end of the shaft.

Claim.—The cam-wheels E E and F F and the part D, constructed and arranged in the manner represented and for the purpose set forth.

No. 20,803.—James Macnish, of Berlin, Wis.—*Improvement in Churns.*—Patent dated July 6, 1858.—By this invention the cream or milk is subjected to a thorough friction and expressing action, and the globules or sacs which contain the fatty particles of butter are effectually broken. This invention is designed to supersede the old agitating process of making butter.

Claim.—Effecting the breakage of the globules or sacs which contain the fatty particles of the milk or cream by the combined forces of compression and friction, employing for producing these forces a roller D, in combination with a stationary concave E, the roller revolving within and coming in contact with said concave, substantially as and for the purposes set forth.

No 20,804.—James Macnish, of Berlin, Wis.—*Improvement in Churns.*—Patent dated July 6, 1858.—This invention is designed for producing butter by friction. The friction principle is claimed in its application to upright churns which have two dashers revolving in opposite directions.

The inventor says: I *claim*, first, the combination of the inner set of tangentially set-spring wings I I with the outer set of wings G^1 G^1 G^1 G^1, substantially as and for the purposes set forth.

Second. The combination of the friction plates H J with the two sets of spring wings and the churn tub, substantially as and for the purposes set forth.

No. 20,898.—N. H. Sherburne, of Campton, Illinois.—*Improved Churn.*—Patent dated July 13, 1858.—This invention has reference to the agitator end, and consists in two systems of blades rotating in opposite directions, and capable of separate lateral adjustment.

The inventor says: I disclaim the mere rotation of the two parts of the agitator in opposite directions, and also the construction of agitators with movable parts broadly considered.

But I *claim* the combination of heads H H', slides B, blades C C', and opposite rotating shafts S S', constructed, arranged, and operating substantially as and for the purpose set forth.

No. 20,878.—James Hatfield, of Falmouth, Ind., and Henry M. Goldsmith, of Burlington, Iowa.—*Improvement in Churns.*—Patent dated July 13, 1858.—The nature of this improvement is such that while there is a double-acting compound agitator, at the same time the adjustable brakes F F at the bottom form a powerful reaction of the cream, thus expediting the process of butter-making. The adjustable belt and brakes are easily taken out and washed, leaving but the smooth surface of the vessel to clean.

The inventors say: We *claim*, first, the manner and form of inserting the adjustable brakes, as described and shown.

Second. The basin or reservoir lid, with the glass slide attachment, as described and shown.

Third. The quarter-circle wings, or dashers, at each end of the shaft, in the form and position described and shown.

No. 21,010.—M. R. Marcell, of Dansville, New York.—*Improved Churn.*—Patent dated July 27, 1858.—This invention consists in throwing a current of atmospheric air through the dasher into the churn, and causing it to issue in fine jets from the dasher-shaft *b*, and also from the wings of the dasher *c*, below the surface of the cream or milk in the churn, by puncturing both the hollow dasher-shaft and the wings with small holes below the surface of the fluid in the churn; by which means the mingling of the atmospheric air with the whole mass of the fluid in the churn A is more rapid. Also in arranging in a churn a series of double punctured and curved plates, which are riveted at the exterior angle, with their convex surfaces toward each other, and facing the centre of the churn, so that the convex surface of one plate forms the deflecting surface of the fluid passing through the openings of the adjacent plate; thus the mechanical action of the fluid is increased, and the formation of butter facilitated.

The inventor says: I do not confine myself to the precise position or arrangement of the fan-blower, as it may be placed on the side instead of the top of the churn, and connected with the driving-shaft by bevel or spur gearing.

I *claim*, first, in combination with the blower, the dasher constructed substantially as described, whereby a current of air blown through the dasher-shaft is caused to issue from the dasher, below the surface of the fluid in the churn, in fine jets, for the purpose set forth.

Second. The double deflecting plates, constructed substantially as described, in combination with a churn box, for the purpose as set forth.

No. 21,176.—James S. Appleton, of White River Junction, Vermont.—*Improved Churn.*—Patent dated August 17, 1858.—The vessel *m*, in which the churning operation is performed, is of a cylindrical shape, and may be made of any suitable material. Any form of dasher may be combined with the dasher shaft *j* which may be deemed expedient.

The requisite reciprocating movements are imparted to the dasher shaft *j*, and the vessel *m* is secured in a swinging frame, whilst the said movements are imparted to its dasher in such a manner that the said vessel can freely adapt its movements to the swinging movements of the churn dasher.

The inventor says: I *claim* securing the churning vessel *m* within a freely swinging frame, when the dasher of the churn is operated by means of a crank-shaft, pitman, and vibrating beam, constructed, arranged, and operated as set forth.

No. 21,374.—John F. Smith, of Galen, New York, and Wightman Brown, of Rose, New York.—*Improved Churn.*—Patent dated August 31, 1858.—This invention consists of a box or frame containing a cylindrical case, divided by a central vertical partition into two chambers of nearly equal capacity. In one of these is arranged the clock work or machinery for operating the churn; the other constitutes the milk chamber, and contains the beaters. The driving machinery is placed in a secondary or interior case K, which is provided with the sliding covers *l l*, which close tightly while in operation, and prevent the oil or odor of the frictional parts from reaching and tainting the butter.

The inventors say: We do not claim as our invention an automatic churn.

But we *claim* the combination and arrangement of the cylinder divided into two chambers, for the purposes described, by the partition M, the close interior case R, adjustable vane blower and regulator E, refrigerating passage Y, and ventilators *v v*, operating conjointly, as and for the purpose specified.

No. 21,501.—Daniel Johnson, of New York, N. Y.—*Improved Churn.*—Patent dated September 21, 1858.—The nature of this invention consists in the employment of two or more rollers, when placed horizontally and with their peripheries touching or nearly touching one another, in combination with a revolving dasher which is arranged underneath said rollers and in the same box or chamber with the same.

Claim.—The employment of two or more rollers D, when placed horizontal and with their peripheries touching or nearly touching one another, in combination with a revolving dasher, which is arranged underneath said rollers and in the same box or chamber with the same, substantially as and for the purposes set forth.

No. 21,575.—Andrew Ralston, of West Middletown, Pa.—*Improved Churn.*—Patent dated September 21, 1858.—The nature of

this invention consists in an arrangement for agitating, cutting, fanning, and separating butter from the serous part of milk.

Claim.—The arrangement of the openings *o* and *v* in the circular part of the fan or beater case, the valve *x*; the gathering valve *h*, the conductor *u*; the whole being arranged and combined as described and represented for the purpose specified.

No. 21,637.—George H. Farrington, of Xenia, Ohio, assignor to D. B. Tiffany, of said Xenia.—*Improved Churn.*—Patent dated September 28, 1858.—A represents the box which serves to hold the cream. B B are the dasher-bearers, which are secured to the shafts *a a*. These shafts pass through the bearers and have their bearings in the sides of the box; *c c* are the double concavo-convex dashers, which are concave on the one side and convex on the other, the convex sides being secured by the bearers B B.

Claim.—The employment of the double concavo-convex dashers, constructed, arranged, and operated in the manner specified, and for the purpose set forth.

No. 21,871.—James H. Bump, of Morris, New York.—*Improvement in Churns.*—Patent dated October 26, 1858.—A is the case or body of the churn, with a lid B, on which a chamber C is formed, which chamber is provided with a lid D. At the centre of the chamber C, and in the lid B of the case A, a vertical tube E is fitted or placed centrally, said tube forming a direct communication between the interior of the case A and chamber C.

Claim.—The arrangement and combination with the churn of a chamber C, through which the air that mingles with the cream is made to circulate substantially as and for the purpose shown and described.

No. 23,093.—Charles W. Stafford, of Burlington, Iowa.—*Improved Churn.*—Patent dated November 16, 1858.—This churn is operated by means of a segmental rack S working into the pinion N, and to which a reciprocating motion is given around the pivot M by means of lever G. The agitation of the cream is effected by means of the parallel arms 1, 2, 3, 4, and the floats X X X, the latter being set obliquely to the direction of the former, and all standing fixed perpendicularly to the shaft C. Attached to slides, which stand vertically along the ends of the arms 1, 2, 3, 4, is a zone of tin or sheet metal Z Z, having radial projections 10, 10, on its interior surface. This zone is intended to be raised or lowered along the slide, so as to accommodate itself to the quantity of cream in the churn, the upper edge being intended to rise to the surface of the cream, or a little higher, so that the radial projections may gather the butter as it is formed.

The inventor says: I am aware that many of the contrivances described have in some shape been substantially used for a like purpose before. I do not, therefore, claim them separately, except as stated.

But I *claim* the general arrangement and adaptation of parts, substantially as set forth, by which a cheap, light, convenient, and effective churn is produced.

No. 22,090.—Harry Robie and Royal V. Robie, of Eaton, New York.—*Improved Churn.*—Patent dated November 16, 1858.—B is the beater, being perforated with the diamond hole, each alternate beater having a like perforation. C represents one of the remaining beaters, having a concave extremity.

The inventors say: We are well aware that the beaters placed spirally around a horizontal shaft is an old and well-known device. We do not claim, therefore, any of the parts separately or in the abstract, irrespective of the arrangement as shown and described.

But we *claim* the perforated beater B, in combination with the alternate beater C, presenting a concave extremity in connexion with the passage formed by the narrow base of the beaters, the several parts being constructed and arranged upon the shaft A, with respect to each other, in the manner and for the purposes set forth.

No. 20,545.—Addison G. Brush, of Great Bend, Pa.—*Improvement in Operating Churns.*—Patent dated June 15, 1858.—The end of the arm A at E is moved by the projecting arm *c* of the tread-wheel until it slips over the arm *c*, when the lower end of the arm A is immediately caught by another projecting arm *c* of the tread-wheel on the opposite side of it, and moved in an opposite direction to the first arm A; and when that arm also escapes, the arm first moved is again caught and moved as before. Transversely through the shaft B is inserted the arms F F horizontally, and which move with the shaft B. To the arm F at H is attached the rod G, and to the lower end of this rod is fixed the dasher.

Claim.—The arrangement of the revolving platform D, having short arms or tappets *c c c* attached and operating the churn dasher, in connexion with arms A A and F and shaft B, the whole constructed as specified.

No. 22,022.—Joseph Forsyth, of Wheeling, Virginia.—*Improvement in Operating Churns.*—Patent dated November 9, 1858.—The nature of this invention consists in combining the carriage D with the movable pulley-head H H in such a manner that the said carriage will move with the head when it is required to stop or start, the motion of the churn thereby keeping the shafts of the pulleys and churn in line. It also consists in the movable platform K, which can be raised or lowered in order to bring the shafts of different sized churns in line with the pulley shaft.

Claim.—The combination of the carriage D with the movable platform K, substantially as described, and for the purpose set forth.

No. 21,221.—Moses Swan, of Potter Hill, New York.—*Improvement in Operating Churns, &c.*—Patent dated August 17, 1858.—The nature of this invention consists in the arrangement of mechanism for combining the churn tub with the wash tub, and giving the plunger and dasher

of the same an up and down movement, and at the same time imparting a rotary motion to both tubs.

Claim.—The arrangement of mechanism specified, for combining the churn tub with the wash tub, and giving the plunger and dasher of the same an up and down movement, and at the same time imparting a rotary motion to both tubs, substantially as and for the purposes set forth.

No. 20,891.—William Newell, of Philadelphia, Pennsylvania.—*Improved Apparatus for Cleaning and Polishing Coffee.*—Patent dated July 13, 1858.—The nature of this invention consists in augmenting and more evenly distributing the heat through the coffee in the cylinder B, and increasing the friction and motion by the use of woven wire or open wire work partitions *g*, flanges and spaces *h*.

The inventor says: I *claim*, in combination with the cylinder which contains and furnishes heat to the coffee, the open wire diaphragms or partitions for furnishing rubbing surface, substantially as described.

I also claim, in combination with the open wire rubbing surfaces, the flanges and heating tubes, as set forth.

No. 19,142.—J. D. Heaton and William A. Clark, of Dixon, Illinois.—*Corn-Husker.*—Patent dated January 19, 1858.—In using this invention, the person to husk stands on the side of the machine at W, and, taking hold of the valve handle A^2, raises it, and having the unhusked corn convenient, an ear at a time is picked up, and having the butt end towards the knife, the encased ear is placed across the bolsters D R, the butt end of the ear resting in a line as near as possible against the cutting-blade J J. This done, the hammer H H H^2 is let fall, when the stub or butt is severed from the ear; and at the same time the husk is split lengthwise on the under side of the lateral movement back and forth by the slitting blade or lance knife K. The instant the stub is severed and the husk split, the concussion striker N, by its weight, knocks the ear of corn from the husk below, through the split, whence the ear, being released, falls down through the opening Q, whilst the husk is kicked off entirely from the frame forward by the prongs R^2, they being actuated by the rod L.

Claim.—The hammers H and N, the bolsters R D, in combination with knives J J and E K, and double prong fork P^2, when the whole is constructed and arranged for joint operation, in the manner and for the purposes set forth.

No. 19,325.—Abbott R. Davis, of East Cambridge, Massachusetts, assignor to Himself and B. D. Moody, of said East Cambridge.—*Improvement in Corn-Huskers.*—Patent dated February 9, 1858.—This invention consists in the use of a conical cylinder, having its axis in a horizontal plane, by which the inclined surface of the cone gives the required feed to the ear; and in the employment of short stripping teeth in conjunction with a stationary guard, by which the ear is placed immediately in contact with the cylinder, when it is stripped without injuring the grain.

Claim.—In combination with the stationary guards H and F, cone C, and knife E, the elastic or spring rests *e*, operating substantially as described.

No. 19,326.—Daniel Lombard, of Boston, Mass., assignor to Himself and George F. Richardson, of said Boston.—*Improvement in Corn-Huskers.*—Patent dated February 9, 1858.—The nature of this invention will be understood by referring to the claim and engravings.

The inventor says; I *claim* a corn-husker, constructed of a chuck mounted on a tubular shaft or provided with a central cavity, and having cutters and spurs arranged with respect to the bore or cavity substantially as specified.

No. 19,320.—F. M. Walker, of Greensboro, N. C.—*Improvement in Corn-Huskers.*—Patent dated February 9, 1858.—The ear of corn is thrust into the opening *d*, and the butt cut off by the knives M M, and then forced into the end of the cylindrical knife O, where it is held firm by the spring knives R, while the knife O cuts and loosens the husk; it is then thrown up between the guide bars L L and rests on top of the cone H, while the husking teeth I I strip off the husks, and by means of the vibrating springs J J the husk is thrown off under the cone, while the ear, cleaned of the husk, passes off at the lower end of the guide box.

Claim.—I claim the cone H, armed with the spring teeth J I, in combination with the guide bars LL, and upright piece F; the whole being constructed, operated, and arranged in the manner and for the purpose set forth.

No. 19,458.—L. F. Ward, of Marathon, N. Y.—*Improvement in Corn-Huskers.*—Patent dated February 23, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim* the belt *k*, armed with teeth L L, in combination with the stationary prongs N N, which catch and hold the husks and yield to let the ears of corn pass or be carried forward by the belt and teeth, so as to separate the corn from the husks.

And in combination with the belt *k*, armed as above described, I claim the wires M M, to clear the husks from the underside of the ears of corn.

I claim the wires or prongs Q Q, or their equivalents, to clear the husks from the teeth L L on the belt *k*, substantially as described.

I claim the arches G G, constructed and arranged substantially as described, in combination with the rotating knives for severing the butt-stalk from the ears of corn.

No. 19,512.—Warner Pickett and Andrew Hills, of Naugatuck, Conn.—*Improvement in Corn-Huskers.*—Patent dated March 2, 1858.—This improvement consists in the use of a husking cylinder set with rings, or sections of card teeth or points, and an adjustable curved bar or trough, for the ears of corn to slide in, so that they will fall against the card teeth on the cylinder; and a series of clearers to remove all the husks from the card teeth as the cylinder revolves; and a circular saw to cut off the stumps or shanks of the ears.

The inventors say: We are aware that the cylinder has long beer used, and that the circular saw and the inclined plane, and variou

forms of curves are well known in mechanics, and that each have been set at various angles. We therefore do not claim either of them, or their angles as such, as our invention.

But we *claim* the combination of the inclined cylinder B with the curved bar or trough C and the clearer D, when the whole is constructed, arranged, and made to produce the result substantially in the manner and by the means set forth.

No. 19,552.—Joseph Fagan and James L. Fagan, of San Antonio river, Texas.—*Improvement in Corn-Huskers.*—Patent dated March 9, 1858.—This invention consists in the employment of a rotating wheel C, provided with cutters *f*, and spurs or projections *a*, in connexion with two concaves, a stationary F, and a vibrating one F^2, the stationary concave having slitting hooks; they being arranged so as to make a husker.

Claim.—The rotating wheel C, provided with spurs or projections *a*, and with cutters *f*, actuated by the cams F^1, or their equivalents, in combination with the stationary and movable concaves E F^2; the whole being arranged to operate substantially as and for the purpose set forth.

No. 20,163.—Charles N. Lewis, of Seneca Falls, N. Y.—*Improved Corn-Husker.*—Patent dated May 4, 1858.—In the engravings B is a cast-iron box, firmly attached to the base; A C is the blade, which is a vertical lancet-shaped piece of steel riveted to the box B; D is a yielding gauge which receives the stem of the ear; and H is the hand lever, having in its head a movable arm I, which is actuated by striking the projection *a* on the standard G.

Claim.—The combination and arrangement of the lever H, tilting arm I, blade C, and yielding gauge D, operating conjointly substantially in the manner and for the purpose described.

No. 20,223.—Daniel C. Smith, of Tecumseh, Mich.—*Improvement in Corn-Huskers.*—Patent dated May 11, 1858.—Figure 1 is a perspective view of this machine, A is the forceps, B knife, C fork, E spring, F thumb-screw, G lever, D plate, H friction roller, I pivot, J wedge, K bolts, L post, M slot, *w* ring, and N strap. Figure 2 represents the machine open, preparatory to the act of husking an ear of corn from the stalk, and attached to the belt O at P; the belt is buckled around the waist of the person using it, and also attached to strap N by means of ring *w*.

The inventor says: I do not claim the forceps separately.

But I *claim* the combination of the forceps A with the wedge J, roller H, lever G, post L, with its slot *m*, the knife B, and plate D, when these several parts are arranged as and for the purposes set forth.

I also claim, in combination with the forceps A, the spring E, fork C, and thumb screw F, when arranged and operated as and for the purposes specified.

No. 20,253.—Joseph Cawthra, of Rochester, N. Y.—*Improvement in Corn-Huskers.*—Patent dated May 18, 1858.—A piece L provided

with teeth above the husker and at the end of the rods of the grate Y, which prevents the ear being carried off the grate by the husker *k*, and also clears it of any refuse matter which adheres to it. The follower O assists in carrying the ears down the grate.

Claim.—The inclined reciprocating husker *k*, constructed as described, in combination with stationary teeth L, the inclined curved grate Y, and the slide O, when these several parts are constructed, arranged, and operated substantially as and for the purpose set forth.

No. 20,360.—B. B. Meacham, of Ridleyville, Fla.—*Improved Corn-Husker.*—Patent dated May 25, 1858.—In this invention a cutting device is attached to a wheel which is placed below a trough or spout, the cutting device and wheel being so constructed that, as the ears of corn are fed down to it, the butts will be cut off from the ears at their junction with them, and the husks stripped off, and the husked ear discharged by another spout.

Claim.—The wheel E, grooved circumferentially, and provided with the knife or cutter *g*, forked plate *h*, and oblique partition or ledge *c*, and arranged relatively with the spouts C G so as to operate as and for the purpose set forth.

No. 20,568.—Lucius Leavenworth, of Trumansburg, N. Y.—*Improvement in Corn-Huskers.*—Patent dated June 15, 1858.—In fig. 1, *a a* represents the chain, *b b* the arms, *c c* the rollers on the pins; *d* is the lever fastened by the hinge *f* to the frame *e*. The corn is placed beneath the rollers, (the stalk being above the operator's hand,) and the lever is forced foward, by which motion the cutter is made to separate the cob from the stalk. The motion of the lever foward being continued, the chisel draws the husks foward and outward.

The inventor says: I *claim* attaching to the arm or other part of the chair the two rollers, or their equivalents, in the relative position and for the purpose described.

I also claim the combination of the hinged lever *d*, curved chisel *g*, and rollers *c c*, with a seat or chair, in the manner and for the purpose described.

No. 20,637.—Burton Hazen, of Cincinnati, Ohio.—*Improvement in Corn-Huskers.*—Patent dated June 22, 1858.—This invention consists in the employment of a stationary and rotating knife I G, and rotating hammer H, arranged for the purpose of stripping the husks from the ears. The invention also consists in the employment of a rotating cylinder of slitting knives, fitted within a cylindrical yielding shell, also provided with slitting knives, and arranged and operated so as to slit the husks for upholstery purposes.

Claim.—The stationary and rotating knives I G, and rotating bar or hammer H, combined and arranged to operate as and for the purpose set forth.

No. 20,653.—Lemuel R. Mears, of South Abington, Mass.—*Improved Corn-Husker.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* an improved corn-husker, as made of a combination of a breast shield, a supporting bar, and cutting apparatus; the breast shield to be applied to a person, and the cutting apparatus and supporting bar to be operated in manner as specified.

And I particularly claim the arrangement of the cutters and bearer, viz: so as to extend in opposite directions from the supporting bar and the slider, in manner and for the purpose as explained.

No 20,849.—LENARD A. GROVER, of Roxbury, Mass., assignor to Himself and N. T. SPEAR, of Boston, Mass.—*Improvement in Corn-Huskers.*—Patent dated July 6, 1858.—This invention consists in the employment of shears or a cutting device, tilting bed or hopper E, and a rotating cone B, and guide plates D D; the whole forming a very simple and efficient husker.

The inventor says: I do not claim a revolving toothed cone B and toothed plate D, separately; for they, or their equivalents, have been previously used.

I *claim* the rotating toothed cone B, plates or boards D D, one being provided with teeth b^1, in combination with the tilting bed or hopper E, and the vibrating knife G, and stationary knife J; the whole being arranged to operate as and for the purposes set forth.

No. 21,363.—CHARLES J. C. PETERSEN, of Davenport, Iowa.—*Improvement in Corn-Huskers.*—Patent dated August 31, 1858.—A description of this invention is too long for a place in this volume; the reader will obtain an idea of it by examining the claim and engravings.

The inventor says: I *claim*, 1st. The feeder, when constructed, arranged and operating substantially as described for the purpose set forth.

2d. The butter, when constructed, arranged, and operating substantially as described for the purpose set forth.

3d. The husker, when constructed, arranged and operating substantially as described for the purpose set forth.

4th. The fanner, when constructed, arranged and operating substantially as described for the purpose set forth.

5th. The receiver, in combination with the fanner, husker, butter, and feeder, when these several parts are arranged to operate conjointly as and for the purpose specified.

No. 21,522.—N. T. SPEAR, of Boston, Mass.—*Improvement in Corn-Huskers.*—Patent dated September 14, 1858.—This invention consists in the use of a rotating bevelled-face wheel, armed with teeth, and used in connexion with conical taper rollers, one or more having their journals fitted in yielding bearings, and arranged in such relation with the wheel that the ears of corn are allowed to descend by their own gravity down the "bite" or angle formed by the contact of the wheel and rollers, and the husks stripped therefrom.

Claim.—The combination and arrangement of the toothed bevelled wheel B, provided with one or more faces, with the smooth conical rollers D D, one or more, and boards E, when these several parts are united together and arranged for joint operation, substantially in the manner and for the purpose set forth.

No. 22,440.—S. W. MAY, of Galesburg, Ill.—*Improvement in Machine for Picking Corn.*—Patent dated December 28, 1858.—A is the main frame mounted on wheels G G, and so constructed as not to break down the cornstalks; B B are thills fastened firmly to the upper cross beam U of frame A by braces C C, and also to A by beam D, and in a central position, so that the horse may walk between the two rows picked; E E are elevators to straighten up leaning or falling stalks; L L are strong bars, each having a channel X opening to receive the stalks at the front end of the bar, and extending back nearly the whole length of it.

Claim.—The bars L, the elevators E, the fingered belt R, the frame A, the crank with its pitman O, or their mechanical equivalents; the whole being combined, arranged, and operated substantially as and for the purposes set forth.

No. 19,160.—JEREMIAH P. SMITH, of Hummelstown, Pa.—*Improved Corn-Sheller.*—Patent dated January 19, 1858.—In using this machine, the ears of corn, in passing beneath the cylinder C, are first acted upon by the forward or projecting portions of the ribs E E, which shell or start off the grain at intervals, and thus render the remaining grain more easily to be removed by the teeth *a a* or ridges *b b* of the concave I and of the rear portion of the ribs acting together. Both the ribs and the concave yielding separately, they respectively adapt themselves to different sizes of ears without disturbing the action of each other.

Claim.—The ribs E E, arranged and operating in combination with the concave I substantially in the manner and for the purpose specified.

No. 19,253.—JOSEPH R. LINDNER, of Cincinnati, Ohio.—*Improved Corn-Sheller.*—Patent dated February 2, 1858.—A is a drum, having the form of a conic frustum, and rotating upon a vertical shaft B; *a* are teeth; C is a cast iron concave with teeth *c*. The drum being rotated, an ear of corn dropped point downwards through the hopper D into the passage I is at once turned briskly round, drawn downward, and shelled by the teeth *a*; the teeth *c* in the concave serve to hold the ear to enable the teeth *a* to completely remove the grain, while the elasticity of the case G causes ears of any size to be held against the drum A and concave C with a yielding pressure.

Claim.—The elastic case G *g*, constructed as set forth in the described combination with the concave C *c* and drum A *a*.

No. 19,603.—DANIEL G. GREENE, of North Bridgewater, Mass., assignor to Himself and GEORGE H. GREENE, of said North Bridgewater.—*Improvement in Corn-Shelling Machine.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that a double tapering cylinder for

shelling corn was patented by James Ross, April 12, 1833, and therefore I make no claim to said device.

But I *claim* the arrangement of the single tapering roll *b*, concave shells *d* d^1, slots *f* f^1, spring *g h*, and spout *i*, as shown and described, whereby the ear of corn is always kept in horizontal position, and the cob is prevented from being forced diagonally under the roll, and is thus saved from being crushed or broken, together with other advantages, all as set forth.

No. 19,809.—Peter Bergen, of New York, N. Y., assignor to Jane Ann Bergen, of said New York.—*Improvement in Corn-Shellers.*—Patent dated March 30, 1858.—This invention is an improvement in that kind of corn-shellers wherein the corn is to be taken off the cob by having the ear passed between the face of a cylinder *b* armed with teeth or projections *c*, and a cradle or concave *d* similarly armed; and it consists in so constructing the feeding-hopper and the cradle, and so connecting them with the shelling-cylinder, that but one ear of corn will be receiving the action of the shelling parts at the same time.

Claim.—The combination of the delivery flap or bottom *h* of the hopper, the piece P, the pins *m* on the shelling-cylinder, the cradle *d*, and the springs *e* and *f*, when these several parts are constructed and relatively arranged as described, to operate in the manner and for the purposes set forth.

No. 19,862.—Thomas W. McFarlan, of Salem, Ohio, and Lewis H. Davis, of West Chester, Pa.—*Improvement in Corn-Shellers.*—Patent dated April 6, 1858.—In operating this machine the ears of corn are fed through the chutes of the head E, and guided to the picker-wheels B C C by the elastic linings. Being shelled, the grain and cobs fall upon the riddle G, the cobs being prevented from falling behind the head by the guard I At this place they are separated, the former falling through the bars of the riddle, and the latter continuing to move over the riddle and escaping under the flexible partition R. As the grain passes from the riddle it falls upon the inclined board F and descends into the transverse spout J, being separated from the chaff by the blast of the fan L.

The inventor says: I *claim* the gutter-shaped guard I, arranged between and underneath the bevel picker-wheels, and overlapping the head of the vibrating riddle, substantially as and for the purposes set forth.

Second. Having the head end of the riddle rest upon a horizontal projection of an inclined board, substantially as and for the purpose set forth.

Third. Lining the spouts or chutes of the head E with a thin pivoted or yielding metal lining, in the manner and for the purpose set forth.

No. 19,915.—Augustus B. Davis, of Philadelphia, Pa.—*Improvement in Corn-Shellers.*—Patent dated April 13, 1858.—This invention consists in combining an endless band or chain of toothed plates with

an angular barred grating, for the purpose of stripping the kernels from ears of corn in a rapid and effectual manner.

Claim.—The endless band or endless chain of toothed plates G, in combination with the angular grating N, when the same are arranged for joint operation substantially as and for the purpose set forth.

No. 20,003.—Elmon Parker, of Baltimore, Md.—*Improvement in Corn-Shellers.*—Patent dated April 20, 1858.—Upon the board at the end of the machine, which serves as a hopper, are put two spring plates *d d*, extending from near the centre of the wheels, about two-thirds the distance to the outer edge, to press the ears to the wheels while shelling. In order to discharge the cob, two rollers *e e* are placed near the outer edge of one wheel and the other in the same position to the other wheel. Under the wheels are fixed two apron boards to guide the corn down near the middle of the machine over a box. The ears of corn are fed to the machine near the centre of the wheels, and will be drawn down either side and discharged from the machine.

Claim.—The combination of the cylinder A, the spring back *d*, and rollers *e*, when they are constructed and arranged with respect to each other as set forth for the purpose specified.

No. 20,266.—Ray Green, of Cussewago, Pa.—*Improvement in Corn-Shellers.*—Patent dated May 18, 1858.—The corn to be shelled is dropped into the hopper L, and rolls down between the strips 1 2 3 4 5, and by them is carried down and around the cylinder B, and is pressed up against the cylinder by the fingers I I I I with sufficient force to shell the corn; while the spring R accommodates the concave to the size of the ears of corn, pressing the point and butt of the ear up equally. The corn, when shelled, passes between the peices of wood T and out through the spout N.

Claim.—The shelling cylinder B, constructed as described, revolving within the feeding cylinder in combination with the feed-regulating slide J, concave T T, and springs R, fingers I, discharging apron H, and spout N, when the several parts are constructed, relatively arranged, and operated in the manner and for the purposes set forth.

No. 20,650.—William H. Main, of Liverpool, Ohio.—*Improvement in Corn-Shellers.*—Patent dated June 22, 1858.—The nature of this invention relates to the use of the balance wheel G upon the revolving sheller, to the form and arrangement of the shellers, and the manner of attaching them to the arms H of the balance wheel; and also the devices for delivering the cob from the machine by means of spiral cam V.

The inventor says: I *claim* the use of the balance wheel G, in combination with the open hub jaws P, teeth R, and springs O, when arranged in the manner substantially as set forth.

I also claim a series of spur wheels T, arranged with spiral springs and sliders or their equivalents, as described, and in combination therewith the spiral cam V, by which the spur wheels are driven, when constructed and operated in the manner and for the purpose specified.

No. 20,831.—Paschal P. Taft, of Taftsville, Vermont.—*Improvement in Corn-Shellers.*—Patent dated July 6, 1858.—This invention consists in the employment of a rotating toothed or corrugated cylinder C, in connexion with the reciprocating toothed plates L L arranged to move in opposite directions, whereby corn may be more effectually shelled from the ear than by any of the machines hitherto constructed for the purpose.

The inventor says: I am aware that a toothed rotating cylinder and concave is an old and well-known device, and has been used for shelling corn, and for various crushing and grinding purposes; I therefore do not claim broadly such device.

But I *claim* the rotating toothed cylinder C, in combination with two or more reciprocating toothed concaves L L, moving simultaneously in opposite directions; the parts being arranged within a suitable box, case, or framing, and operated substantially as and for the purpose set forth.

No. 21,174.—Calvin Adams, of Pittsburg, Pa.—*Improvement in Corn-Shellers*—Patent dated August 17, 1858.—Q Q represent the shelling wheels of the corn sheller; they are formed with a number of arms *d*, each of which is of a concave or a V-shape, which strip the grains from the ear as it is fed along. d^1 represents cogs, which, at the same time, constitute the elongation of the arms *d*, with this difference only, that they extend a shorter distance from the centre of the shaft than the arms *d*. By these means the wheel Q is in gear with the wheel H, which latter is in gear with the wheel H^1, which, in turn, gives motion to the shaft Q. The shafts C C^1, together with their corresponding parts, are duplicates; and the wheels Q^1 and H^1 are similar to those of Q and H. W represents a stationary guide, secured to the bolt B; the object of this guide is to direct the ears of corn to the centre of the machine, and from the upper to the lower shellers, when they are fed in and carried past the arms *d* of the shelling wheel Q, which is the upper of the two sets.

The inventor says: I *claim* the combination of the pairs of adjustable and yielding wheels C and C^1 with the pairs of shelling wheels Q and Q^1, when constructed and operating substantially in the manner and for the purpose described.

I also claim the manner of connecting the shafts C and C^1 with their respective cog-wheels H^1 H, by means of the pivots *a a* and conical hub E, or their equivalents; so that whilst they may revolve together, the shafts may play back and forth to adapt the feeding wheels to the various sizes of the ears of corn to be shelled, substantially as described.

No. 21,594.—A. Adams, of Sandwich, Illinois.—*Improvement in Corn-Shellers.*—Patent dated September 28, 1858.—The nature of this invention consists in the employment of a swinging spring-plate, which is concave on its inner face, elliptical on its lower and front edge, and concave on its upper edge, in combination with an inclined guard, which is curved or convex on its under surface, when said plate and guard are arranged in the specified relation to each other,

and to the picker-wheel and its shaft, and to the cob discharge passages of a corn-sheller.

Claim.—The combination of the yielding plate H and the guide bar or plate J, with the wheels C and E and spout G, provided with the elastic plate F, when these several parts are constructed and arranged for joint operation, and relatively with respect to each other and the discharge passages, in the manner and for the purposes set forth.

No. 21,288.—Loren J. Wicks, of Racine, Wisconsin.—*Improvement in Corn-Shelling Machines.*—Patent dated August 24, 1858.—In using this machine the larger portion of the corn, as it is shelled from the ear, falls directly upon the apron P, and, passing over the screen Q to clear it from chaff, is delivered at the end of the apron at the outside of the machine into a proper receptacle, or upon the floor. Such portion of the corn as may be carried into the tube N is prevented from being thrown out through the tube with the cob by the flap-valves O O^1, the first of which deflects it to the bottom of the tube, and the last forces it to fall through the grating T on the apron P, to be delivered with the corn before named. The cob is carried into the tube N by the action of the spiral teeth upon the cylinders D D^1, and falls by its own weight through the tube, past O O^1, to the outside of the machine.

Claim.—The employment of the screen Q in the apron P, in connexion with the tube N, provided with valves O and O^1 and grating T, when these several parts are constructed and arranged with respect to each other, and to the shelling wheel F and cylinders D and D^1, and operate conjointly therewith, in the manner and for the purpose specified.

No. 22,206.—George W. Tolhurst, of Liverpool, Ohio.—*Improvement in Corn-Shelling Machines.*—Patent dated November 30, 1858.—The nature of this invention consists in providing the levers or jaws of a corn-sheller with spur wheels set at an angle around the opening where the ear of corn is presented, so that by rolling said spur wheels around the cob the ear is fed to the shellers and press rollers.

Claim.—The combination of the spur wheels D^2 D^2 D^2 D^2; these several parts being constructed, arranged, operated, and operating in the manner and for the purpose specified.

No. 21,254.—Francis M. Green, of Sullivan, Illinois.—*Improvement in Machines for Cutting up Cornstalks in the field.*—Patent dated August 24, 1858.—The nature of this invention consists in a new machine for simultaneously felling and cutting up cornstalks.

Claim.—The knife cylinder D, constructed and operating as described, in combination with the supporting wheels *g g* and the mechanism for operating the same, the whole arranged substantially as described for the purposes set forth.

No. 19,561.—Henry Hersh and Amos Hersh, of Lancaster county, Pa.—*Improvement in Machine for cutting and crushing Corn-Stalks.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the engravings and claim.

The inventors say: We *claim*, first, the peculiar shape of the knives I located at the top of cylinder, and attached to the arms of the shaft for the purpose of cutting off the ends of corn stalks by a circular sweep and an angular downward cut at the same operation, as described.

Second, We claim the combination of the knives as curved to correspond with the cylinder at the top, and its spiral set teeth G at the sides for the purpose of cutting and crushing the corn stalk at one operation most effectually and in the simplest manner, as described.

No. 19,311.—Elias Peck, of Canton, Illinois.—*Improvement in Machines for Cutting Brush from Cotton Fields.*—Patent dated February 9, 1858.—The letters *a* are the journals, *b* the knives, E the cams, F the bars to cut against, and *g* is the place where the axle of the cutting wheel passes through the inside piece of timber in *fig.* 1. The cams, marked E, should be made of iron, three-eights of an inch in thickness and two inches in width. The under edge should be made sharp where they come near to or bear upon the ground, so as to cut or break the brush upon the ground. They are also to raise the wheels or knives over stones or other obstructions.

Claim.—I claim the arrangement of wheels S, knives *b*, cams E, and bar F, the whole being arranged and operated in the manner and for the purpose set forth.

No. 21,667.—C. A. Gaines, of Watson, Mississippi.—*Improvement in Cotton Scrapers.*—Patent dated October 5, 1858.—This invention consists in the peculiar shape and arrangement of the bottom E of the block. The side and rear edges *c d* and *f* only are in a plane composing the surface which rests on the ground. From these edges, inward and forward, to the edge *g* next to the mould-board, the bottom is made hollow or concave, the depth of said cavity increasing as it approaches the front edge *g*, and the greatest depth being in the middle thereof.

Claim.—Giving a hollow or concave form to the bottom E of the block, from the rear and side edges inward and forward to the mould-board or scraper D, substantially in the manner and for the purpose specified.

No. 19,151.—David Perham, of Tyngsborough, Massachusetts.—*Improvement in Cranberry Separators.*—Patent dated January 19, 1858.—The nature and object of this invention will be understood by an examination of the claim and engravings.

The inventor says: I *claim* the inclined plane J and bounder L and L^2, constructed and relatively arranged and operated as described, for bounding cranberries, to separate the good from the bad, essentially as fully set forth.

I also claim the relative arrangement of the hopper B, with its adjustable gate H and rack C, in such manner as to properly deliver the cranberries to the apron D, and allow dirt and foreign matter to fall from them through this rack during their delivery, essentially in the manner and for the purposes fully set forth.

I also claim the arrangement of the guides I and P^5, constructed with and forming part of the feed apron D, as described, so that the cranberries will not be allowed to fall on each other when delivered to the bounder, essentially in the manner and for the purposes fully set forth.

I also claim the movable and adjustable flexible strick G, so placed above and relatively arranged with the apron D as to govern the quantity of cranberries on the apron itself which may be passing over or upon it, especially in the manner and for the purposes fully set forth.

I also claim the cushion T, relatively arranged with the bounder L and L^2, as to receive momentarily, and prevent bruising the imperfect cranberries, essentially in the manner and for the purposes fully set forth.

I also claim the flap F^2, so arranged with the bounder L and L^2 as as to receive the force of the good or perfect cranberries, and prevent bruising them as they are separated by and bounded from the bounder, essentially in the manner and for the purposes fully set forth.

I also claim the double adjustable divider Y and Z, so arranged relatively with the bounder V and M^2 as to subdivide the poorer quality of cranberries, essentially in the manner and for the purposes fully set forth.

No. 19,248.—James Houck, of Clinton, Indiana.—*Improvement in Cultivators.*—Patent dated February 2, 1858.—The nature of this invention will be understood from the claim and illustrations.

The inventor says: I do not claim the use of shovels or the mould-board, as they have been long used.

But I *claim* the arrangement of the triangular mould-board C and its adjustable standard B^4, with relation to beam A, standards B B^2 B^3, handles H H, and shovel S S, in the manner and for the purpose set forth.

No. 19,584.—D. P. Rogers, Seymour Rogers, and Luman Rogers, of Pittsburg, Pa.—*Improvement in Cultivators.*—Patent dated March 9, 1858.—The gauge-irons *j j*, which are for the purpose of expanding and contracting the cultivator, are made in the usual way, with the exception that one end of each is flattened and widened out; the widened part is turned down to form a groove X, so that in bringing them together the groove of one "iron" will receive the body of the other. The clamp-spring is for the purpose of clamping the gauge-irons; the lower end of one of the braces *h* is bent so as to stand perpendicular, and then a portion of this part is bent so as to form a figure similar to the letter U; a bolt is inserted in the upper part of this figure so as to draw them together.

Claim.—The combination of teeth, braces, standards, spring-clamp and gauge-irons with the frame of a cultivator, the whole being constructed and arranged in the manner and for the purposes set forth.

No. 19,742.—Joseph Banks, of Dadeville, Ala.—*Improvement in Cultivators.*—Patent dated March 30, 1858.—A set of mortises *p p p* is made vertically through the beams A B B, at regular distances, for

the reception of bolts *c c c*, which secure the teeth F G H and their braces S S to the under sides of the beams. Teeth F G are employed both to work the earth and receive the several scrapers I L L. They are attached to and arranged so as to be shifted to different positions beneath the under sides of the side beams B B, and each has a rear brace S bolted to the beam at the top, while the lower end thereof is pointed, and enters a shallow hole or notch *d* in the back of the tooth.

Claim.—The construction, arrangement, and combination of the body of the implement and its movable teeth, as described, whereby it is readily adapted to properly receive in turn the several scrapers employed for performing the various modes of cultivation specified.

No. 20,207.—L. W. Kelley, of Brunswick, Ohio.—*Improvement in Cultivators.*—Patent dated May 11, 1858.—The purpose of this implement is to make it convertible into three different kinds of cultivators. First, a scraping and tooth cultivator combined: the scrapers are adjustable separately from the adjustment of the teeth, or *vice versa*; by extending outward or contracting inward the adjusting bars G G, the side beams and their teeth I I are adjusted outward or inward. Second, a simple scraping cultivator, by withdrawing the two bolts *a d'* by which the side beams B B with their adjuncts are removed, and taking out the tooth H from the central beam. Third, a simple tooth cultivator, by removing the bolt *f* and wedge *h* and pin *i*, (if both are used,) and thereby detaching the scrapers M M and their appendages from the central beam.

Claim.—The combination and arrangement of the teeth beams B B with their attaching and adjusting bars E E and G G and the scrapers M M with their attaching and adjusting bars L and G^1 G^1, with each other, and with the central beam A, substantially in the manner and for the purposes set forth.

No. 20,260.—John Endsley and Elihu Fletcher, of Abington, Ind.—*Improvement in Cultivators.*—Patent dated May 18, 1858.—The shanks D E F are situated respectively to each other, one before another, D being in the lead; they "hill" the earth to the right. G G^1 G^2 are three shovels; they are bolted to shanks D E F. H is a gauge of iron fastened to shank E. I I are two saddles, each with two sets of flanges upon opposite sides. One set embraces the beam A, and the other clasps the upper end of a shank D or F.

The inventors say: We do not claim a bed with inclined sides following the trace of the coulter, rendering the sides of the furrows compact, and preventing the falling in of the earth, as described in Charles K. Farr's patent of May 9, 1854. Neither do we broadly claim the saddle I, as we propose making that the subject of a separate application.

But we *claim* the arrangement of shanks D E F and shovels G G^1 G^2 with saddle I I and beam A, when constructed in the manner and for the purposes shown.

No. 20,712.—William A. Hopkins, of Vicksburgh, Miss.—*Improvement in Cultivators.*—Patent dated June 29, 1858.—The operation of this transverse plough is that the first plough throws its furrow to the plant, the second throws its furrow to that of the first, and the third to that of the second, and the fourth to that of the third, making a bed of four furrows; this plough doing the work of four single ploughs in proper order.

Claim.—The arrangement of the beam A, transverse beam B, handles C, bolts D, shares E, standards F, and stays G, when the several parts are constructed and united as described, and not otherwise.

No. 20,798.—Duncan C. Hubbard, of Okolona, Miss.—*Improvement in Cultivators.*—Patent dated July 6, 1858.—The nature of this invention consists in adjusting or fitting the share T E S F to the long stock A B C D, after the manner of the common plane-bit to its stock. The slits *m n* m^1 n^1, through which the bolts *a b* a^1 b^1 pass, will allow the share to be set any required depth. The small harrow tooth *h z* will stir up the soil pressed down by the stock.

Claim.—The combination of share T E S F, stock A B C D, and tooth *h z*, the whole being constructed and arranged substantially as and for the purposes set forth.

No. 21,055.—William Adams, of Detroit, Michigan.—*Improvement in Cultivators.*—Patent dated August 3, 1858.—This machine is intended for garden weeding and cultivation by hand, and should be of a size corresponding to the width of the rows in which the crop is planted. The manner in which the parts of the machine are arranged, enables it to pass centrally over the rows of plants; and a space is left between the two front teeth, wide enough to leave the plants undisturbed. The machine should be wide enough to cut all the weeds to the middle of the space between the rows.

Claim.—The arrangement of the loop G at the juncture of the cross and side bars A and C, in combination with the binding pin, and the double looped yoke extending transversely from one side bar to the other, for holding the handles E, in the manner and for the purposes specified.

No. 21,128.—N. W. Fraser and A. J. McLellan, of Laporte, Ind.—*Improvement in Cultivators.*—Patent dated August 10, 1858.—The nature of this invention consists in the manner of arranging the shield, together with the shovels and the two revolving wheels.

Claim.—The arrangement of the fender D attached to the shovel standards D^1, the shovels E, and thewheels A on the vertical shafts *a*, the whole being arranged for joint operation as set forth and described.

No. 21,170.—Robert Sawyer, of Wales, Me., assignor to William G. Brown, of Monmouth, Me.—*Improvement in Cultivators.*—Patent dated August 10, 1858.—This machine is calculated to weed and hill at the same time. Should it be desired to weed the ground for a while without hilling it, the turning shares may be removed from the cutters, they being restored to place preparatory to performance of the hilling operation.

The inventor says: I do not claim the common cultivator, as made with one or more series of small double ploughshares applied to adjustable bars or supports connected with a plough.

But I *claim* my mpr oved weeding and hilling plough, constructed substantially as described, viz: with a coulter B, a root cutter D, adjustable cutters G G, and turning shares L L applied to adjustable handles and a plough beam, and made to operate substantially as specified.

No. 21,377.—NATHANIEL S. SMITH, of Buffalo, N. Y.—*Improvement in Cultivators.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the flanged or broad cutting cylinder B, nor placing a gang of hoes behind such a cylinder, nor the combination of the comb-formed clearer with such a cylinder.

What I *claim* is the use of the double joint piece D to connect the gang of hoes to the axle, when said joint piece extends beyond the axle, and subserves also the purpose of a foot lever to throw the hoes out of the ground, in the manner and for the purpose set forth.

No. 21,428.—ISRAEL LONG, of Terre Haute, Ind.—*Improvement in Cultivators.*—Patent dated September 7, 1858.—The nature of this invention consists in the employment of two frames, which are furnished with harrow teeth at their forward end, and cultivator teeth at their rear ends, and connected by arch braces, in combination with the propelling wheels, arranged on short crank axles; the tongue arranged on top of the arch braces, and with the adjusting arrangements.

Claim.—The employment of two frames A A, which are furnished with harrow teeth c at their forward end, and cultivator teeth B at their rear ends, and connected by arch braces D D, in combination with the propelling wheels E, arranged on short crank axles *c;* the tongue G arranged on top of the arch braces, and with the adjusting arrangements substantially as and for the purposes set forth.

No. 21,625.—THOMAS WILLIAM POOLE, of Brunswick, Ohio.—*Improvement in Cultivators.*—Patent dated September 28, 1858.—The nature of this invention consists in constructing the cultivator with adjustable arms or wings, in combination with fixed guards, secured above, and concentric therewith; so that the teeth may be expanded or contracted according to the convenience of the operator, and at the same time superior strength and firmness, as well as lightness of construction, are secured.

Claim.—The combination and arrangement of the hinged arms B B B B, and fixed concentric guards D D D, in the manner specified.

No. 21,690.—B. S. MORGAN, of Delhi, Iowa.—*Improvement in Cultivators.*—Patent dated October 5, 1858.—This invention consists in a peculiar arrangement of levers and share stocks, whereby the shares may be raised above obstructions with much ease, and also allowed to yield or give to obstructions, in case they are brought in contact with them, so that the parts cannot be injured thereby.

The inventor says: I *claim* the arrangement of the bars E, with share stocks F attached; the levers I, with links J fitted in the triangular shaped openings *f* in said levers, and attached to the coulter bars K, which are connected to the levers N, substantially as and for the purpose set forth.

I claim in combination with the above, the brace rods H attached to the share stocks F by means of springs *a*, and fitted in the recesses *b* in the stocks, and arranged substantially as and for the purpose set forth.

No. 21,739.—C. H. CARRINGTON and S. E. CARRINGTON, of Weymouth, Ohio.—*Improvement in Cultivators.*—Patent dated October 12, 1858.—A is a central oblong frame, to which a tongue B is attached. The machine being intended to stride the rows or drills, the central part thereof is entirely clear, and the cross pieces of the frame curve or bow upward, as shown at *a a*, thus allowing corn or other vegetable growing at a considerable height to be passed over without injuring or disturbing it. This frame is supported by two wheels D D inside of its side beams, and not very far from each other. They are mounted on separate axles, not crossing the space between each other, so as not to obstruct the central part of the implement. A seat C is mounted above and upon the frame, for the reception of the driver.

The inventors say: We *claim* the arrangement and combination of the side wings E E and bars H H with each other, and in relation to the frame A, substantially in the manner and for the purpose specified.

We also claim the mode of actuating and adjusting the hoes K K, by means of the wheels D D, stirrups *h h*, bar L, lever M, and catch plate N, arranged in combination, and acting upon the handles J J of the hoes, substantially as set forth.

No. 21,787.—WILLIAM TUCKER, of Blackstone, Mass.—*Improvement in Cultivators.*—Patent dated October 12, 1858.—The nature of this invention consists in the combination of a rotary toothed drum, or a rotary series of teeth, with a series of grid bars, and teeth projecting from such bars; the whole being arranged, applied to a frame, and constituting a new or improved cultivator to be used in breaking up the soil preparatory to its being planted.

Claim.—The combination of the rotary toothed drum, of rotary series of teeth *a a*, with a set of stationary grid bars *d d*, and teeth E E projecting therefrom, the whole being arranged, applied to a frame A, and constituting a new or improved cultivator or agricultural implement, to operate substantially in the manner and for the purpose or purposes as specified.

No. 21,763.—THOMAS M. LEE, of Broad Ford, Va.—*Improvement in Cultivators.*—Patent dated October 12, 1858.—This invention consists in the manner in which is combined and arranged the adjustable rotating digging wheel with the adjustable digging teeth and cleavers

so that the wheel may be adjusted to the proper depth to be ploughed or harrowed, and the teeth and cleavers be changed to suit such depth.

Claim.—So combining the cylinder R, stock H, and block *o*, with their respective teeth *a d g*, with each other, and with the main frame A, as that they can individually or severally be adjusted for deeper or shallower work, substantially as and for the purpose set forth.

No. 21,857.—Thomas S Stevens, of Pepperell, Mass.—*Improvement in Cultivators.*—Patent dated October 19, 1858.—Underneath the carriage A is a movable cutter frame F, which carries at its front a series of vertical stripping cutters *a a a*, arranged thereon as seen in the engravings. Besides such cutters, the frame F supports a rotary shaft or drum G, carrying on its outer surface a set of spiral or other proper knives *b b*, so arranged as not to cut horizontally underneath the surface of the land in directions transverse of the machine, when the drum or shaft is put in rotation, but to cut in circular paths concentric with the drum.

Claim.—The inventor says: I am aware that for cutting sods and roots a series of stationary surface cutters, like under surface ploughs, have been used in connexion with a set of vertical scoring knives, and on one frame therewith; consequently, I do not claim such. Each of the knives of the rotary drum is a spiral or helical knife, or so formed as to cut in a curved instead of a horizontal path, and it passes into and out of the soil during each rotation of the drum. Therefore, its action on the soil is different from that of a stationary horizontal knife or ploughshare, which works in a horizontal path only under the surface, and, in connexion with the vertical cutters, separates the soil into ribands or strips. The rotary cutters of my machine not only perform the functions of the stationary plough cutters, but they break or cut the soil in curved paths, so as to reduce the strips to pieces, and they raise these pieces and turn them over more or less, whereby the roots will also be separated and thrown out of place.

What I *claim* is the combination of a set of vertical stripping cutters *a a*, and a set or series of revolving under-surface cutters *b b*, applied to operate together, substantially as specified.

No. 22,215.—William Willmot, of Wilmington, Delaware.—*Improvement in Cultivators.*—Patent dated November 30, 1858.—In operating this machine, as it is drawn along the shares N are made to penetrate the earth and form furrows of the requisite depth by means of the weights I, which are adjusted on the bars H at a greater or less distance from their outer ends to effect the desired result. The handles B B are grasped by the operator or attendant; and in case the shares are not designed to operate, they are kept in an elevated state by hooking the chains J sufficiently high on the pins *f*. The shares N are placed nearer together or further apart by adjusting the bars G^1 in the frame A. The chain P is so adjusted that it will, by dragging into the last furrow made at the previous "round" or "bout," insure the furrows being made at equal distances apart; and by turning the bar O, so that it will project over or beyond the opposite side of the

machine, the chain is allowed to perform the same office at the succeeding bout.

Claim.—The arrangement and combination of the bars G G^1 G^2, bars H, adjustable weights I, chains J, bars L, and handles B, as and for the purposes shown and described.

No. 22,316.—Thomas Turner, of Marysville, Ohio.—*Improvement in Cultivators.*—Patent dated December 14, 1858.—This invention consists in the employment of two mould-boards placed one in advance of the other and attached to separate beams, connected together so as to be capable of adjustment, the front mould-board being hollowed out so as to allow the earth raised by it to pass over its share into the furrow, and directly in front of the other mould-board, which casts it up, in a pulverized state, towards the crop under cultivation.

Claim.—The combination of the pulverizing mould-board F and hilling mould-board G, constructed as shown, and attached respectively to the longitudinally and laterally adjustable beams A B, the whole being arranged substantially as and for the purpose set forth.

No. 22,437.—Howard Mann, of East Attleborough Mass.—*Improvement in Cultivators.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: 1st. I *claim* the application of each wheel arbor to its wheel and the frame A, substantially as described, viz: so that the wheel may turn on the arbor, and the latter extend into slots, and have fastenings, as explained; whereby not only the wheel may be adjustable with reference to the cutters, but the arbor and its screw nuts may be employed to strengthen the frame, in the manner set forth.

2d. I also claim the described arrangement of each of the slots of the wheel arbor with respect to the scraper of the periphery of the wheel, whereby the wheel, at whatever attitude it may be placed while its arbor is in the slots, will be at one uniform or proper scraping distance from the scraper.

3d. I also claim the application or arrangement of the slide bar of the cutter G, so as to operate not only as a scraper to the wheel but as a supporter of the cutter post or rod.

No. 20,823.—Asberry Smith, of Ashville, Ala.—*Improvement in Cotton Cultivators.*—Patent dated July 6, 1858.—A is the upright or support, B the blade or share, C an iron brace, D the beam or main timber of the frame, E the handles, and F the post.

The nature of this invention relates to the peculiar form and construction of the blade, and the position thereof with regard to its upright support.

Claim.—The arrangement of the upright A, brace C, beam D, and support F, so that a plane will pass through or near the whole of them, and when the wing B is connected to and projects from the said upright A, all as set forth.

No. 20,605.—Erastus T. Bussell, of Shelbyville, Ind., assignor to Wombaugh, Brothers, & Co., of Cincinnati, Ohio.—*Improvement in Rotary Cultivators* —Patent dated June 15, 1858.—The nature of this invention consists in providing a hollow revolving drum, out of the surface of which projects any desired number of spiral twisted or otherwise shaped cutters *f f f*, arranged at suitable distances from each other, to each of which a rotary motion is communicated as said hollow drum revolves upon its axis, by means of fixed cogged master wheels within the drum, into which small cog wheels play as they are carried around by the drum.

The inventor says: In making these ploughs for the various purposes for which they will be used, as well as their adaptation to the varied soils in the country, many modifications will be necessary. It will be distinctly understood, therefore, that I do not confine myself to any particular style, so long as I maintain substantially the features set forth.

What I *claim* is the arrangement of machinery substantially as set forth for breaking up and disintegrating the earth for purposes of agriculture.

No. 19,234.—Moses Bucklin, of Grafton, N. H.—*Improvement in Cultivator Teeth.*—Patent dated February 2, 1858.—The nature of the improvement will be understood from the claim and engravings.

The inventor says: I do not claim a seed-delivering tooth such as is described in George W. Brown's patent of August 2, 1853.

Neither do I claim a seed-delivering tooth such as is described in L. W. Calver's patent of May 22, 1855.

But I *claim* a cultivator tooth having two shares, which rise with a curve, so as to form semi-mould-boards, with their front edges terminating in a single perpendicular plane or cutter, and in combination with said plane or cutter, extending forward with a straight cutting edge rising from the points of the shares at an angle of about 32°, and terminating at the top in a flange on each side, connected with the tops of the semi-mould-boards, for the purpose of fastening the tooth to the frame of the cultivator.

No. 21,212.—Adam Pritz, of Dayton, Ohio.—*Improvement in Grain Drills.*—Patent dated August 17, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first. The employment of a distributing slide E, which has two sets of different characters of discharge passages E F, and a connecting rod H, having two adjusting notches *f f*, in combination with a set screw *i*, which has a serrated sliding cap *k*, and with a slotted actuating lever G, which has a serrated rib *m* on its upper side, substantially as and for the purposes set forth.

Second. In combination with the above, the employment of short flanged metal tubes K for securing the flanged gum or leather conducting tubes *d* to the drill frame, substantially as and for the purposes set forth.

No. 21,736.—Samuel Binkley, of Dublin, Indiana.—*Improvement in Grain Drills.*—Patent dated October 12, 1858.—A represents the hopper, having common apertures *a* in its bottom; B is the slide, perforated to correspond with the apertures in the bottom of the hopper; each aperture in the slide is bisected by a thin bar *b*, the bottom of which is on a level with the lower surface of the slide; *c c* are a number of spurs extending upward from the bar *b* to a level with the top of the slide; *d d* are angular protuberances from the slides of the slide apertures. E is the staple which confines the slide to the bottom of the hopper; this staple is provided with grooves *e*, which leave intervals between the slide and staple, immediately beneath the spaces between the protuberances *d* on the former, whereas said protuberances themselves are in close contact with the staple.

Claim.—The slide B, in the described combination with the grooved or corrugated staple E, for the purposes set forth.

No. 19,633.—Robert Hamilton, of Franklin, Ind.—*Improvement in Seed Drills.*—Patent dated March 16, 1858.—The seed is placed in the chamber C on top of the circular bottom I. The machine being set in motion, the lever D, being operated upon by the cam *c* on the axle, in turn operates the bar H, in the seed chamber, and causes it to have a quick, vibrating, lateral motion. The screws or stirrers J, operating in the slots in the bottom I, work the seed down through these slots and on each side of the bar H; it thus works under the bar H and out at the apertures in the bottom of the seed box, into the discharge spout, and thence to the ground.

Claim.—The peculiar arrangement of the circular bottom I, as prepared, with the vibrating bar H, pins J, sides F F, lever D, slide E, and cam *c*, all operated and constructed in the manner set forth and for the purpose described.

No. 19,617.—C. B. Brown, of Alton, Illinois.—*Improvement in Seed Drills.*—Patent dated March 16, 1858.—The nature of this invention consists in the employment of vertical, vibrating, serrated blades G, in combination with the slitted, flanged, or serrated drill-teeth F, for the purpose of cutting up and removing any weeds, grass, or stubble that may collect about and hang on the front of the drill-teeth while planting in foul ground.

The inventor says: I *claim*, first, the employment of vertical, vibrating, serrated blades G, in combination with the slitted flange or serrated drill-teeth F, substantially as and for the purposes set forth.

Second. The combination of the seed-distributor O, and clearing-blades G, and propelling axle C, by means of a double-acting rock-shaft I, three connecting rods H J *j*, two elbow levers *c i*, a crank shaft K and transverse slide P, and two spur wheels L M, substantially as and for the purposes set forth.

No. 19,808.—George S. Ball, of Dayton, Ohio, assignor to Benjamin Kuhns, of said Dayton.—*Improvement in Seed Drills.*—Patent dated March 30, 1858.—A is the slide, B the openings, C the clips on slide A, which are riveted or soldered on the slide. The slide A occupies a place between two other slides with corresponding openings. The clips C pass into the openings of the upper slide and present an uneven surface in the seed hopper of the drill, the lower being the shut-off slide, to stop the flow of seed from the hopper. The quantity of seed to be distributed is regulated by the screw *d* attached to the slide A.

The inventor says: I do not claim the upper or lower slide, such having been used before; but I *claim* the slide A with the attachment of the clips C, in combination with the slides D and E, the whole being arranged and operated in the manner and for the purposes set forth.

No. 19,924.—John Harris, of Shippensburg, Pennsylvania.—*Improvement in Seed Drills.*—Patent dated April 13, 1858.—This invention consists of a spring attachment for drill teeth, and by it provision is made so that the drill tooth may yield when it comes in contact with stumps and stones, and thus be saved from being broken, and then, after passing the obstruction, may spring forward to its original position.

Claim.—Having the spring bar, which is attached fast to the upper part of the main relief connecting bar B of the drill tooth A by one end, loosely connected at its other end to the upper end of the drill tooth by means of a curved hook on the tooth and a slot in itself, substantially as and for the purposes set forth.

No. 20,377.—John C. Stevens, of Lee, Massachusetts.—*Improvement in Seed Drills.*—Patent dated May 25, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not claim broadly the perforated and reciprocating seed slides *h*, for they have been used in various machines. But I *claim* connecting the bars or beams H to the frame of the machine by means of joints I J, arranged as shown, to prevent the front and converging ends of the boxes from coming in contact with each other when raised; and using in connexion with the bars or beams, thus hinged, a distributing mechanism, arranged substantially as shown, so that the distributing device will be thrown out of gear with the wheels G, simultaneously with the elevating of the bars or beams H, and consequently the teeth N.

No. 20,603.—M. C. Younglove, of Cleveland, Ohio.—*Improvement in Seed Drills.*—Patent dated June 15, 1858.—The seed cylinders I are each divided into two sections, I^1 and I^2; the section I^1 has an interior opening or space, to avoid weight of metal in the machine; the section I^2 has also an interior space, surrounded by fingers or projections S, with intervening spaces. On account of the sleeve journal *a*, which

is connected with the screw *c* and the axle H, it is impossible for the capacity of the seed cups to be changed by the resistance of the seed or other obstruction passing from the hopper to the seed cups.

Claim.—The connected series of compound pocketed seed cylinders I, in combination with the sliding sleeve journal *a*, and the adjusting screw *c*, the whole being arranged and operated substantially as set forth.

No. 20,946.—J. W. Kirk, of Rising Sun, Maryland.—*Improvement in Seed Drills.*—Patent dated July 20, 1858.—By the peculiar arrangement of duplicate discharge passages in the bottom of the hopper A, and in the distributing slide C, the grain is pushed in different directions. One stream does not interfere with the other, and is not liable to choke. The stream is more steady and constant, and the grain consequently is not so much bunched when deposited in the soil.

Claim.—A seed hopper which has at each point of discharge two passages arranged alongside, and one a little in advance of the other, and both used at the same time, in combination with a seed slide which has two passages similarly arranged, and of equal depth with each other, substantially as and for the purposes set forth.

No. 21,316.—O. H. S. Brumfield, of Centreville, Indiana.—*Improvement in Seed Drills.*—Patent dated August 31, 1858.—This invention consists in having a series of hooks or curved teeth attached to a rod, the ends of which are fitted in horizontal guides and connected to pitmans, which are attached to cranks; the parts being arranged so that the surface of the ground in front of the drill teeth will, as the machine is drawn along, have all obstructions removed, and the drill teeth thereby prevented from becoming choked or clogged.

Claim.—The teeth *a*, attached to the rod G, and placed between the drill teeth I, when said rod is operated by the pitman F and cranks E, so that the teeth *a* will have the reciprocating and rising and falling movement communicated to them as and for the purpose set forth.

No. 21,642.—Alexander Turner, of Franklin, Ind., assignor to Himself, Redden Bess, and H. Sloane, of same place.—*Improvement in Seed Drills.*—Patent dated September 28, 1858.—In the engravings A A^1 and B B^1 represent four seed boxes. These boxes are secured to a V-shaped frame, marked E E; the two parts of this frame are secured together at one end by means of a pin or pivot; cross bars F F are secured to them at the other end; a piece G covers these bars, and they are secured to it by means of bolts *s s*. Bars F F^1 are slotted, and bolts S S pass through these slots, and the bars are adjustable by means of them. The pieces of the frame E may thus be expanded at one end, so that the machine will cover more ground and at the same time increase the distance between the drill rows.

Claim.—The arrangement of the seed boxes A A and B B; the driving wheel C, secured as described; and the lever *a*, wheels *c* and *d*, rod *e*, and seed slides *f* f^1 and *g* g^1; the whole being constructed and operated in the manner and for the purpose described.

No. 21,715.—W. Irwin Willitts, of Milton, Ind.—*Improvement in Seed Drills.*—Patent dated October 5, 1858.—The nature of this invention consists in the combination and arrangement of seeding drill ploughs and corrugated rollers, making the frame to which the receding drill ploughs are attached adjustable, so that the grain may be buried at any required depth in the ground, by arranging the drill ploughs to work parallel, either with the ridges or depressions of the corrugated roller.

Claim.—The arrangement and combination of the corrugated roller A, the adjustable frame *z t e*, receding drill ploughs *t*, the supporting chains *c c*, and the hooks *h h*, all arranged and operating substantially as described for the purposes set forth.

No. 21,018.—Edward O. Bryden, of Lafayette, Ind.—*Improvement in Wheat Drills.*—Patent dated July 27, 1858.—The cutters H, as the machine passes along, cut the stalks and other things in the way of the teeth G, and prevent them from lodging and clogging the machine. Anything that may not be cut will be passed over by the rollers or cutters. The machine is expanded or contracted by operating the lever rod I and lever J, which forces out the bars C C by means of pitmans V V.

Claim.—The combination and arrangement of the cutters H H H H and teeth G G G G with the concentric holders D D D D and levers E E E E, and the combination and arrangement of the slides Q Q and *u u* and the levers P P with the pitmans O O and cranks *n n*, when constructed and operated as set forth.

No. 19,663.—John Van Doren, of Farm Ridge, Ill., assignor to Himself and B. Murray, of Ottawa, Ill.—*Improvement in Dumping Boxes for Agricultural Purposes.*—Patent dated March 16, 1858.—B D E G and B^1 D^1 E^1 G^1 are two pyramidal boxes, consisting of two sides, a bottom, and an end or part of an end, revolving horizontally on pivots A^1, and vertically on hinges C. N N are blocks, supporting boxes which also revolve on pivots A^1 horizontally. The blocks are supported by platform M, which revolves horizontally upon a spindle through the medium of suitable driving gear.

The inventor says: I wish it to be understood that I do not confine myself to the form thereof, nor to the precise manner of operating the same.

But I *claim* the right of varying their form and operation, in any manner substantially the same within the limits of the nature of the invention.

I claim the combination of the dumping boxes, constructed as described, with the blocks N and platform M, for the purposes set forth.

No. 22,076.—Albert Goodyear, 2d, of Hamden, Conn.—*Improvement in Automatic Feed-Boxes for Animals.*—Patent dated November 16, 1858.—The nature of this invention consists in attaching to, or combining with, a feeding trough or box such an arrangement of mechanical devices as will automatically open the said box by raising

the lid thereof, at such an hour or point of time as may be previously arranged or required.

Claim.—The arrangement of the box B, lid L, spring *l*, and catch *a*, with sliding plate K, dial D, notch *n*, and button E, united together substantially in the manner and for the purpose set forth.

No. 10,457.—Hartwick Von Unwerth, of Salem, Mass.—*Improvement in Garden Tools.*—Patent dated February 23, 1858.—In the engravings A is the weeder, and made of steel, malleable iron, or any suitable material. It is fastened to the handle B by means of screws or rivets 1, 2, 3. The inner edge of the weeder is made sharp, so as to cut all the way round to within a few inches of the handle. C is the trowel, being made in the same piece with the weeder A. B is the handle, ten or twelve inches long, and made of wood; *b* is a continuation of the handle bent or shaped, and forming the dibble.

Claim.—The combination of the weeder, trowel, and dibble, substantially as described and for the objects specified.

No. 21,700.—Sidney S. Rockwell, of Vermontville, Mich.—*Improvement in Machines for Cutting Root Grafts.*—Patent dated October 5, 1858.—To use this machine the operator places it before him, takes his seat, and places his foot upon the treadle H; the root or scion to be cut is placed in the groove in the table directly under the blades; then a motion of the foot downward brings down the gate, and the root or scion is cut in the manner required for grafting. Then by removing the foot from the treadle H, the spiral spring *a* brings up the gate to its former position.

Claim.—The arrangement of the shanks L L, and blades *a a*, and movable blades *x x*, in the manner specified and for the purposes set forth.

No. 20,196.—John De Rush, of St. Mary's, Ohio.—*Improvement in Grain-Cleaning Machines.*—Patent dated May 11, 1858.—This invention consists in the use of a beater and screen, constructed and arranged relatively with suction spouts A^1 L I M H and a fan F, whereby a machine exceedingly simple in its construction is obtained, and one that will separate smut, dirt, and all foreign substances from the grain.

Claim.—The scouring plates *e f*, fan F, and suction spouts A^1 L I M H, when combined and arranged relatively with each other, substantially as and for the purpose set forth.

No. 20,425.—Marquis L. Hall, of Bridgeport, Conn.—*Improvement in Grain-Cleaning Machines.*—Patent dated June 1, 1858.—H H represents the arrangement for scouring the grain. It is composed of flat steel strips or blades passing through an opening or slot I in the spindle F, at a suitable distance apart, and so kept by placing plates of metal between them. They are all secured by placing a key or wedge over the top of them in the slot.

Claim.—The arrangement of a series of flat steel springs or blades, placed horizontally and parallel with each other, and secured by a

wedge or key in a slot or opening in the spindle, constructed and operating in the manner and for the purpose described.

No. 20,899.—N. H. SHERBURNE, of Campton, Ill.—*Improvement in Grain-Cleaning Machines.*—Patent dated July 13, 1858.—The nature of this invention consists in constructing the machine with concentric fan chambers F F^1, containing fans driven in opposite directions, so as to produce two separate and distinct currents, the object being to effect the separation of oats and wheat previous to cleaning the wheat; this construction of fanning apparatus being used in connexion with a corrugation of the upper screen L.

Claim.—The concentric and opposite moving fans G G, constructed, arranged, and operating substantially as described, in combination with the corrugated head of the upper screen L, the whole operating as specified.

No. 21,662.—W. T. FISHER, of Cleveland, Tenn.—*Improved Grain-Cleaning Machine.*—Patent dated October 5, 1858.—This invention consists in the use of an oscillating blast spout and screws, a scouring device, stationary blast spouts, and a fan, whereby grain may be perfectly scoured, or cleaned and separated from all impurities.

Claim.—The oscillating blast and screen spout J, scourer G, blast spouts E F, and fan C, combined and arranged relatively with each other substantially as and for the purpose set forth.

No. 19,643.—JOHN LEIDY, of Lamar, Pa.—*Improvement in Grain Cradles.*—Patent dated March 16, 1858.—In the drawing A is a movable metallic plate, to which the fingers of the cradle are united by means of rods B and screws C, the rods serving to brace and keep the fingers in position. D is a shank attached firmly to the plate A, and, passing through a slot in the scythe snath, is held firmly therein by means of a thumb screw E

Claim.—The arrangement of plate A and its shank D with rods B and screws C, in the manner and for the purpose set forth.

No. 20,809.—JOHN P. MANNY, of Rockford, Ill.—*Improved Mode of Securing Grain in Bundles or Sheaves.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The use of a short band A, cut in suitable lengths for separate bundles, placed in proper position by hand, and automatically passed around the bundle and fastened by the expansion of the bundle when released, substantially in the manner set forth.

No. 20,581.—WILLIAM PARTRIDGE, jr. AND GEORGE W. SHAW, of Ellicott's Mills, Md.—*Improvement in Machines for Cleaning Grain.*—Patent dated June 15, 1858.—The grain on entering the machine falls upon the head H, and is thrown therefrom against the outer casing, and within range of the vertical beaters. The grain passes through the spike beaters G, in its transit to the bottom. When the grain enters the chamber C it encounters a blast of air, which passing through it carries the impurities up to the blast trunk T, and discharges them from spout R.

The inventors say: We *claim* the combination of the spike-studded beaters G upon drum D, with the notched and grooved dress of the outer casing, constructed as described, the whole arranged and operating together substantially as and for the purposes set forth.

We also claim the combination of the pan W, chamber C, channels I, and blast trunk T, adjustable by means of the vertically moving spout R attached to sliding breast piece *f*, arranged and operating substantially as set forth.

No. 20,923.—WILLIAM H. ORR, of Martin's Ferry, Ohio, assignor to WILLIAM M. GRIFFITHS & Co., of Martin's Ferry, aforesaid.—*Improvement in Machines for Cleaning Grain.*—Patent dated July 13, 1858.—The improvement in this machine consists in performing the labor heretofore done by an attendant by means of the auxiliary shaft K. The revolving shaft or roller K, furnished with any suitable number of straight or curved fingers on projections *o o o*, is placed immediately above the riddle N in the shoe G; said shaft or roller deriving its required motion from any convenient point, and being placed at or near the tail of the shoe, or at such point, as in consequence of the blast from the fan failing to blow off the chaff and other foreign matter, the apertures in the riddle become choked, causing an accumulation of chaff &c., and preventing the grain from passing through the apertures in the riddle.

Claim.—The application of the auxiliary shaft K, constructed in the manner and employed for the purpose described and set forth.

No. 21,036.—B. T. TRIMMER, of Rochester, N. Y.—*Improvement in Machines for Cleaning Grain.*—Patent dated July 27, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I *claim* giving the screens *a b d* an unequal, reversible, gyratory motion, for the purpose of neutralizing the centrifugal force of the grain, and retaining it in the centre thereof, in combination with the vertical vibratory motion, by means of the double reverse-acting cranks *n n*, cams *s*, and springs *m*, or their equivalents, arranged and operating substantially in the manner and for the purpose set forth.

I also claim the combination and arrangement of the blast generator B, triple blast tubes D E and F, and their valves *f h*, and movable diaphragm *s*, with the screen box J and return spouts P and Q, operating conjointly for separating, screening, and returning the grain, and for increasing, diminishing, and modifying the blasts for the various purposes required, substantially in the manner set forth.

I further claim the adjustable deflector R, in combination with the screen box J, for returning the lighter grain through the screens, and re-subjecting it to the blasts or discharging it as refuse, as described.

No. 19,140.—ASHMAN HALL, of Dansville, N. Y.—*Improvement in Grain Separators.*—Patent dated January 19, 1858.—This invention

consists in the employment of one of two shoes provided with screws, and arranged relatively with each other and a fan, so that the grain is conducted directly to the receptacle prepared to receive it, and is separated from foreign substances.

The inventor says: I do not claim any of the parts when separately considered.

Nor do I claim broadly the employment of two shoes in separating machines.

But I *claim* the relative arrangement of the two shoes D G, in respect to each other and to the fan C, the upper shoe D, swinging laterally, and communicating a horizontal motion to the lower shoe G by means of the lever H, and all the parts being arranged as set forth, for the purposes specified.

No. 19,899.—Josiah Turner, of Sunapee, N. H., assignor to Himself and Edmund Burke, of Newport, N. H.—*Improvement in Grain Separators.*—Patent dated April 6, 1858.—The nature of this invention consists in the application of an upward inclined revolving lattice straw-carrier, to change the motion of the straw and more thoroughly complete the separation of the grain from the straw and chaff; with which is combined a horizontal vibratory lattice, and a smaller adjustable lattice.

The inventor says: I do not claim the toothed cylinder A, or its accompanying toothed concave; nor do I claim any of the described devices separately.

But I do claim the upward inclined revolving straw-carrier S, in combination with the vibratory lattice S^2, and the adjustable lattice S^1, constructed and operating substantially in the manner as set forth and described.

No. 19,877.—Francis Schunko, of York, Pa.—*Improvement in Grain Separators.*—Patent dated April 6, 1858.—A series of sieves or screens are employed, and a blast-fan arranged relatively with each other, whereby the grain is not only sieved or screened in a perfect manner, but in its passage from one sieve or screen to the other is presented in the most favorable manner to the action of the blast from the fan, so that all the light substances will be blown away.

The inventor says: I do not claim separately any of the parts shown and described, for said parts or their equivalents have been previously used; but I am not aware that the parts have been arranged as herein shown, so that the screens could be inclined more or less as desired, the screens subjected to a jarring shake motion, and the grain subjected to the action of the blast during the principal part of the time occupied in its passage through the machine.

I claim the screens E I J, placed in adjustable frames F H, operated by the cam I^1, levers J^1 K^1, and springs *q t*, arranged relatively with each other and the fan C, spout or passage P, and boards G^1, substantially as shown and described for the purpose set forth.

No. 20,522.—Andrew J. Vandegrift, of Lexington, Ky.—*Improvement in Grain Separators.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the adjustable feeding tube I and distributor O within the wind trunk H, so that the grain may be fed in without allowing a draft or current of air to follow it, and so that the grain may be presented to the blast in thin sheets, and not have their gravitation affected by counter currents or eddies, or accelerated by falling upon each other or sliding down from above, sustantially in the manner and for the purpose set forth.

No. 20,735.—H. H. Seeley and Philander Griswold, of Hudson, Mich.—*Improvement in Grain Separators.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim operating the shoe B by means of the eccentric F^2, for this is a well known mechanical device, used for analogous purposes.

But we *claim* forming the fan box C of two parts *c d* and the fan D, made also in two parts, so as to have one portion of the fan for each compartment of the box, and having the slides F F attached to the box C, to regulate the admission of air into the opening *f*, between the parts *c d* of the fan box, the whole being arranged as and for the purpose specified.

No. 21,227.—L. Wilcox, of Hudson, Mich.—*Improvement in Grain Separators.*—Patent dated August 17, 1858.—The object of this invention is to augment the working capacity of a grain separator to a very considerable extent, by a novel arrangement of the screens, and operating said screens in a peculiar way; also by a novel feeding device placed in the hopper to agitate the grain and insure its proper presentation to the screens.

The inventor says: I *claim*, first, the reciprocating feeder bar G, provided with projections *k*, placed at the bottom of the hopper F and attached to the shoe E, substantially as and for the purpose set forth.

Second. The two sets of screens *e f* placed within one and the same shoe E, and arranged relatively with each other and the hopper F substantially as described, to operate as set forth.

Third. Giving the screens *e f* a vibratory movement independent of the shake motion of the shoe E through the medium of the rods *m m*, screens H, and rod *o*, substantially as described for the purpose set forth.

Fourth. The screen H attached to the shoe E by the rods *m n*, provided with the bars *s* and the rock bar *o*, for the purpose specified.

No. 21,383.—John D. Tifft, of Cuyahoga, Ohio.—*Improvement in Grain Separators.*—Patent dated August 31, 1858.—This invention consists in having the discharge orifice of the fan case provided with a segment slide, by which the side of the orifice may be regulated as occasion may require, and using in connexion with said slide an adjustable blast director, the whole so arranged as to answer for winnowing both large and small grain.

Claim.—The employment of a circular side valve H, in combina-

tion with the directing board J, when the parts are constructed and arranged as shown and described for the purposes set forth.

No. 21,877.—Aaron Foster, of Quincy, Ill.—*Improvement in Grain Separators.*—Patent dated October 26, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The arrangement of the annular receptacles *m* and *n*, in combination with the trumpet-shaped cone *o*, and also the employment of the interior of said cone as an additional receptacle, together, for the purpose of assorting the mixed grains after separation from the wheat, according to their respective qualities, substantially as described.

No. 21,945.—William R. Cox, of Delhi, Iowa.—*Improvement in Grain Separators.* Patent dated November 2, 1858.—This invention consists in the use of a series of suction blast spouts, provided with deflectors and attached to an inclined trunk, which communicates with a fan box, the several parts constructed and arranged in such relation to each other that dirt, chaff, and all foreign impurities may be separated from grain in a very expeditious and thorough manner.

This invention further consists in using in connexion with the above named parts a regulating valve attached to the inclined trunk and provided with a lever and weight, or their equivalents, in order to admit air into the trunk and reduce the strength of the blast thereon, in case it becomes too strong to act in the most efficient way on the grain.

The inventor says: I am aware that suction blast spouts have been arranged in various ways; and I therefore do not claim broadly the separating of dust, chaff, and other light impurities from grain, by subjecting the same to the action of a blast in passing through a spout or spouts.

But I *claim* the spouts E F, provided with the deflectors *c d*, connected by the trough I, and arranged relatively in respect to each other, and to the spout D and trunk A, substantially as and for the purpose set forth.

I further claim, in combination with the above, the loaded valve J, applied to the trunk A, and used in connexion with the spouts D E F, for the purpose specified.

No. 21,573.—Cyrus H. McCormick, of Chicago, Ill.—*Improvement in Machines for Cutting Grass, &c.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention. The inventor says: Disclaiming such combination of guard fingers and sickle as is shown in Jonathan Read's machine, patented March 12, 1842, what I *claim* is the combination of the sickle, having the scolloped or indented edge and serrated teeth, with a continuous series of fingers, having the back reversed angles for supporting the grain or grass to be cut to the edge of the sickle both above and below the edge, or above the edge only, substantially as described.

I also claim cutting out the middle of the upper parts of the fingers that project over the sickle as described, in combination with the vibrating sickle as described, for the purpose specified.

No. 22,212.—Elijah Wagner, of Westminster, Md.—*Improvement in Machines for Distributing Guano and other Fertilizers.*—Patent dated November 30, 1858. –The stirrer *d* and the feeder move in different directions, the one vertically and the other horizontally, and one moves faster that the other; thus, by means of uneven and of different motions, the guano is kept constantly open and is easily discharged. O is a cog wheel which is secured to the shaft connecting the carriage wheel, *p* is a cog wheel which is secured to the shaft or feed *e;* and motion is conveyed from *o* to *p* by means of the cog wheel *n*, which is in the hanger *m*.

Claim.—The combination of the stirrer *d* and feeder *e*, operated in different directions, the two being arranged in the manner and for the purpose specified.

No. 19,281.—Jabez Robins, of Leominster, Mass., assignor to Himself, Daniel K. Haines, and S. Richardson, of said Leominster.—*Improvement in Harrows.*—Patent dated February 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim a rotary wheel harrow, nor do I claim the application of a weight to the draught bar so as to rest on one side of the rotary wheel harrow, and by its pressure thereon cause the revolution of the wheel harrow while it is being drawn forward; nor do I claim a rotary wheel harrow made with its toothed rim in sections, as shown in the patent numbered 12,659, of the United States patents.

But I *claim* a rotary wheel harrow, as made with its tooth rim in sections adjustable with reference to the axis of the wheel, as specified, in order that the dimension of the wheel may be varied as set forth.

And with a wheel made adjustable as specified, I *claim* so applying the roller weight to its supporting arm, as to enable the weight to be adjusted nearer to or further from the centre of the wheel, and with reference to the adjustable rim, as stated.

No. 19,259 —Samuel J. Orange, of Grayville, Ill.—*Improvement in Harrows.*—Patent dated February 2, 1858.—A A are two circular harrows, which are connected by the beam or crossbar B and the bolts C. These bolts are firmly fixed in the beam B, and the harrows A are allowed to revolve upon them; the rollers *g* in the end of the bar B bear upon the arms of the harrows, and keep them in their position.

By placing the harrows a short distance apart, they may be used to advantage for cultivating corn before it becomes too large to allow the bar which connects the two harrows to pass over it.

The inventor says: I *claim* the combination of the two harrows A with the connecting bar B_1, or its equivalent, when the harrows are so hung as to produce, by their connexion with it and thereby with each other, a continued rotation of both harrows, substantially as set forth.

No. 19,489.—Orman Coe, of Port Washington, Wis.—*Improvement in Harrows.*—Patent dated March 2, 1858.—The nature of this invention consists in the combination with the bars of a harrow-frame A of a series of revolving, circular, concave, forked harrow teeth B B B; said teeth serving for breaking up, or pulverizing, and preparing the soil in a condition suitable for receiving the seed, and also for covering in seed.

Claim.—The combination with the bars A of a harrow-frame of a series of revolving, circular, conical or concave, forked harrow teeth; said teeth being arranged oblique to the line of draft, and operating unitedly, substantially as and for the purposes set forth.

No. 19,494.—William De Witt and O. D. Barrett, of Cleveland, Ohio.—*Improvement in Harrows.*—Patent dated March 2, 1858.—In the centre of the harrow A is the centre pin B fastened perpendicular to the frame of the harrow A by means of a screw, cut on its lower end, and two nuts. On the centre pin B, and movable around it horizontally, is the draught bar C, to which the team is attached by the hook D. Above the bar C, and movable like it around the centre pin B, is attached the weighted arm E, kept in its position perpendicular to the centre pin B by the brace F, attached and held at right angles to the bar C, on either side by the connecting rod H.

The inventors say: We are aware that the use of a weighted roller, or its equivalent, upon the periphery of a circular harrow, was patented by S. S. Hogle in March last. We do not claim the use of a weighted roller, or its equivalent, as specified by him.

But we *claim* the arrangement of centre pin B, draft bar C, arm E, weight G, with harrow A, in the manner and for the purpose specified.

No. 20,195.—Jonas C. Conkey, of Washington, Ohio.—*Improvement in Harrows.*—Patent dated May 11, 1858.—This invention relates to the hanging of two wheels to the axletree, by means of which the harrows can be converted into a truck for the purpose of transporting it from place to place. The upper side of the axletree C is cut away so as to admit the shank of the axle H; the shank part H is hinged to the axletree C by a hinge joint *i*. The axles H I are kept steady in a vertical position, while the harrow is at work, by the rod L.

Claim.—The combination of the hinge *i*, axl H I, and axletree C, when arranged in connexion with revolving harrows, as described, for the purpose set forth.

No. 20,325.—Vosco M. Chafee, of Grayville, Ill.—*Improvement in Harrows.*—Patent dated May 25, 1858.—This invention consists in the arrangement and construction of parts by which two rotary harrows A A, hung in the same frame, are made to overlap in their action without the agency of the third to cause them to do so, and also in the arrangement and construction of parts by which the distance they shall overlap may be adjusted.

Claim.—The combination of the side pieces D D^1, crossbars C, or their equivalents, with the rotary harrowing wheels, the parts being so arranged in connexion with each other substantially as described, to produce the result stated.

No. 20,410.—John S. Davis, of Washington, Ohio.—*Improvement in Harrows.*—Patent dated June 1, 1858.—The nature of this invention consists in such a construction of a harrow that it may be conveniently made portable and transported from place to place. The pieces C to which the revolving harrows are attached by the wrists B are placed in the position seen in fig. 1, when the harrow is to be used. This brings the harrows into a horizontal plane; and the key *a* being shoved back to its point, it there holds the tenon of the pieces C from pulling out of the holes in the end pieces D.

Claim.—The arrangement of the harrows A with the frame C D, the whole being constructed for operation conjointly in the manner and for the purpose set forth.

No. 21,113.—Addison Berdan, of Macon, Mich.—*Improvement in Harrows.*—Patent dated August 10, 1858.—The engraving represents a perspective view of the machine, exhibiting its several parts. A is the main frame, B the driving wheels, C the main shaft, D rachet wheel, E the pall, F a bevel wheel, G a pinion, H the shaft, I the crank, 1 the tongue, 3 the tongue supporter. U is the harrow frame attached to the main frame A by bolts *z* and arched bars *x*, which are secured to the frame U at Y; guides V, tooth bars T, projections W, connexion J, plate L, connexion M, oscillating lever O, connexion Q, and joint S.

Claim.—The combination of tooth bars T, having projections W, with guide V, oscillating lever O, and frame U, the whole being constructed, arranged and operated as set forth.

No. 21,153.—Jeremiah Routh and Abel Vaughn, of Grayville, Ill.—*Improvement in Harrows.*—Patent dated August 10, 1858.—This invention consists in two horizontal toothed wheels B B, with a vertical toothed wheel or wheels, and appropriate gearing, in such a manner that the resistance against the teeth of the vertical wheel shall give rotation to the horizontal wheels in opposite directions, and thus correct the side draft, without side dip of the horizontal wheels, as represented in the engravings.

Claim.—The inventors say: We are aware that various harrows have been devised in which rotary motion has been given to a horizontal harrowing wheel, by means of a vertical toothed wheel upon a horizontal shaft; said vertical wheel being so hung as to take hold of the soil in passing over it, and so geared to the horizontal harrowing wheel as to give it a rotary motion by its own rotation. This we do not claim.

We *claim* the combination of the vertical toothed wheel D with the horizontal toothed wheels B B, said wheels being connected by gearing as described; by which we secure the necessary rotation, without either side draft or dip of the horizontal wheels, as set forth.

No. 21,269.—Daniel B. Neal, of Mount Gilead, Ohio.—*Improvement in Harrows.*—Patent dated August 24, 1858.—The nature of this invention consists in the arrangement of the troughs and balls with the frame of the harrow.

Claim.—The arrangement of the troughs B and C (one oscillating and adjustable, the other being stationary, and both provided with balls) with a revolving harrow as described, substantially in the manner and for the purposes set forth.

No. 21,403.—David C. Ayres, of Lumberland, N. Y.—*Improvement in Harrows.*—Patent dated September 7, 1858.—This invention operates as follows: The cutters *c* serve the function of cutting sods and preventing trash from collecting on the teeth, while the globular projections *a a*, at the base of the cutters, crush the clods severed by the knives and act in conjunction therewith as pulverizers. These projections also serve the function of preventing the frame from dragging upon the ground when the teeth have sunk into the soil their full length.

The inventor says: I *claim* the combination of tubular piece B, globular projections *a*, cutters *c*, and teeth T, constructed, arranged and operating together as described.

No. 21,439.—Samuel J. Orange and George Beidelman, of Grayville, Ill.—*Improvement in Harrows.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the combination of the handles, or their equivalent, with the transverse beams D D, and rollers E E, and the circular frame A, substantially as described, by which we are enabled, by regulating the pressure on the handles, to guide the harrow in the line of the draft or deflect it, at pleasure.

No. 21,542.—Samuel White, of Penfield, Ohio, assignor to Harlow Herrick, of La Grange, Ohio.—*Improvement in Harrows.*—Patent dated September 14, 1858.—The nature of this invention consists in the arrangement of a series of diverging shafts, armed with teeth radiating from the centre of the shaft. Each end of every shaft is provided with a journal, and revolves either by the friction of its own teeth upon the ground, or by means of cog gears attached to a spur wheel. The diverging shafts are so arranged that they can be made to diverge more or less by means of an adjusting apparatus.

Claim.—The adjustable plates C C, in combination with the revolving shafts E E^1 E^2, and in connexion therewith the spur wheel K, all operating in the manner and for the purpose specified.

No. 19,365.—W. A. Horrall & R. G. Sirwell, of Grayville, Delaware.—*Improvement in Revolving Harrows.*—Patent dated February 16, 1858.—This invention consists in the employment of three wheels C C, having teeth and attached to a triangular frame A; two of the wheels being made adjustable, so that they may be brought nearer together or further from each other as required; all the wheels are

provided with pressure rollers so arranged as to insure their rotation with the forward movement of the machine, and at the same time allow a certain amount of vibratory motion in a vertical direction, so that they may conform to the inequalities of the ground over which they pass.

The inventors say: We do not claim the employment or use of horizontal toothed wheels, for they have been previously used.

But we *claim* the employment or use of three horizontal rotary toothed wheels C C E, arranged as shown, viz: the back wheel E, having a permanent axis, and the two front wheels C C, being rendered capable of lateral adjustment, so that the width of the harrow may be increased or diminished as desired, and the space or width of ground included between the outer edges of wheels C C perfectly pulverized.

We also claim the elastic bars D D F, provided with pressure rollers *i i j*, and bearing on their respective wheels C C E^1, substantially as described and for the purpose set forth.

No. 21,265.—William H. Main, of Liverpool, Ohio.—*Improvement in Rotary Harrows*—Patent dated August 24, 1858.—The nature of this invention consists in the construction of a harrow that may be used in combination with or separate from a seeding machine, so that when desirable the harrow may be used without the seeder.

Claim.—The manner described for causing the harrow to rotate, namely, by means of the standard E, the slat H^1 in the bar H, and spring K, operating in manner as set forth. Also the manner of raising the harrow from the ground by means of the adjustable bar H and recesses L L, as described. These several devices combined as described are claimed in combination with a seeding machine, for the purposes set forth.

No. 21,580.—Salathiel S. Thompson, of Heller's Corners, Indiana.—*Improvement in Rotary Harrows.*—Patent dated September 21, 1858.—This invention consists in attaching two harrow wheels to a frame constructed and arranged in a novel way, whereby the wheels may be adjusted in a perfectly horizontal plane, so that they will, as the implement is drawn along, remain stationary or have no rotary motion, and also be rendered capable of being adjusted more or less in an inclined position, so as to obtain by the draught movement a greater or less rapid rotation of the wheels as may be required.

The inventor says: I am aware that rotary harrows have been previously invented, and I therefore do not claim broadly rotary toothed wheels for such purpose.

But I *claim* attaching the toothed wheels D D to the frame A, formed of the bars *d d*, hinged together or connected at their front ends by a swivel joint *a*, and having their back parts attached to bars e^1 e^1, connected by a pivot *f*, and secured in proper position by the segments *g* and pins g^1, substantially as and for the purpose set forth.

No. 21,577.—Jabez Robins, of Boston, Mass.—*Improvement in Rotary Harrows.*—Patent dated September 21, 1858.—This invention

consists in the employment of two annular rotating harrows placed one within the other, connected in a peculiar way, and provided with weights and a draught beam, the whole being arranged so that a very simple and efficient implement is obtained.

Claim.—The two harrows A C placed one within the other, and connected by the concave rollers *d* and bead *l*, in connexion with the draught beam D and frames E F, provided with the rollers or weights G H, the whole being arranged substantially as and for the purpose set forth.

No. 22,026.—William H. Main, of Liverpool, Ohio.—*Improvement in Rotary Harrows.*—Patent dated November 9, 1858.—The nature of this invention consists in so arranging the driver's seat with respect to the harrow and to the point of draught, that the weight of the driver thereon shall rotate the harrow; and so that by a change in the position of the driver on the seat the teeth of the harrow will be caused to press deeper into the ground, or will press lighter, so as to break up the ground more or less, as circumstances may require; also so that by a change in the position of the seat the harrow shall rotate either to the right or left.

Claim.—The combination of the arm or centre pin B, draught bar or plattform D, with the seat C, substantially as arranged, for the purpose of causing the harrow to rotate by the weight of the person on the seat.

No. 19,055.—Jesse Whitehead, of Manchester, Va.—*Improvement in Harvesters.*—Patent dated January 5, 1858.—The nature of this invention consists in making the bearing wheel D, which is at the end of the machine nearest the standing grain, of such a formation as will admit of a part of the rim of such wheel being in front of the cutting knives C.

The inventor says: I am aware that concave wheels have been used heretofore on harvesters, therefore I make no claim to a concave wheel as such.

But I *claim* the concave supporting wheel D, constructed and located as shown and described, in combination with the recess in the shoe for receiving the rim of said supporting wheel, the whole being constructed in the manner and for the purposes set forth.

No. 19,137 —Ezra Emmert, of Franklin Grove, Ill.—*Improvement in Harvesters.*—Patent dated January 19, 1858.—This invention consists in the use of a peculiarly constructed endless apron F, retaining hooks J J, receiving hook L, and binder's plattform M, whereby the cut grain is removed from the plattform, and retained at one end until a sufficient quantity is collected to form a sheaf, and then allowed to be readily taken from the receiving plate for binding.

Claim.—The peculiarly constructed apron F and retaining hooks J J, in combination with the binding hooks L and plattform M, the whole being constructed and arranged for joint operation in the manner and for the purposes set forth.

No. 19,218.—Samuel W. Tyler, of Greenwich, New York.—*Improvement in Harvesters.*—Patent dated January 26, 1858.—The actuating wheel A is secured to the centre of the axle F, and has a zigzag groove formed in its periphery, which enables it to impart motion to the cutter blade by means of the pendulous lever *e* and the pitman *g*. The pendulous lever *e* is jointed to the standard *d*, which rises from its connexion with the central beam *f* of the frame of the machine. The foot of the standard *d* fits into a groove whose sides are formed by the cheeks *p p*, which are bolted to the beam *f*, and the foot of the standard *d* is also jointed to the horizontal lever *h*, which is placed immediately in front of the cross-beam *f*, and is jointed to a projection from said beam.

Claim.—The sliding head-piece *a*, to which the inner end of the finger-bar is hinged, in combination with the levers *h* and *m*, the movable standard *d*, the pendulous lever *e*, and driving wheel A, when the said parts are arranged for joint operation in the manner and for the purposes set forth.

No. 19,298.—M. G. Hubbard, of Penn Yan, New York.—*Improvement in Harvesters.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The attachment of the spring directly to the finger-bar, and placing the shoe on one side thereof and directly in the track of the supporting wheel, as specifically set forth.

No. 19,377.—Frederick Nishwitz, of Brooklyn, New York.—*Improvement in Harvesters.*—Patent dated February 16, 1858.—To the back end of the draught pole E the lower end of a lever H is pivoted at *c*. This lever has a cord or chain *d* attached to it about its centre, passing over a pulley *e* in the pole E, and attached to the front end of the frame A. A pawl, I, is attached to the lever H, which catches behind a plate J (when the lever H is drawn fully back) fitted in the pole E; and on the front end of a small lever *f* a stop K is attached to the plate J, and secured by a screw *h*. When the upper end of the lever H is drawn back, the pawl I will catch behind the plate J, and the cord *d* will elevate the front end of frame A.

Claim.—The lever H, attached to the draught pole E, and connected by the cord or chain *d* to the front end of the frame A, in connexion with the pawl, lever *f*, and adjustable stop *k*, the whole being arranged to operate as and for the purpose set forth.

No. 19,344.—Albert D. Briggs, of Springfield, Massachusetts.—*Improvement in Harvesters.*—Patent dated February 16, 1858.—The object of this invention is to separate the cut grain, while being discharged in proper quantities from the machine to form sheaves or gavels, from the grain being cut, so that the latter cannot become mixed with the former and prevent the proper discharge thereof from the machine at regular intervals, and in a compact and perfect manner, the grain being discharged from the machine either automatically or manually.

Claim.—The combination of the intermittingly vibrating gate H,

intermittingly moving apron E, and adjustable plates E^1 E^1, placed over the apron E, arranged as shown, so as to operate as and for the purpose set forth.

No. 19,447.—Charles Roberts, of Livonia, New York.—*Improvements in Harvesters.*—Patent dated February 23, 1858.—As the machine is drawn along, the fingers *d d*^{1} pass between the straws just below the heads containing the grain; and the grain is detached from the heads as the latter touch the front edge of concave H, by the teeth *e* of the cylinder I. The grain is carried up into the separator K by the apron L, and is winnowed therein, the clean grain passing into the lower end of the trough M, and the elevators *k*^{1} carrying it up and discharging it into a bag placed below the upper end of the trough M. The fingers *d d*^{1} are raised or lowered to the desired height by operating the windlass E.

The inventor says: I do not claim separately the separator K, for that is in common use. Nor do I claim broadly a toothed cylinder and concave, irrespective of the arrangement shown and described.

But I *claim* the arrangement and combination of the peculiarly curved teeth *d d*^{1}, concave H, elevator L, separator K, and elevator M, as and for the purposes set forth.

No. 19,411.—George S. Curtis, of Chicago, Ill.—*Improvement in Harvesters.*—Patent dated February 23, 1858.—The nature of this invention consists in a curved vibrating stirrup G, suspended within the circle of the driving wheel B; the stirrup is forked *g g*, and has two friction rollers H H, which run on opposite sides of a serpentine cam C, in a manner to give a regular reciprocating motion to the cutter bar, and, owing to being curved, is peculiarly adapted for use in combination with the slotted pillar blocks E, which support the driving wheel B, and adjust the height of the cutter.

Claim.—The stirrup G for vibrating the cutter bar, when made of circular form at *h*, and with two prongs or bearings *g g* at its upper end, two side bearings *h*^{1}, and an extension *i*; and when said stirrup is arranged astride the zigzag cam C, and to vibrate laterally on a pivot of a curved overhanging standard F, and operating in rotation to, and in combination with, the slotted pillar blocks E, substantially as and for the purposes set forth.

No. 19,463.—Benjamin Yeakel, of Allentown, New York.—*Improvement in Harvesters.*—Patent dated February 23, 1858.—A is the frame work, B the tongue, with a roller C to relieve the draught of the horses; D is an oil box attached to the pitman E, which is self-oiling, for the purpose of making the pitman (which operates the cutters F) work easier and freer. The cutters F are made with a plain or sickle edge. The cutters R are attached to the sides of the teeth Q with screws or rivets, and can be made broader or narrower as may be required. The guard S above is to prevent choking.

Claim.—The combination of the finger Q, cutters R, and guard S, arranged and constructed substantially as described.

No. 19,422.—Charles Howell, of Cleveland, Ohio.—*Improvement in Harvesters.*—Patent dated February 23, 1858.—The nature of this improvement consists in so arranging and combining a raker's or driver's seat, of peculiar construction, with the machine, so that he can throw his weight either towards or from the finger-bar, or on either side of the driving-wheel.

Claim.—The revolving seat, when arranged in the manner substantially as and for the purposes set forth.

No. 19,442.—Hamilton A. Parkhurst, of Fairfield, New York.—*Improvements in Harvesters.*—Patent dated February 23, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim connecting the finger-bar to the main frame by a hinge joint.

Neither do I claim a double-jointed coupling-piece.

But I *claim* connecting the finger-bar to the main frame by means of the intermediate frame B^1 O and O^1, the same being hinged to the front and rear cross-timbers of the main frame, in a line, or nearly so, with the crank-shaft, for the purpose of relieving the drag of the finger-bar upon the ground, and allowing it to conform to uneven surfaces without varying the throw of the cutters through the guards, substantially as set forth.

Second. I claim the arrangement of the mechanism, as described, for the purpose of raising and lowering the main frame of the machine.

Third. I claim making the finger-bar in the "ogee" form, so that the base of the guards may be placed upon and fastened to the upper side thereof, and at the same time support the cutter-bar in rear of the front curve of the finger-bar, substantially as set forth.

No. 19,552.—Isaac Van Doren, of Somerville, New Jersey.—*Improvement in Harvesters.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that sickle-beams have been constructed with a sort of cap to protect reversible knives; and therefore I do not generally claim so constructing the sickle-beam as merely to furnish a cap for the sickle.

But I *claim* the arrangement and construction of a sickle-beam, substantially as described, so that it shall hold and keep firm the guard-fingers, and also by means of the arched lip C keep the teeth close to the fingers, and permit the use of an open guard.

No. 19,486.—Willis L. Childs, of Piermont, N. Y.—*Improvement in Harvesters.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arm P, bars T W, and slide U, operated and arranged as shown, or in any equivalent way, so that, by their joint operation, the twine or cord *a*^{1} is adjusted around the sheaf, cut off from the main portion, and the ends twisted and tucked under the band, as described.

I also claim, in combination with the above binding device, the rake G, operated as shown, so as to have a proper relative movement with the parts constituting the binding device, as described, whereby the cut grain is raked into the receptacle Y at the proper time.

I further claim the discharging device formed of the lever Z, actuated from the axle M, through the medium of the lever B^1 and rod C^1, when used in connexion with the rake and binding device, as described.

No. 19,483.—J. S. Butterfield, of Philadelphia, Pa.—*Improvement in Harvesters.*—Patent dated March 2, 1858.—This invention consists in a peculiar manner of hanging and arranging the reel, the means employed for raising and lowering the sickle, and also in the device employed for driving the same; the sickle is capable of being graduated as circumstances require.

The inventor says: I *claim*, first, the reversible cam Q, constructed as shown, namely, with the grooves *i k* in opposite sides, so that the sickle may be driven with either of two different speeds, for the cutting of either grass or grain, as may be desired.

Second. The bars E E F, with the finger-bar J and platform K attached, in combination with the lever G and wheel H; the whole being constructed as described, and arranged relatively with each other and the axle A as shown, for the purpose set forth.

No. 19,590.—Henry C. Smith, of Cleveland, Ohio.—*Improvements in Harvesters.*—Patent dated March 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim any of the devices named and described as new, in themselves considered, or detached from each other. But what distinguishes my improvement from all others relates to the manner of elevating and depressing the cutter-bar by means set forth, and also in giving any desired pitch to the fingers, or keeping them in a horizontal position, by means of changing the relative position of the neap, in reference to the frame D and drag-bars E E, and at the same time changing the point of draught, as the nature of the case may require.

I *claim* the manner described of raising and lowering the cutter-bar by the combined action of the levers H I J, the flexible rod or cord P P^1, levers R R^1, and wheel S; this I claim when constructed and relatively arranged and operating as described, and also when used in connexion with the drag-bars E E, articulating upon the axle C, as set forth, for the purpose specified.

No. 19,703.—John M. Long, Peter Black, and Robert Allstatter, of Hamilton, Ohio.—*Improvement in Harvesters.*—Patent dated March 23, 1858.—The machine is supported by wheels W W^1; the axle *a* of the former being secured to the box *b*, movable in the curved slot *c* of a guide-piece *d*, secured to the gear support A of the main frame. The box *b* is secured to the guide-piece *d* by a nut *e* on the end of axle *a*. The lever *l*, secured to the box, serves to move the box in its guides *d* when nut *e* is loosened. The stay-rod G gives great stiffness to the bar E above it, and prevents it from sinking when the weight of the platform and raker comes upon it; the rod passes through two eyes *m m* at the extremities of depending staples in the under side of the bar.

The inventors say: We *claim*, first, the combination of the lever-box *b*, guide-piece *d*, and short axle *a*, with nut and screw, constructed, arranged, and operating substantially as and for the purpose set forth.

Second. The stay-rod G, in combination with the bar E, substantially as and for the purposes set forth.

Third. Supporting the rear of the platform by suspension from the stay-rod, substantially as and for the purposes described.

No. 19,803.—William Van Anden, of Poughkeepsie, N. Y.—*Improvement in Harvesters.*—Patent dated March 30, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I *claim* the use of a rectilinear spring, in combination with the detent cam J, having guides K^1 and K^2 on the face thereof, for the purpose of actuating the cutter of a harvester-machine endwise in opposite directions from a state of rest by the impulsive stroke of the spring, which said spring is charged by its opposite curvatures while the cutter remains at rest; the said parts being made and operated substantially as set forth.

Second. I also claim the employment and use of the cam-wheel J, having on its face guides K^1 and K^2, substantially as set forth, in combination with a crank-shaft, for the purpose of giving two vibrations to the cutter to one revolution of the cam-wheel, substantially as described.

Third. I also claim the combination of the spring, (or springs, as may be used,) with the cam-wheel, crank-shaft, and vibrating lever attached to the cutters for the purpose of operating the same, substantially in the manner set forth.

No. 19,749.—George E. Chenoweth, of Baltimore, Md.—*Improvement in Harvesters.*—Patent dated March 30, 1858.—The operation is as follows: As the drum D D revolves, driven by the spur-gearing G G, it communicates a reciprocating motion to the pin P and the slide-bar B B attached to it. This bar, being attached to the knife-bar K K, imparts a corresponding motion to the knives.

Claim.—Compensating for the wear of the worm or groove in the driving cylinder, by making the parts of that cylinder adjustable, as described, thus giving increased certainty to the action of the cutters.

No. 19,884.—Isaac Van Doren, of New York, N. Y.—*Improvement in Harvesters.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim elevating the sickle by means of a plate or part swinging on a centre, and moving in a circle, and carrying the sickle with it, this having been done by W. A. Kerby in his invention, patented 1856.

But I *claim* the arrangement and connexion of the movable part E with the fixed part B, by means of the two connecting curves 3 and

4, or their equivalent, to secure proper motion to the part E without any necessary support or connexion from the centre G.

I also claim, in combination with the parts B and E, the secondary movable part K, substantially as described, to bring the sickle, whatever its position on the curve B, level with the cutting surface.

I also claim, in combination with the parts B E and K, the use and application of the universal joint C, in connecting the sickle lever to the machine, substantially as described, to allow of the change in the position of the sickle, in the manner described.

No. 19,864.—W. K. Miller, of Canton, Ohio.—*Improvement in Harvesters.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim to have invented the separate features of balancing the cutter-bar and its appendages upon a supporting shoe or roller, nor of hinging the same to the central axis around which the tongue or hounds of the machine turn, nor of arranging the central line of draught so as to more nearly equalize the resistance in drawing on both sides thereof; as I am aware that such, in different connexions, are not new.

But I *claim* the combination of the draw-bar F F and cutter-bar P, when the same are balanced upon the sustaining-shoe R, and hinged to the axle of the driving-wheel A, distinct from the hounds of the draught tongue, as described, with the tongue H so attached that the line of its draught will be equidistant from the central longitudinal lines of the driving-wheel A and sustaining-shoe R, the several parts being constructed and arranged with respect to each other as set forth, for the purpose specified.

No. 19,919.—Davis W. Entrikin and Levis H. Davis, of Westchester, Pa.—*Improvement in Harvesters.*—Patent dated April 13, 1858.—This improvement has reference to the manner of elevating and lowering the cutter-bar, and to the manner of throwing the cutting apparatus into and out of gear. The machine is constructed with the side-pieces of the frame extending rearward and permitting the bolting of piece M either upon their upper or lower faces, the same bolts serving for both positions of the bar; the upper and lower faces of the side-pieces being respectively on the same level, and in every respect prepared for the reception of the bar.

The inventors say: We *claim*, first, the combination of shaft K, curved attachment D, lever *l*, pulley G, tongue C, and ratchet H, substantially as and for the purpose set forth.

Second. The combination of the slotted side-piece upon the main axle with the crank working in said slot, substantially as and for the purpose set forth.

Third. The combination of the rollers *p p*, above and below the tongue, with the vertical plates *j z*, as and for the purposes specified.

No 19,999.—Henry Marcellus, of Amsterdam, N. Y.—*Improvement in Harvesters.*—Patent dated April 20, 1858.—This invention relates to an improvement in that class of harvesters in which a pole

plank is employed to serve as a rest for a lever by which the cutting device is raised and lowered. The invention consists in attaching the draught pole to the pole plank at a point intermediate between the caster wheel and the outer end of the pole plank and the point where the pole plank is connected with the machine.

The inventor says: I do not claim the pole plank E, with caster wheel G attached, for relieving the draught pole of the weight of the front end of the machine when the sickle is raised, for that has been previously used.

Nor do I claim attaching the draught pole to the pole plank irrespective of the particular arrangement, or the point where the pole is attached, as shown and described.

But I *claim* connecting the draught bars *a a* of the draught pole to the pole plank E at a point intermediate between its caster wheel G at the front end of the pole plank and the point of connexion of the pole plank with the machine, substantially as shown and described, for the purpose set forth.

No. 20,050.—R. Dutton, of Dayton, Ohio.—*Improvement in Harvesters.*—Patent dated April 27, 1858.—This invention is designed to facilitate and render convenient the raising and lowering of the platform and cutter-bar of reapers and mowers.

Claim.—The employment of the loose hollow sliding sleeve G between the hub of the driving-wheel and the short axle F, in combination with the slotted segment C, on the side of the platform, and the adjustable axle F, when the slotted segment is provided on one of its inner sides with the cogs *c*, and the axle with pinion *b* on its inner and screw thread *f* and adjusting jamb nuts *h i* on its outer end; the several parts being arranged to operate substantially as and for the purpose set forth.

No. 20,080.—J. B. McCormick, of Versailles, Kentucky.—*Improvement in Harvesters.*—Patent dated April 27, 1858.—This is an improvement on the mode of discharging the cut grain or hemp from a machine patented by this inventor June 2, 1857. Its object is to facilitate the manual work or process so that the material is discharged upon the ground in compact gavels, two at a time.

The inventor says: I do not claim a rod K placed on bars and so manipulated by the attendant as to form an adjustable or movable rest or platform for the ready discharge of the cut grain or hemp in gavels; for such device has been used in connexion with certain concomitant parts, and was formerly patented by me.

But I *claim* the separator H^1, formed of the bar H and rods *d d*, in combination with the adjustable rod K, bars I I^1, one or more seat D, and reel provided with concave beaters, when the several parts are constructed, relatively arranged, and operated as and for the purpose set forth.

No. 20,152.—R. H. Fisher, of Claremont, New Hampshire.—*Improvement in Harvesters.*—Patent dated May 4, 1858.—In this harvester the frame A is so arranged that it may be readily raised or lowered,

and the mechanism which operates the sickle J thrown in and out of gear with the greatest facility. The finger-bar P is attached in the main frame in a new way, so that the front edge of the finger-bar and sickle may be more or less elevated, as circumstances require.

The inventor says: I *claim*, first, mounting the main frame A on the axle B, so that the frame may slide freely thereon, in connexion with the spirally slotted collar K, placed on the axle, and receiving a pin *k* attached to the axle, substantially as shown and described, whereby the mechanism which operates the sickle may, when desired, be readily thrown in and out of gear with the driving-wheel.

Second. Raising and lowering the sickle J by means of the pulley M placed loosely on the axle B, and the chain *l* attached to the back part of the main frame and to the pulley, substantially as described.

Third. Attaching the finger-bar P to the main frame A, by overlapping the end of the finger-bar and the lower end-piece *n* of the main frame, the finger-bar resting on a semi-spherical projection *o* on the end-piece, and adjusted by the screws *p*, substantially as and for the purpose set forth.

No. 20,180.—Lewis Miller, of Canton, Ohio, assignor to C. Aultman & Co., of said Canton.—*Improvement in Harvesters.*—Patent dated May 4, 1858.—This invention consists in so hanging and bracing the cutter or finger bar of a mowing-machine to the main frame as that, whilst it is sufficiently rigid to withstand all the resistance against it when the machine is in operation, yet it may be raised up, folded over, and rested upon the main frame.

The inventor says: I *claim* so hinging the bar or beam which carries the cutters and fingers to the beam L as that it may be raised up, folded over, and carried upon the main frame, substantially as described.

I also claim, in combination with the beam L, hinged as described, the braces N S, rigidly connected therewith, but hinged at their opposite ends, so that the beam L may rise and fall at pleasure, but be permanently braced in its proper position to give the cutter and finger bars or beams, in turn, their proper working position, as described and represented.

No. 20,181.—Lewis Miller, of Canton, Ohio, assignor to C. Aultman & Co., of said Canton.—*Improvement in Harvesters.*—Patent dated May 4, 1858.—To the bottom of the shoe A is attached a sole or runner *a* which is fixed to the toe of the shoe. A lug *b* is connected to the shoe, which receives a screw *c* that passes through one of a series of adjustable holes in the bent-up end of said shoe. B is the inner shoe with a supporting adjustable wheel C in the front part and in advance of the shoe, so that the said wheel will have rolled or passed over the cut grass before the shoe come to it.

Claim.—In connexion with the inner shoe, an adjustable supporting wheel, when said wheel is in advance of the point of the divider or shoe, as set forth.

No. 20,182.—Lewis Miller, of Canton, Ohio, assignor to C Aultman & Co., of said Canton.—*Improvement in Harvesters.*—Patent dated May 4, 1858.—The platform C is hinged to the main frame A at its front and rear by the beams D. F is the outside reel-post connected to the platform, and G the inner reel-post connected to main frame. The journal *b* of the reel-shaft H is supported and rotates in the reel-post F, but its other journal *c* is square and passes through a corresponding square opening through a ball or eye *d* that will maintain the plane of the longitudinal axis of the reel-shaft.

Claim.—So combining a reel with a platform and main frame that are hinged together, as that the raising and lowering of either shall not in anywise injuriously affect the rotation and uniform action of the reel, or change its position with regard to the cutters, for the purpose and in the manner substantially as described.

No. 20,221.—Oren Stoddard, of Busti, N. Y.—*Improvement in Harvesters.*—Patent dated May 11, 1858 —This invention consists in the use of a supplementary sickle D attached to the shoe A at the outer end of the cutter-bar B, and arranged so as to be operated from any of the usual reciprocating sickles, and at the same time to cut vertically and at right angles with the sickle proper. The object of the invention is to cause the cut grass or grain to be perfectly divided from the standing grass or grain, so that a clean, close, and even swat h is obtained, and a free path for the team.

Claim.—The supplementary sickle D connected with the ickles proper C, and placed relatively with the sickle C so as to operate as and for the purpose set forth.

No. 20,225.—Henry C. Smith, of Cleveland, Ohio.—*Improvement in Harvesters.*—Patent dated May 11, 1858 —The rabbet or groove *c* in the heel of the cutter-bar is for the purpose of preventing the flexible rod from being interfered with by cut grass or other obstructions. The nature of this invention will be further understood by reference to the claim and engravings.

The inventor says: I *claim* the application of the intermediate wheel X at the end of the finger-bar, when used in combination with the curved lever Y and flexible rod W, arranged and operating substantially as specified.

I claim also the stops *a a* connected to the frame and placed in such position to the line of draught as will tend to counteract the dragging of the guards or finger-bar upon the ground, when hinged to the axle of the driving-wheel by the arms M M^1, substantially in the manner and for the purpose described.

I claim also the steps *d* d^1 in combination with the spurs *f f* attached to the arms M M^1, for the purpose of raising the cutter-bar in connexion with the described system of leverage, as set forth.

Also, I claim the rabbet groove *c* formed in the heel of the cutter-bar in the manner and for the purpose described.

No. 20,227.—John S. Troxel, of Mount Pleasant, Pa.—*Improvement in Harvesters.*—Patent dated May 11, 1858.—In this invention

any reel-post at the outer end of the reel is dispensed with, by means of the revolving yoke lever C being hung on main shaft. Yoke lever C is adjustable by means of slot F in lever E and connecting-rod G and bolt *c*. The line of the blades is changed by means of the movable rear arms of the reel and the bolt T passing through both sets of arms and the metallic plate.

Claim.—Hanging and operating reels for harvesters on the main shaft by means of yoke lever C and slotted lever E, rod G and movable arms L, slotted blades *d*, pulley and strap *b* and slotted plate B, with screw bolt T, as set forth and described.

No. 20,191.—C. B. Brown, of Alton, Ill —*Improvement in Harvesters.*—Patent dated May 11, 1858.—This invention consists in the employment or use of an endless apron F and guide-rods I K, arranged or placed relatively with each other and the sickle or cutting device, whereby the hemp, as it is cut and one swath is formed, is conveyed back from the sickle and deposited on the ground at a sufficient distance from the standing hemp to allow an unobstructed walk or track for the team when the succeeding swath is being formed.

The inventor says: I am aware that endless aprons have been applied to harvesters, and arranged in various ways, for the purpose of discharging the cut grain therefrom.

But I am not aware that an apron has been arranged as shown, and used in connexion with guides, so as to discharge the cut hemp at a distance from the standing hemp, in order to form an unobstructed track for the team. I do not claim, therefore, an endless apron, separately considered, or independent of the arrangement shown.

But I *claim* placing the endless apron F in an oblique position with the sickle E, so as to operate as and for the purpose set forth.

I also claim the endless apron F, in combination with the guide-rods I K and sickle E, when the several parts are placed relatively with each other, as shown, so as to operate as and for the purpose specified.

No. 20,271.—Martin Hallenbeck, of Albany, N. Y.—*Improvement in Harvesters.*—Patent dated May 18, 1858.—The tail-bar C is attached to the bar A by a strong hinge *a*, which permits it to be moved up and down. From near the point of junction of bars C and A a stout arm or lever Y is carried up to near the front end of the bar A, and then attached to an arm or arc *x*. A small wheel V is attached to the bar C, outside of the hinge *a*, to support the rear of the machine and steady the heel-bar.

Claim.—The tail-bar C hinged to the bar A, as described, and having the supporting wheel V at its near end, in combination with the lever Y, for adjusting the inclination of the cutters, when these several parts are constructed, arranged, and operated in the manner and for the purpose set forth.

No. 20,272.—Martin Hallenbeck, of Albany, N. Y.—*Improvement in Harvesters.*—Patent dated May 18, 1858.—The bar E traverses in a groove separated from the heel-bar G by a flange of metal *t*, which rises as high as the upper surface of the cutter. To the top of the cutters coupling slides *m* are attached, serving the purpose of fastening the knives or cutters to the bar and to each other, and strengthening the cutters.

Claim.—The coupling bars *m*, as described, and for the purposes set forth; the cutters fitted to move the level of the heel-bar, in combination with the separate guide caps and coupling bars. The above improvements I claim, substantially as described and for the purposes set forth in the specification.

No. 20,334.—J. H. Conklin, of Rockford, Ill.—*Improvement in Harvesters.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the vibrating divider G, in combination with the cutting apparatus, substantially as described, whereby the grain is gathered into the cutters E E, in order that the parts of the machine following after may perfectly clear the standing grain, as described.

Second. The curved or turned up and slotted ends of the finger-bar *e*, as set forth, in combination with a vibrating lever S, as and for the purpose specified.

No 20,394 —William H. Seymour and Henry Pease, of Brockport, New York, assignor to William H. Seymour and Dayton S. Morgan, of said Brockport.—*Improvement in Harvesters.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

We do not claim hinging the tongue to the frame of the machine, nor supporting it between guides, nor raising and lowering the cutter by elevating and depressing the rear end of the tongue when the latter is combined with a lever, screw, windlass, or other similar contrivance to aid the attendant of the machine in raising and lowering the end of the tongue.

But we *claim* the arrangement of the tongue D on a pivot in advance of the cutter, and in a guide E provided with a detent in rear of the cutter; the whole being arranged as described, so that the attendant can conveniently and readily by means of the link E raise the cutter by lifting directly the rear end of the tongue, as set forth.

No. 20,416.—Andrew B. J. Flowers, of Greenfield, Indiana.—*Improvement in Harvesters.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* attaching the frame or platform G and wheel C to a frame A, substantially as shown, so that both may be turned or cramped by the driver from his seat B, for the purpose of allowing the machine to be turned within a small compass.

I also claim operating the sickle J from the driving-wheel C, by means of the shafts *w* C^1 3, connected by universal joints d^1, and attached to their respective frames, when said shafts, thus jointed or

connected, are used in combination with the arrangement of the driving-wheel and platform, so that the whole may operate conjointly, as described.

No. 20,457.—D. B. Waite, of Spring Water, New York.—*Improvement in Harvesters.*—Patent dated June 1, 1858.—This invention consists in a novel arrangement of means for operating the cutting device, and an arrangement of parts for raising and lowering the same; also, in a peculiar arrangement of parts, whereby the device by which the cutting device is operated may be readily thrown in and out of gear. The invention further consists in a peculiar means employed for regulating or controlling the draught pole as regards its vertical motion or position.

The inventor says: I *claim*, first, operating the sickles *m m* by means of the levers L L, attached to the bar H, the rods *n n*, and lever M, actuated by the cam O, the parts being combined and arranged relatively with each other, substantially as described.

Second. Attaching the sickles *m m* to the adjustable bar H, arranged as shown, and used in connexion with the lever I, whereby the sickles may be raised and lowered with facility.

Third. Pivoting the oscillating lever M to the bar N, which is arranged as shown, so that the lever M may be thrown in and out of gear with the cam O.

Fourth. The sliding plate F, placed on the frame A, and arranged substantially as shown, so as to regulate or control the draught pole, and consequently the position of the sickles, as occasion may require.

No. 20,525.—Thomas Windell, of New Albany, Indiana.—*Improvement in Reaping-Machines.*—Patent dated June 8, 1858.—The nature of this invention consists in the arrangement of the revolving rake, and the several parts which operate the belt which drives and the belt to which said rake is attached.

Claim.—The arrangement of the rake *a* on the endless belt *b*, operated around and below the stationary platform C in the manner set forth, in combination with the shaft *c*, belt *d*, and lever H, when these several parts are constructed, arranged, and operated in the manner and for the purpose set forth.

No. 20,600.—S. Williams, of Stockton, California.—*Improvement in Harvesters.*—Patent dated June 15, 1858.—This invention has reference to the manner of adjusting the cutting apparatus and platform G, and to the manner of giving a temporary elevation to the cutting apparatus for the passage of obstacles.

The inventor says: I *claim*, first, the combination of the draught piece D, side piece f^1 of frame standard E, lever L, and rod connecting the same with the frame arranged for joint operation, substantially as described.

Second. The short axles A A^1, depending arms thereof, suspension pieces P, finger-bar B, and wheels W W^1, connected together substantially as described, in combination with the aforesaid arrangement for elevating the finger-bar; the whole being constructed and arranged and operating substantially as and for the purposes set forth.

No. 20,593.—Samuel H. Smith, of Magnolia, Illinois.—*Improvement in Harvesters.*—Patent dated June 15, 1858.—The rake is attached to the reel by means of a slide C, guide *e* holding the slide to its place; rod *a* running from the rake *b* through the beater and through the shaft *h* of the reel, holding the rake to its place by means of the spiral spring *k* on the end of the rod *a*.

The inventor says: I do not claim any of the parts separately.

But I *claim* the application of the rake to the reel of a reaping-machine by means of the slides C, guides *e*, rollers *d*, longitudinal planes *i*, and rod spiral spring *k*, when these several parts are constructed and arranged as set forth, for the purposes specified.

No. 20,719.—William F. Ketchum, of Buffalo, New York.—*Improvement in Harvesters.*—Patent dated June 29, 1858.—Figure 3 is a side sectional view of a part of the machine, showing the plate or frame E F and the rock-shaft *c*. G represents the plates or spokes of the wheel; A, the zigzag groove in the interior of the wheel; B C is the rock-shaft, with its arms; D is the pitman, and H are the boxes or bearings below the plate or frame, in which the rock-shaft rests.

The inventor says: I *claim*, first, the plate E E, as a substitute for the usual main frame, placed mainly within the rim of a driving-wheel, whose hub and spokes or supporting plates are placed at the outside laterally of the rim, as described.

Second. The internal zigzag groove in combination with the rock-shaft, with its arms for vibrating the cutters, the whole arranged and operating as described.

Third. Supporting the boxes for the main shaft and the rock-shaft upon a plate, or its equivalent, placed mainly within the rim of the driving-wheel, as set forth.

No. 20,813.—Jeremiah Mitchell, of Gosport, New York.—*Improvement in Harvesters.*—Patent dated July 6, 1858.—The nature of this invent on consists in the arrangement of the devices for making a tilting jack, to be attached to the cutter-bar of reaping-machines for the purpose of regulating the cut.

Claim.—Combining with the cutter-bar of a harvesting-machine, in the manner described, the tilting jack constructed as described—that is to say, having the revolving handle G, spring chuck H, stationary catch plate F, pinion E, and rack-bar D, in combination with the wheel C; these several parts being constructed and relatively arranged with respect to each other, and to the cutter-bar, and operating in the manner and for the purpose set forth.

No. 20,806.—John P. Manny, of Rockford Illinois.—*Improvement in Harvesters.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—In combination with a main frame A, supported on a fixed position that is parallel with the surface of the ground at all times, and a finger-bar K attached thereto, and operated as described, one arm of the said frame extended sufficiently to the rear to project

cver or behind the finger-bar of the machine, substantially in the manner and for the purpose described; and this I claim, whether the caster wheel E be in front of or behind the driving-wheel, as described.

No. 21,093.—J. V. Trump, of Somerville, New Jersey.—*Improvement in Harvesters.*—Patent dated August 3, 1858.—This invention consists in the combination of peculiar knife guards, with a press plate finger-beam and reciprocating cutters, for the purpose of making a more efficient, cheap, and convenient harvester.

The inventor says: I do not claim any of the devices separately.

But I *claim* the combination of the knife guards D with the press plate A, the finger-beam C, and the reciprocating cutters E, when these several parts are constructed and relatively arranged as described, to operate conjointly in the manner and for the purpose set forth.

No. 21,125.—Marcus E. Ellsworth, of Hudson, Ohio.—*Improvement in Harvesters.*—Patent dated August 10, 1858.—This invention relates to the mounting of the driver's seat upon the gear-plank or frame in such a manner that in raising or depressing the cutter-bar the centre of gravity of the seat is changed relatively to the machine itself, and consequently an equilibrium is preserved.

Claim.—The described manner of attaching the seat to the gear-plank by means of the rods M N, or their equivalents, having a pin or hinge point, both upon the gear-plank and footboard, in combination with the rods O and P, or their equivalents, which connect the footboard C directly with the reach-board E, all operating in the manner and for the purpose set forth.

No. 21,401.—R. L. Allen, of New York, N. Y.—*Improvement in Harvesters.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* elevating the cutting apparatus and balancing the machine in going over stones, stumps, and other obstructions, and traversing hill-sides by means of the long raker's and driver's seat, in combination with lever *p*, as set forth.

I also claim constructing the spring axle of three several pieces, clamped and riveted in the manner set forth and for the purpose set forth.

I also claim the position of said axle F, the same being at right angles with the line of draught, and performing the office of spring and axle, and fastened by bolt *x*, as described.

I also claim the form of the socket piece for receiving the ends of the spring standard, to support the raker's and driver's seat Q^1.

I also claim the construction of the double shoe and standard, adaptable to the cutting of grain or grass, as set forth, the same being in three pieces, the pieces being put together in a particular way.

I also claim making the shoe under the mortise thick at edge a^1, and thinner at *a*, in order to give greater thickness and strength to the finger-board along *a a*, as set forth.

No. 21,587.—McClintock Young, jr., of Frederick, Md.—*Improvement in Harvesters.*—Patent dated September 21, 1858.—The nature of this invention consists in the new arrangements for operating the rake of harvesting-machines, whereby the cut grain is delivered in gavels at the side of the machine, in the path which has been passed over by the team, while the rake is, during every part of its operation, confined within the limits of the platform, and does not interfere with any of the operative parts, or prevent the driver from being seated on the machine.

The inventor says: I *claim* the combination of the handle J, shaft D, arm L, pitman M, and guide R, or their equivalents, when arranged and operated substantially in the manner and for the purpose specified.

I also claim making the gatherers F adjustable on the arms E of the reel, as and for the purpose specified.

No. 21,612.—David S. McNamara, of North Hoosick, New Jersey.—*Improvement in Harvesters.*—Patent dated September 28, 1858. This invention consists in constructing the frame of the machine in a peculiar manner, whereby great strength with lightness is obtained, and suitable provision made for "straining" the frame or bringing it back to its original proper position in case certain parts became casually displaced by use, and are made to assume undue positions detrimental to the perfect operation of the machine.

The inventor says: I *claim*, first, constructing the frame of the machine of the bars *a b c d*, end-piece H, and finger-bar F, in connexion with the trusses E D K, when the whole are arranged substantially as and for the purposes set forth.

Second. In combination with the frame constructed as above, the shoe G, when constructed as described, and secured by the finger-bar F and end-piece H, in the manner and for the purposes set forth.

No. 21,681.—George F. Jerome and Moses Jerome, of Mineola, New York.—*Improvement in Harvesters.*—Patent dated October 5, 1858.—This invention relates to an improvement in harvesters, whereby the raker may with the greatest facility rake the cut grain from the platform in such a manner that it will fall on the ground nearly in line, and back of the driver's seat, at right angles with the path of the movement of the machine, and at a sufficient distance from the standing grain to allow abundant room for a clear, unobstructed space for the team on the succeeding round, and at the same time leave the grain so that the butts will be in a right line, and in such a state that it may be readily gathered and bound by an attendant.

Claim.—The guard F, formed with an oblique portion *c*, in combination with the seat I, placed relatively with respect to each other and the platform D, as shown and described, and for the purpose set forth.

No. 21,792.—John Woody, of Mount Vernon, Indiana.—*Improvement in Harvesters.*—Patent dated October 12, 1858.—This invention consists, first, in a peculiar means employed for raising and lowering the reel and retaining the same at any desired height; and, second, in a wing or divider of a peculiar construction.

The inventor says: I *claim,* first, placing the reel J between arms I I, which have their back ends pivoted to the machine, and their front ends connected with the eccentrics H H on the shaft G, by means of the yokes *a a*, substantially as and for the purpose set forth.

Second. The roller O attached to the upper part of the wing or divider N, as and for the purpose set forth.

No. 21,741.—George E. Cooper, of Baltimore, Maryland.—*Improvement in Harvesters.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the straining bar, finger tube, and adjusting screw, with the arms upon which the cutting blade is mounted, for the purpose of keeping the cutter, which is made thin and without stock, under constant tension, substantially as described.

Second. Combining the lever of the shifting clutch with the lever for raising and lowering the cutting apparatus in the manner described, so that when it is necessary to stop the motion of the cutter, the act of depressing the lever performs the three-fold duty of raising the cutter, stopping its motion, and the motion of the raking mechanism, as described.

I do not claim, however, either of these levers, separately considered, nor the functions they perform.

Third. The arrangement of the raking mechanism consisting of two hands, which open as they advance over the platform on each side of the cut grain, and close as they recede, to form the cut grain into a sheaf, and deliver it at the rear of said platform, substantially as described.

No. 21,804.—John K. Harris, of Allensville, Indiana.—*Improvement in Harvesters.*—Patent dated October 12, 1858.—This invention relates to that class of harvesting machines in which the cutter-bar has a longitudinal reciprocating motion imparted to it by means of a rack-shaft and pinion meshing alternately on opposite sides with cogs on the driving-wheel, and consists in a novel construction of rocking pinion, which, by reducing friction and avoiding sudden concussions and lost or intermittent motion, lessens the draught and wear and tear of the machine, and, without change of parts, admits of backing the machine with no transmission of motion to the cutter-bar or sensible resistance from the pinion.

Claim.—The rocking pinion H, constructed substantially as set forth, with cogs *p* and p^1 adapted to yield, as explained, when passing the ends of the wheel cogs, or on the backward motion of the drive-wheel.

No. 21,827.—Rosewell H. Fisher, of Claremont, New Hampshire.—*Improvement in Harvesters.*—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim,* first, the combination of the connecting rod *e*, slide bar *c*, eccentric wheel *d*, rod *f*, and lever *g*, with the cutter *k*, for the purpose of throwing said cutter-bar in and out of gear, when the several parts are arranged and operated as set forth.

Second. The arrangement of the plates *h*, the cutters *i i i*, the slotted wheels *n n n*, and the cutter-bar *k*, with the fingers *j j*, the same being conjoined, constructed, and operated in the manner and for the purpose described.

Third. I claim securing the reel H to the wheels J J, when it is operated and adjusted by the means set forth, and for the purpose specified.

No. 21,854.—Joseph D. Smith, of Lancaster, Ohio.—*Improvement in Harvesters.*—Patent dated October 19, 1858.—This invention consists in constructing a portion of the reel frame with a horizontal joint near the centre of its length, so that the front end of said frame may have a horizontal movement.

Claim.—Having a horizontal joint in and near the centre of the reel frame piece P^2, substantially as and for the purposes set forth.

No. 21,993.—Charles T. Stetson, of Amherst, Mass.—*Improvement in Harvesters.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining two double-edged cutting blades with each of the vibrating cutter shanks for the purpose of reducing the number of joints in the cutting apparatus, substantially as set forth.

I also claim combining an inwardly extending curved arm a^1 with the inner end of the finger-bar, when the vibrating end of said arm is made to play between guiding cheeks, or in a guiding groove, and the said inner end of the finger-bar is jointed to a vertically sliding head, all substantially in the manner and for the purpose set forth.

No. 22,032.—Hosea W. Read, of West Windsor, Vt.—*Improvement in Harvesters.*—Patent dated November 9, 1858.—The inventor says: In carrying out my invention, I employ a carriage A, whose front end is supported by a shaft or axle B, sustained by two driving-wheels C D. The journals of the said shaft B extend beyond the carriage A or the boxes *a a* thereof, and into boxes *b b* of a tilting frame E formed and arranged with respect to the carriage A. The rear part of the carriage is sustained by two swivelling wheels F F, from the upper end of whose forks or holders G G two arms H H extend horizontally and parallel to one another and directly over a rack I arranged upon the platform K of the carriage.

Claim.—In its arrangement and combination with the tilting frame and the machinery for operating the cutters applied thereto, as described, a screw-rod or mechanism for spreading the bars of the tilting frame asunder, so as to throw the pinions of the cutter mechanism out of engagement with the gears of the driving-wheels, substantially in manner and for the purpose as specified.

No. 22,084.—James S. Marsh, of Lewisburg, Pa.—*Improvement in Harvesters.*—Patent dated November 16, 1858.—This invention consists in the arrangement of the bent lever J and the arm H of the caster wheel, when the lever is pivoted behind and the arm H is

pivoted before the axle of the driving-wheel, and the two are connected by the link *h* for the purpose of giving a greater motion to the cutter-bar, with the usual range of the elevating lever, in making the angular adjustment of the finger-bar, as seen in the engravings, in which G¹ is the bed plate.

Claim.—The arrangement of the bent lever J and the arm H of the caster wheel, when said lever is pivoted behind and said arms pivoted before the axle of the driving-wheel, and the two are connected by the link *h*, substantially as and for the purposes specified.

No. 22,077.—Stephen Hull, of Poughkeepsie, N. Y.—*Improvement in Harvesters.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim connecting the finger-bar to the machine by a hinge joint, nor do I claim connecting the finger-bar to the machine by the double rule joint, nor with the double-jointed coupling.

But I *claim* connecting the inside shoe *b* to which the finger-bar is fastened directly to the main frame, or to one or both the end bars of the main frame by means of circular bearings at each end of the shoe, without any coupling piece, in combination with a small wheel hinged to the inside shoe, substantially as represented and for the purposes set forth.

Second. I claim the notches, holes, or slots in the shoe and flanges near the bearings or joints on which the shoe turns in connexion with the movable catches or bolts that work in them to keep the finger-bar in its proper place or from rising or falling too much over uneven ground, in combination with a jointed shoe constructed substantially as represented and for the purposes set forth.

Third. I do not claim simply attaching a wheel of any kind to the inside shoe; but I claim the arrangement of the small wheel *b* with the jointed frame or bar *i*, hinged to the inside shoe, by which the wheel is allowed to remain in the same position when the finger-bar is turned up to go from place to place, as it is when the machine is cutting grass and the finger-bar rising and falling over uneven ground.

No. 22,163.—Nicholas Clute, of Dunnsville, N. Y.—*Improvement in Harvesters.*—Patent dated November 30, 1858.—The nature of these improvements consists in constructing and arranging the several parts so as to make the rakes pass over and around the reel, and in arranging a pulley under the chain that carries the rakes so as to tip or vibrate them at a proper time to let the grain fall freely.

The inventor says: I *claim* the construction and arrangement of the several parts, as described, for the purpose of allowing the ends of the rakes to pass over and around the reel, in the manner and for the purpose specified.

I claim the pulley O² when arranged to tip or vibrate the rake teeth at the top of the inclined plane, as described, and release the grain and straw and let it fall into the trough or box, substantially as specified.

No. 22,203.—William Schnebly and Thomas Schnebly, of Hackensack, N. J.—*Improvement in Harvesters.*—Patent dated November 30, 1858.—This invention consists in the novel means employed for operating or driving the sickle, whereby the same may be readily checked or stopped when desired.

It further consists in a novel application of the sickle to the machine, whereby the sickle may be raised and lowered and retained at any desired height from the surface of the ground, and also rendered capable of being adjusted on the machine so as to allow the latter, when not in operation, to be moved from place to place.

The inventors say: We *claim*—

1st. The arrangement and combination of the pendulous lever E and slide G with the scalloped wheel B, as and for the purposes shown and described.

2d. Securing the frame J, to which the finger-bar is attached, to the main frame by means of the universal joint L and the bar *k*, fitted on the guide *l* on the main frame, or an equivalent arrangement, so that the sickle may rise and fall bodily to conform to the inequalities of the surface of the ground, and at the same time be rendered capable of being placed directly over the main frame to facilitate the transportation of the machine, substantially as described.

No. 22,237.—Henry Opp, of Belleville, Illinois.—*Improvement in Harvesters.*—Patent dated December 7, 1858.—A is the frame of the machine, which is formed of two parallel beams or bars *a b*, placed at a suitable distance apart, and connected at their back ends by a traverse bar *c*. In the bar *a* a wheel B is placed, and a wheel C is placed in the bar *b*.

In using this machine, as it is drawn along, the sickle H is operated from the axle *j* of the wheel B by means of the gearing and crank wheel; and the cut grain, by the aid of the reel M, falls as it is cut on the plate *c*¹ and bar J, the heads of the grain resting on plate *c*¹.

Claim.—The employment of the plate *c*¹, operated as described, in combination with the bar J, or its equivalent, attached to the finger-bar G; the whole being constructed and arranged as and for the purpose set forth.

No. 22,312.—Oren Stoddard, of Busti, N. Y.—*Improvement in Harvesters.*—Patent dated December 14, 1858.—This invention consists in the use of conical rollers attached to the finger-bar, and used in connexion with a sickle bar, having an oblique back, and also used in connexion with a cap plate; the whole being arranged so that the points or front parts of the sickle teeth are made by the action of the grass or grain being cut, or by the resistance offered by the grass or grain to the forward movement of the machine, to bind or bear snugly on the front part of the fingers, and thereby add to the efficiency of the cutting device.

Claim.—The conical rollers G G, two or more attached to the finger-bar *c*, in connexion with the sickle-bar *b*, provided with an inclined back, and the cap plate H, or its equivalent; the whole being arranged to operate substantially as and for the purpose set forth.

No. 22,345.—Chester Bullock, of Jamestown, New York.—*Improvement in Harvesters.*—Patent dated December 21, 1858.—The cutter represented in the engravings has a curved cutting edge *a a* on each side, the stalk of the grain being cut by the motions of this cutter when the stalk lies between the edge *a* of the vibrating cutter and the edge *b* of the stationary or rigid cutter. This vibrating cutter is connected to the vibrating bar *c* by a pin *e* at the back end of the cutter, which fits into a hole *d* in the vibrating bar, and to the finger of the cutter-bar by the end *f* of the cutter fitting into a recess at the base of the finger.

Claim.—Attaching the vibrating cutter to the vibrating bar and fingers, as described.

No. 22,341.—J. A. Barrington, of Fredericktown, Ohio.—*Improvement in Harvesters.*—Patent dated December 21, 1858.—This invention refers to the manner of collecting the cut grain and delivering it in gavels in rear of the machine. Its nature consists in a peculiar combination of devices by which the raking attachment described in the patent of the above named inventor, dated June 8, 1858, is operated.

The inventor says: I *claim* the combination of the bell crank C^1 and guide piece G with the crane C, rod *r* connecting the crank arm *h* with the rakes, and the crank shaft S giving motion to the system, the operation being substantially as described.

I also claim connecting the entire raking mechanism with the vibrating frame F, substantially as and for the purpose set forth.

No. 22,074.—William Grey, of Nicholsville, Ohio.—*Improved Binding Attachment to Harvesters.*—Patent dated November 16, 1858.—The engravings represent a machine embodying the improvements claimed, and adapted for attachment to a self-raking harvester similar to that patented to Jearum Atkins, December 21, 1852, and consisting in means for the automatic binding of grain with a portion of its own straw.

The inventor says: I *claim*, first, the arrangement of gravitating platform F 19, and series of levers G H I J, with their accessories, in the described connexion with a drive-wheel for the automatic starting of the binding mechanism by the weight of the sheaf or gavel, substantially as set forth.

Second. In this connexion the talons 16, 17, 18, 16^1, 17^1, 18^1, constructed and operating substantially as set forth.

Third. In combination with the talons, or their equivalents, the crane I I I and its accessories, having the described compound movement, substantially as and for the purpose set forth.

Fourth. In the described combination with the talons, or their equivalent, the plyers I I, constructed and operating substantially as set forth.

Fifth. The rod *c*, "looper" *s*, and "tucker-in" *t*, constructed, operated, and operating together substantially as set forth.

No. 20,215.—George Notman, of Deerfield, Ohio.—*Improved Binding Device for Harvesters.*—Patent dated May 11, 1858.—This invention consists in the employment of an intermittingly moving apron E, grain receptacle F, certain mechanism for twisting the bands around the grain in the receptacle, and a discharging device; the whole being attached to the machine, and arranged so that the grain, as fast as it is cut by the machine, may be gathered into gavels of requisite size, firmly bound, and discharged upon the ground.

Claim.—The grain box or receptacle F, revolving fork a^1, sliding fork m^1, rod g^1, slide-bar H, and sliding bottom I, arranged to operate as herein described, and used in connexion with any proper raking or conveying device, whereby the grain, as it is cut, is bound and discharged in sheaves from the machine.

No. 19,221.—L. C. Wilder, of Lexington, N. C.—*Improvement in Corn-Harvesters.*—Patent dated January 26, 1858.—This invention consists in the employment of flanched reciprocating cutters V and feed-rollers L L, in combination with a tilting platform or stalk receiver H, the parts being operated and arranged relatively to each other.

Claim.—Combination of the oblique reciprocating flanched cutters V V, feed-rollers L L, and cutting platform H, arranged to operate substantially as and for the purpose set forth.

No, 19,716.—Thomas A. Risher, of Circleville, Ohio.—*Improvement in Corn Harvesters.*—Patent dated March 23, 1858.—The corn is gathered into the cutters by the arms *c c c c*, is cut by the knives *a a*, and falls back upon the endless belt, and against the guide *i*. The corn being carried upon the endless belt, and the concave shocker I being directly under the upper end of the belt, it falls into the shocker from the belt, the machine is then stopped, and the clamp lever J brought in the position in figure 2. By means of this lever the corn may be bound as the head of the shock is compressed.

Claim.—The arrangement of the concave shocker I, clamp lever J, and rest *k*, with relation to cutters *a a*, inclined arms *c c c c*, belt H, and guide *i*; the whole being constructed and operated in the manner and for the purpose set forth.

No. 19,822.—Isaac V. Adair, of Varick, N. Y.—*Improvement in Corn-Harvesters.*—Patent dated April 6, 1858.—This invention consists in the employment of two scythe-shaped cutters, operated in a peculiar way, and working over stationary cutters, and used in connexion with a discharging device, whereby the standing stalks, as the machine is drawn along, are cut at a proper distance from the surface of the ground, gathered and thrown upon the platform, collected into compact form, and, after being bound by an attendant, discharged from said platform upon the ground.

The inventor says: I do not claim the cutters F, operating as shown, so as to effect, in connexion with the stationary cutters E, the desired result, irrespective of the peculiar arrangement and means employed for operating the cutters F; for such cutting device has been previously used.

But I *claim* attaching the cutters F to the rods *a b*, the rods *b* being provided with arms *k*, and the rods and arms operated from the wheels B, through the medium of the gearing G *i f g* and arms *c*, when the above parts are used in combination with the stationary cutters E, at the inner parts of the recesses D, for the purpose set forth.

I further claim the bar H, provided with the arms *q*, in combination with the gate I, the above parts being attached to the platform A, and used in connexion with a railing or guard, so as to operate as and for the purpose set forth.

I also claim the cutting device formed of the cutters E F, connected with rakes or teeth *k*, arranged to operate as shown, in combination with the discharging device formed of the gate I and bar H; the whole operating as and for the purpose specified.

No. 20,067.—Adam Humberger, of Somerset, Ohio.—*Improvement in Corn-Harvesters.*—Patent dated April 27, 1858.—This invention consists of a corn-carrier, provided with pulleys and friction rollers for tightening a rope in binding the corn, and having an arrangement for interlocking the pulleys with the travelling wheels at pleasure.

Claim.—The described corn carrier and shucker, provided with pulleys C, interlocking at pleasure with wheels B, in connexion with the rope S, said pulleys being operated by lever E and rods *e*, for binding and shucking corn; the whole being constructed, arranged, and operated substantially as set forth.

No. 20,645.—Darius Landon, of Wyandotte, Ohio.—*Improvement in Corn-Harvesters.*—Patent dated June 22, 1858.—The claims and engravings will explain the nature of this invention.

Claim.—The platforms F and G, in combination with the endless belts V^2 and shock-supporters P P^1, for carrying the shocks of corn through the machine, and leaving the same in a standing position on the ground.

No. 20,628.—R. B. Corbin and James Morris, of St. Augustine, Illinois.—*Improvement in Corn-Huskers.*—Patent dated June 22, 1858.—This invention consists in attaching to one side of an ordinary box wagon a box having a rake F at its front end, and an inclined trough G connected with it and the wagon body A, the parts being so constructed that as the wagon is drawn along the rake will strip the ears from the stalks, the ears passing into the box, from which they are raked up the inclined plane into the wagon by an attendant.

Claim.—The rake teeth F and box E, attached to the body A of the wagon, as shown, and made to communicate with said body A by means of the inclined trough or plane G; the whole being arranged as and for the purpose set forth.

No. 21,031.—Albert Stoddard, of Tecumseh, Michigan.—*Improvement in Corn-Harvesters.*—Patent dated July 27, 1858.—This machine is supported by wheels B and C, their axles 6 being attached to the main frame A by their boxes Y at the numeral 7. When it is drawn on the ground, the wheel B gives simultaneous movement to the master wheel F; that, in turn, gives rotary motion to the pinion E, shaft G, and pinion H; that, in turn, gives rotary motion to the cog-wheel I, saw J, shaft K, and reel L; the wheel B gives simultaneous movement also to band-wheel X; that, in turn, gives simultaneous movement to the pulleys *u*, their shafts *v*, and endless belts T T T, by means of the endless belt W, which passes around the band-wheel and one of the pulleys.

The inventor says: I do not claim being the first inventor of a corn-harvester.

Nor do I claim the parts of my machine separately.

But I *claim* the combination with the main frame A of the pinion E, shaft G, pinion H, cog-wheel I, saw J, shaft K, reel L, guard P, wheel *x*, belt W, shafts V V, their pulleys *u u u u u u*, endless belts T T T, hopper Z, its pivot &, slide 4, bar 3, and caps 5, when these several parts are arranged as and for the purposes set forth.

No. 21,516.—Isaac Reamer and Henry Miller, of Conrad's Store, Virginia.—*Improvement in Corn-Harvesters.*—Patent dated September 14, 1858.—The nature of this invention consists in arranging the diagonally set knife on springs and with its cutting edge slightly elevated above its rear edge. It also consists in the employment of an auxiliary adjustable reel, in combination with the main reel, when said auxiliary reel has its blades, or arms, made broad and convex, and with a sufficient spiral twist to draw the cornstalks into the cart as fast as cut down, and each of said arms has a spring arranged on its convex side to facilitate and insure the falling of the stalks on to the platform.

The inventor says: I *claim*, 1st, arranging the knife E on springs F, and with its cutting edge slightly elevated above its rear edges, substantially as and for the purposes set forth.

2d. The employment of an auxiliary adjustable reel N, in combination with the main reel M, when the whole is constructed, arranged, and operated as and for the purposes described.

No. 22,259.—Bronson Murray, of Ottawa, and John Van Doren, of Farm Ridge, Illinois.—*Improvement in Corn-Harvesters.*—Patent dated December 7, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim*, first, in combination with the inclined knife or cutter A, the curved guides or arms *d d* for bending over, and thus facilitating the cutting, substantially as described.

We also claim, in combination with the stationary cutter A, the reciprocating cutter B, when operating together substantially in the manner and for the purpose set forth.

We also claim, in combination with the cutting and guiding or directing apparatus for severing and dropping the stalks, the shovers E E, for moving them rearward, as described.

We also claim the arranging of the conveying apron P upon removable supports F F, and so inclining it that it will convey the stalks

over or past the opening J behind it when used, but leave a delivery at J when removed, substantially as set forth.

No. 20,066.—Miles Hosford and J. C. Avery, of Macon, Miss.—*Improvement in Cotton-Harvesters.*—Patent dated April 27, 1858.—This invention consists in applying a system of gearing to an endless chain of pickers, which are fitted in a suitable frame or case, and so arranged that, as the frame or case is moved, and the pickers thereby adjusted to the bolls, the movement of said case will, through the medium of the gearing aforesaid, wind up a spring which serves as a reverse power to operate the endless chain of pickers when the frame is stationary and the pickers properly adjusted to the bolls, so that the cotton will be picked therefrom and deposited in a proper receptacle or bag attached to the machine.

The inventors say: We do not claim an endless belt of pickers placed within a case or frame, and so arranged that it may detach the cotton from the bolls; for such device has been previously used.

But we *claim* operating the endless chain of pickers B, through the medium of the pulley D, spring F, wheel G, ratchets H I, with pawls *k k*, and the gearing *k* k^1 k^2, *j*, and L L^1, or any equivalent device, whereby a reserve power is obtained as the implement is moved from boll to boll, so that the cotton may be picked or gathered therefrom as the implement is adjusted to the bolls.

No. 19,360.—John Gore, of Fredonia, N. Y.—*Improvement in Cutters for Harvesters.*—Patent dated February 16, 1858.—In fig. 2 the finger D is made in the ordinary way, and placed on the top of it is a steel cutter which is let into a bevelled rabbet F on the front edge of the cutting-bar A, to prevent the back end of the cutter E from rising; the front end is let into the finger D in like manner, forming a *dovetail;* and a screw G let partly into the fore end of the side cutter E, and partly into the shoulder of the finger D, prevents its sliding out of the dovetail, and holds the cutter E firmly in its position.

Claim.—The cutters H, as constructed with the conical truncated pivot near its end, and oblong aperture near its centre, for the purpose set forth, in combination with the cutter E, when secured on bar A and fingers D, by dovetails and set-screw, as described, and for the purpose specified.

No. 21,499.—Charles Howell, of Cleveland, Ohio.—*Improvement in Cutting Apparatus for Harvesters.*—Patent dated September 14, 1858.—This invention relates to the cutting apparatus of reaping and mowing machines, and consists in so forming its constituent parts, and arranging them in relation to each other, as greatly to facilitate the operation of cutting when working in tangled grain or grass; and also to prevent the lodgment and deposition of such fibrous substances as would impede and prevent the free and easy play of the knife over the fingers. The improvement, by means of which the desiderata are carried into effect, consists, first, in a novel construction of the guard-fingers, and secondly, in a new mode of constructing and arranging

the sections of the knife upon which the sickle-bar is when intended to be used, with a finger constructed on the above or a similar plan.

The inventor says: Disclaiming the construction of guard-fingers, as patented by Cyril Wagner, June 24, 1856, I *claim*, first, a finger formed with a frog-shaped concavity on the underside of the knife, having outlets on its sides in front of the finger-bar, in the manner and for the purposes set forth.

Second. A sickle or knife having a series of curved openings *l*, or their equivalents, formed on its rear and under side, when used in connexion with guard-fingers provided with a D-shaped rest K, or its equivalent; the whole being arranged, constructed, and operating in relation to each other in the manner and for the purposes substantially as set forth.

No. 22,468.—W. A. Wood, of Hoosic Falls, N. Y.—*Improvement in the Cutting Apparatus of Harvesters.*—Patent dated December 28, 1858.—A is the finger-bar, which may be a flat plate or bar of iron with its front edge *a* bevelled or cut under. The guards B may be cast in sections of two, three, or more guards to the section; the under portion *b* of the guards have cast upon their rear portions a shield *c*, the back edge *d* of which is bevelled or cut away the reverse of the bevelled edge of the finger-bar, and so as to make with it the inclined joint.

Claim.—The manner described of constructing the guards, and uniting them to the finger-bar, as set forth.

No. 19,920.—Davis W. Entrikin and Levis H. Davis, West Chester, Pa.—*Improvement in Cutting Device for Harvesters.*—Patent dated April 13, 1858.—This invention consists in the combination of a peculiarly hollowed guard finger with a roughness of the cutter-bar for preventing clogging.

Claim.—In combination with the roughness upon the surface of the cutter-bar and cutters, as described, the arching of the finger, and extending it back upon the bar, the hollowing out of the finger under the cutting-bar, the whole arranged and operating as and for the purpose set forth.

No. 21,414.—C. P. Gronberg, of Montgomery, Ill.—*Improvement in Cutting Devices for Harvesters.*—Patent dated September 7, 1858.—This invention consists in a peculiar construction and arrangement of the finger-bar and fingers, whereby the different parts may be constructed wholly of metal and still be extremely light and durable, and the sickle prevented from choking or clogging.

The inventor says: I am aware that concave fingers have been previously used, and also perforated fingers; and I am also aware that various forms of curved metal finger-bars have been employed in order to unite or combine strength and lightness.

I therefore do not claim broadly and separately any of the parts, irrespective of the construction and arrangement shown and described.

I *claim* the semi-cylindrical finger-bar A, concave and perforated fingers B, and the sickle formed of the bar C, and teeth D, when

the above named parts are constructed, combined, and arranged for joint operation, substantially as and for the purpose set forth.

No. 20,243.—Lewis Miller, of Canton, Ohio, Assignor to C. Aultman & Co. of said Canton.—*Improved Finger or Guard for Harvesters.*—Patent dated May 11, 1858.—This invention consists in forming the shoulder on the guard by welding on a piece of iron or steel, instead of making said shoulder by drawing down the bar from it, and in making said fingers of uniform shape, by levelling and truing them on a block after they are made.

The inventor says: I *claim* forming the shoulder on a wrought iron guard by welding on a piece instead of drawing down a large bar, as set forth and for the purpose described.

And I also claim the shaping, levelling and truing of the guard or finger, so as to make them of uniform shape and size by means of a block, as described and represented.

No. 19,518.—Henry C. Smith, of Cleveland, Ohio.—*Improvement in Harvester Fingers.*—Patent dated March 2, 1858.—The external figure of the forward part of the guard is cylindrical and cone-shaped, *b c d*, being formed of one piece of cast metal. The interior of the guard E E^1 is also cylindrical, the cavity being cone-like, the base of which terminates in the opening F between the bars D. By the peculiar form of the guard or finger the knife is protected upon its upper and under sides from all liability to become clogged or choked up with grass or stubble, and, in consequence of the cone-like interior, what little grass or straw may be drawn in is constantly worked backward and discharged through the cavity F between the bars D D.

The inventor says: I am aware that guards for the cutters of harvesters have been made with cavities of various forms, or open both above and below; but for want of strength in some of their parts, or from liability to clog, they are subject to objections which, I believe, are obviated in my improvement, (which forms a new article of manufacture,) which can be applied to any harvester of the usual form of construction.

I *claim* the bars D D, with the opening F, the cone *b c d*, with the cone cavity E E, so formed in relation to the bar D D that the under side of the cone shall project below the said bars attached to the shank A. This I claim when constructed and arranged substantially as set forth, for the purpose described.

No. 20,808.—John P. Manny, of Rockford, Ill.—*Improvement in Harvester Fingers.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Tapering the face of the guard-finger B under the sickle-bar C, and to the rear thereof to a point *a*, and forming a cavity under and behind said point, substantially in the manner and for the purpose described.

No. 19,319.—Aaron Van Duzer, of Goshen, N. Y.—*Improvement in Grain and Grass Harvesters.*—Patent dated February 9, 1858.—This invention relates to a new and improved device for harvesters,

and consists in having a series of cutters upon both sides of the bar A so arranged that in whatever direction the machine is drawn the grass will be cut, thus rendering the apparatus a right or left hand machine at pleasure.

Claim.—The arrangement of cutters and fingers upon both sides of their respective bars, whereby the grass may be cut upon either side of the finger-bar A, as and for the purposes set forth.

No. 19,938.—Henry Marcellus, of Amsterdam, N. Y.—*Improvement in Grain and Grass Harvesters.*—Patent dated April 13, 1858.—This invention consists in having horizontal V-shaped ledges *b* at the back parts of the fingers, and having the back parts of the teeth *d*, which are underneath the cutter-bar C, and which work over the V-shaped ledges, formed obliquely at their sides, so that, as the sickle or cutter is operated the ledges, in connexion with the oblique sides of the teeth, will force outward from the back part of the sickle all cut grass or grain which might pass between the cutter-bar C and fingers B, and which would otherwise choke or clog the cutter.

Claim.—The V-shaped ledges *b*, secured in any proper way between the fingers B, at their back parts, in combination with the oblique sides *e*, at the back parts of the cutter teeth *d;* the parts being arranged to operate substantially as and for the purpose set forth.

No. 21,063.—Robert Bryson, of Schenectady, N. Y.—*Improvement in Grain and Grass Harvesters.*—Patent dated August 3, 1858.—This invention relates to an improved arrangement of parts for operating or driving the sickle, whereby the proper speed is given to the sickle from the driving wheel by the employment of a very few parts, with but little friction, and capable of being so disposed as to favor, to a considerable extent, lightness of draught, with a tendency to prevent or counteract what is known as "side draught."

The inventor says: I am aware that cams similar to D have been previously used.

And I also am aware that the double crank connexion is an old and well known device.

I do not claim, therefore, any of the parts separately, or in the abstract, irrespective of the arrangement as shown and described.

But I *claim* placing the cam D in front of the driving wheel *c*, and operating it therefrom by means of the double crank *i* and the rods *h h*, when these several parts are constructed and arranged relatively with respect to each other and to the bar E, in the manner and for the purpose set forth.

No. 22,251.—M. G. Hubbard, of Penn Yan, N. Y.—*Improvement in Grain and Grass Harvesters.*—Patent dated December 7, 1858.—This improvement is intended to adapt the above named inventor's two-wheeled mowing-machine to the purposes of reaping grain on uneven surfaces, and delivering the same at the side of the swath in gavels ready for binding, and also to attain great ease in altering the machine to accomplish the different purposes of harvesting grain and grass.

The inventor says: I *claim* the attachment of the front corner of the reaping platform to the corner of the machine, by means of the hinge K, constructed and arranged substantially as and for the purposes set forth.

I also claim the elastic connexion between the reel and driving power, in combination with the flexible attachment of the outer reel arm, arranged substantially as and for the purposes described.

I also claim the employment of the self-sustaining raising lever, when constructed and arranged as and for the objects specified.

I also claim supporting a portion of the weight of the outer end of the platform, by means of the spring *m*, or its equivalent, substantially as and for the purposes described.

No. 21,533.—John W. Brokaw, of Springfield, Ohio, assignor to Warder, Brokaw & Child, of said Springfield.—*Improvement in Guard Fingers for Harvesters.*—Patent dated September 14, 1851.—The nature of this invention consists in forming the finger of two parts of different kinds of the same metal, so that the strength of the different metals will be brought to bear in the direction that each from its peculiar nature will be best adapted to resist, and so that the cheapest metal will form the larger or heavier part of the finger, by means of which the cost of the finger is materially reduced.

The inventor says: I do not claim broadly making the cap of harvester guard-fingers of wrought or malleable iron with a base of cast-iron.

But I *claim* the peculiar construction of the cap B, as described, when made of wrought or malleable iron, and connected to the cast-iron base A, and to the finger bar, in the manner and for the purpose set forth.

No. 20,618.—Thomas Berry, of Louisburg, Ky.—*Improvement in Hemp-Harvesters.*—Patent dated June 22, 1858.—This invention is designed to afford facility and convenience to the driver while sitting on his seat for quickly adjusting the cutting-bar, when necessary; also to afford like facilities for adjusting the reel to suit different heights of hemp; and likewise to provide a means whereby the hemp can be perfectly bundled and discharged automatically at intervals in gavels.

The inventor says: I *claim*, first, the combination and arrangement, in the manner specified, of the adjustable front supporting wheel *b c*, obliquely set slotted guide-plate D C, and adjusting lever F, as set forth.

Second. Arranging the reel H and the gearing which drives it on the jointed frame I J, which is pivoted to the main frame A, and connected to an adjusting lever J, substantially as and for the purposes set forth.

Third. The combination of transverse bundling bars N N^1, one stationary and the other pivoted, so as to vibrate up and down with the main propelling axle B^1, by means of a pin P on the axle B^1, a pivoted lever O, a spring rocking arm *l l*, and connecting link *k*, substantially and for the purposes set forth.

No. 21,840.—C. B. Matthews, of Oquawka, Ill.—*Improvement in Maize-Harvesters.*—Patent dated October 19, 1858.—This invention consists in the use of a rotary and stationary cutter, sliding bed and revolving arms, all attached to a suitable platform, mounted on wheels, and arranged so that as the machine is drawn along standing corn may be cut and deposited in gavels on the ground with great facility.

The inventor says: I am aware that saws and stationary cutters have been previously used for harvesting corn or maize, and I am also aware that arms have been used to gather the cut stalks, and eject them from the machine, as shown, for instance, in the harvesters of J. V. Adair, patented April 6, 1858. I do not claim, therefore, the circular saw K nor the stationary cutters M M; nor do I claim separately, and irrespective of arrangement, arms for throwing the stalks on the platform.

But I *claim* the saw K and stationary cutters M M, in combination with the revolving arms *l* attached to shafts N N, when the several parts are arranged to operate as and for the purpose set forth.

I also claim, in combination with the above, the sliding bars or slats *b*, connected with the lever F, and arranged with the opening E in the platform A, as and for the purpose described.

No. 19,019 —Samuel Comfort, Jr., of Morrisville, Pa.—*Improvement in Rakes for Harvesters.*—Patent dated January 5, 1858.—The claim and engravings show the nature of this invention.

Claim.—1st. Imparting to the rake the required movement along the platform and parallel or thereabouts with the same, by means of the sliding frame E and slotted bracket *i*, in combination with the lever K, arm M, and segments *m* and *n*, when arranged in relation to each other, as shown, and for the purpose specified.

2d. Producing the lateral reciprocating, combined with the lifting, movement of the rake and its appendages, by means of the connected radial arms G and G^1, as actuated by the crank D and rod F.

No. 19,523.—Isaac Van Doren, of Somerville, N. J.—*Improvement in Rakes for Harvesters.*—Patent dated March 2, 1858.—The nature of this invention consists in so constructing a rake in combination with the platform supporting it and for attachment to harvesters that the rake shall have and receive all necessary motion from the supporting wheel of the platform and without any connexion with the driving wheel, or the other parts of the machine, the rake thus being wholly independent and self-acting.

The inventor says: I *claim* the arrangement or combination of the geared wheel D, having spur and face gearing, as described, and shaft H, with its pinions F F^1 J, in connexion with the supporting roller B and expanding levers M, substantially as described, for the purpose of operating the rake N by the roller B.

I also claim, in connexion with the rake N, when operated as described by means of expanding levers M, the trips K K, for the

purpose of throwing the teeth in a vertical position to carry the grain from the platform.

No. 21,540.—Allen Sherwood, of Auburn, N. Y., assignor to E. P. Senter, Albert Goss, and Daniel Woodworth.—*Improved Raking and Binding Apparatus for Harvesters.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the traversing double rake made to rock in its supports, to bring its fingers into and out of action, and automatically fastened and released, substantially in the manner described, and for the purposes set forth.

I also claim, in combination with the fingers *t*, for throwing the gathered gavel up into the concave, the arm *u*, for carrying the binding wire up and over the sheaf, and placing the wire in the slot of the twisting wheel, substantially as described.

I also claim, in combination with the twisting wheel, the sliding knife for cutting off the wire, substantially as described.

I also claim, in combination with the cutter-bar and its stud, the cam 10, for the purpose of causing the cutter to act regardless of the direction in which the shaft that carries the cam turns, substantially as described.

I also claim, in combination with the wire carrier and guides *y y*, a twisting wheel, made and operated substantially as described.

I also claim forming a knot or enlargement on the end of the wire, behind where it is cut off by the cutter, by twisting that portion of it by the means substantially as described, said twist preventing the end from being drawn through the slot of the twisting wheel, as set forth.

No. 20,805.—John P. Manny, of Rockford, Ill.—*Improvement in Raking and Binding Attachment to Harvesters.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, in combination with a reaping-machine, a rake that automatically throws itself out of gear when it arrives at the outer or grain end of the platform, in the manner substantially as described.

I also claim combining with a rake that automatically throws itself out of gear, and a gathering apparatus, a mechanism by which the driver from his seat, or the attendant at his stand on the machine, can throw said rake into action when desired, for the purpose and in the manner substantially as described.

I also claim, in combination with a rake, and the gathering apparatus to form the gavel the bent arm P, provided with the points *v*, for the purpose of holding one end of the band that is to fasten the gavel when gathered, substantially in the manner and for the purpose described.

I also claim the bent lever n^1, with its forked head, which, when operated as above described, shall carry the band between its prongs, and which, when released, shall be driven back by the spring *n*, releasing the band, the hook of which shall then be driven into the band

by the expansion of the gavel, substantially in the manner and for the purpose described.

I also claim operating the lever u^1 by means of the coiled spring *u*, for the purpose of adjusting the motion of said lever, so as to bind large and small bundles equally tight, substantially in the manner and for the purpose described.

No. 19,212.—Allen Sherwood, of Auburn, N. Y.—*Improved Raking and Binding Devices for Harvesters.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Bending the grain by means of the wire Y placed on a spool or pulley J, and carried partially around the grain by the hooks *g* of the arm M, the hooked arm being used in connexion with the stationary fork *n* and the rotating forks *m* m^1 and cutter *l*, said parts being arranged to operate in relation to each other as shown and described.

No. 20,119.—W. A. Wood, of Hoosic Falls, N. Y.—*Improvement in Raking and Delivering Attachment to Harvesters.*—Patent dated April 27, 1858.—This invention consists in giving to a rake, which works entirely above the platform, its reciprocating and rising and falling motion by means of a single travelling endless belt or chain, and in combining with an automatic rake, which draws and deposits the cut grain at the end of the platform, a delivering apparatus which is operated by the machine whenever the conductor desires it, and when sufficient has gathered to form a gavel.

The inventor says: I *claim*, first, giving the rake its reciprocating and rising and falling motions by means of a single travelling belt or chain, without any other appliances, and substantially in the manner described.

I also claim, in combination with a uniformly moving automatic rake, a delivering apparatus, which is set in motion by the conductor, and butts off the gavel, and returns for the next succeeding similar operation, substantially as described.

No. 19,085.—James L. Fountain, of Rockford, Illinois.—*Improved Raking Attachment for Harvesters.*—Patent dated January 12, 1858.—In operating this machine, by giving motion to the driving wheel D, the cam shaft P is caused by the bevel gearing T U to revolve from left to right; the relative lengths of the crank arms O and H are so adjusted that one revolution of O shall cause the arm H to move only in the segment of a circle and return, which segment shall correspond to the size of the platform A over which the rake is moved. The motion thus communicated to the crank arm H is transferred directly to the rake, through the shaft *g* and rake arm *k*, and at each half revolution of the shaft P the rake moves from one side of the platform to the other.

Claim.—I claim the automatic attachments as described, consisting of the double cam wheel E, vibrating lever *f*, crooked arm *i*, and loop I, in combination with the cranks O and H, pitman G, and bent rock-

shaft *g*; the whole constructed and arranged as and for the purpose set forth.

No. 19,378.—James W. Patterson, of Philadelphia, Pa.—*Raking Attachment for Harvesters.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the elevated or counter platform B, which receives the grain and from which the rake *d* receives and deposits it, with the rake as arranged, viz: with the wheel P on which the outer end of the rake rides, the inclined plane or hinge-rail O, the weight or ball N, and the chain C, substantially as set forth and described.

No. 19,393.—Jacob V. A. Wemple and Andrew Wemple, of Chicago, Illinois.—*Improvement in Raking Attachment for Harvesters.*—Patent dated February 16, 1858.—The nature of this invention consists in attaching the rake A to any harvester in such a manner that the rake is made to pass over the platform of the harvester from the sickle D to the rear of the platform and remove the grain therefrom, then in causing the rake to be elevated from the platform sufficiently to be clear from the grain and carried forward to a point nearly above the sickle, where it is made to descend upon the platform.

The inventors say: We do not claim, broadly, giving the rake the movements specified when they are effected by two distinct operations, as devices operating in such manner are already patented.

But we *claim* the peculiarly-formed double crank arm B, connected at opposite extremities with the rake and pitman, and journal led in a swivel box C, substantially as described, in combination with the double-jointed pitman G, and the studs *b* and *c* on the box C, arranged and operating substantially as described.

No. 20,061.—George V. Griffith, of Sandusky, Ohio.—*Improved Raking Attachment for Harvesters.*—Patent dated April 27, 1858.—This invention consists in the employment of a revolving and an intermittingly reciprocating rake, so placed relatively with each other that the planes of their movement are at right angles with each other, and so operated that the revolving rake is made to carry the cut grain from the front of the platform near the sickle to the reciprocating rake near the back part of the platform, which rake, in consequence of its intermittent movement, discharges the grain in proper gavels upon the ground.

The inventor says: I do not *claim* separately any of the parts described, for I am aware that reciprocating and rotating rakes have been previously used; but I am not aware that a reciprocating and rotating rake combined and operated as shown have been used.

I claim the rotating rake F and the reciprocating rake P, combined and arranged to operate conjointly as and for the purpose set forth.

I also claim the particular manner of operating respectively the rakes F P, as described, to wit: through the medium of the grooves or guides

G G, gearing I J, which connect the two shafts C K and the crank *k* on shaft K.

No. 21,552.—Peter S. Crawford, of Marengo, Ill.—*Improvement in Raking Attachment for Harvesters.*—Patent dated September 21, 1858.—This invention consists in the means employed for operating two rakes, whereby the grain as it is cut is raked from the platform of the reaper and discharged in gavels on the ground at suitable points by a very economical mechanism which may be readily applied and made to work efficiently.

The inventor says: I do not claim, broadly, or irrespective of the arrangement shown, a rake or system of rakes arranged or operated so that one will sweep over the platform and rake a gavel into the other rake, the latter assisting in discharging the gavel from the platform, for such device has been used, and the plan carried out in various ways.

But I *claim* the combination of the rakes O P, the former being attached to the box I, and the latter operated through the medium of the gearing H J K, placed within the box I, and the bars L M, and arm N; the whole being arranged as and for the purpose set forth.

I further claim the supplemental or discharging rake Q, placed over the rake P, and used in connexion with the springs *i* of rake P, substantially as described.

No. 19,958.—Oren Stoddard, of Busti, N. Y.—*Improvement in Raking Attachment to Harvesters.*—Patent dated April 13, 1858.—This invention consists, first, in a novel raking device so constructed and arranged that the cut grain, in consequence of its gravity, is made to actuate the rake and be the means of causing it to be raked off the platform, at proper intervals to form the gavels or sheaves of uniform size. Secondly, there is a peculiar arrangement of the cutting device, whereby the same is made to operate with a comparatively small amount of friction. Thirdly, there is a registering device connected with the raking device, and so arranged as to number the gavels or sheaves as they are raked from the platform.

The inventor says: I *claim*, first, the balance frame F, or its equivalent, connected with fingers or arms *q*, or other raking device, in such a manner that the cut grain by its own gravity, in connexion with the weight or counterpoise K of the frame F, will be made to actuate the raking device so that the gavels will be discharged from the frame of equal weight, however variable the crop being cut may be.

Second. The peculiar arrangement of the balance frame F, shaft D, with clutch *d*, attached pulleys *e e* on shaft D, cords *b*, fingers or arms *g g*, and bar H, substantially as and for the purpose set forth.

Third. The registering device formed of the dial m^1 and index *l*, operated automatically from the raking device, substantially as and for the purposes set forth.

No. 20,378.—J. A. St. John, of Janesville, Wis.—*Improvement in Raking Attachment to Harvesters.*—Patent dated May 25, 1858.—This invention consists of a double vibrating rake, so arranged as to

traverse over the platform of the harvester, and open and close at the desired points, so that the cut grain will be raked from the platform and deposited in proper gavels upon the ground.

Claim.—The particular means employed for operating the rakes, viz: the reciprocating slide I, arm J, crank K, shaft M, with the rakes attached, in connexion with the lever *h*, pinion N, and segment O; the whole being arranged as shown and described.

No. 20,411.—D. O. De Wolf, of New York, N. Y.—*Improvement in Raking Attachment to Harvesters.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not broadly claim imparting a circular or longitudinal motion to a rake by means of a cam, irrespective of the form of the cam.

Nor do I broadly claim elevating or depressing a rake by means of cams either attached to the rake or separate from the rake, irrespective of the devices employed by me, as fully shown and described.

But I *claim*, first, the employment of a cam K of the form described, in combination with the devices employed for operating or stopping the motion of the rake at the will of the driver, for the purpose of imparting a variable reciprocating motion to the rake N during the entire length of the platform D, in a line at right angles to the course of the machine, as specified.

Second. Elevating and depressing the rake, in the manner and by the devices shown, and for the purposes described.

Third. The rake, as described, with the inclined rod *z* and the weight *a*, combined and operating together, as described, and for the purposes as set forth.

No. 20,475.—John A. Barrington, of Frederickstown, Ohio.—*Improvement in Raking Attachment to Harvesters.*—Patent dated June 8, 1858.—The nature of this invention consists in a peculiar combination of devices for grasping the gavel, conveying it to the rear of the machine, and discharging it perpendicular to the track of the machine. The grasping mechanism consists of two rakes *f f*, each suspended by a pin *a* from a slide piece *b*, movable longitudinally in the arm of a crane by a cord connexion C with a pulley *d* at one extremity. The rakes *f f* are moved upon their suspending pins by the groove *g*, in which a stud *v* on the rake arm moves.

The inventor says: I *claim* the reciprocating or vertically moving rack piece R, operating substantially as described, in combination with the shaft B, having an intermittent connexion with the crane and the rakes *f f*^{1}, operated from the rotation of the shaft, arranged and operating substantially as and for the purposes specified.

I also claim the combination of rakes *f f*^{1}, slides *b*, to which they are hung, and the grooves *g* of the crane arm, substantially as and for the purposes set forth.

No. 21,437.—John Nelson, of Rockford, Ill.—*Improvement in Roking Attachments to Harvesters.*—Patent dated September 7, 1858.—The short end L of the rake handle has a strong cord N fastened to it, the opposite end of said cord being attached to the spring O to allow the cord to be drawn taut without breaking; the spring yielding a little to allow the arm I to pass the dead centre. The rake head M is thus thrown backward, entirely clear of the standing or falling grain. The direction of the rake head is indicated by the dotted lines seen at P P^1.

Claim.—The arrangement of the arm I and rake connected by an articulating joint at J, the spring O and cord N, in combination with the guide Q, operating conjointly in the manner and for the purpose set forth.

No. 21,847.—Adam R. Reese, of Phillipsburgh, Pa.—*Improved Raking Attachment to Harvesters.*—Patent dated October 19, 1858.—The operation of this machine is as follows: The revolution of the shaft F causes the crank E to elevate the toothed end of the rake K by means of the slotted link bar J attached to the oscillating box. The arm C then moves the rake, while so elevated, across the platform, over and above the grain. As the teeth of the rake come vertically over the far side, the slotted link J permits the rake to drop on the grain where it rests, while the arm C draws the rake across the platform, carrying the grain with it.

Claim.—The combination of the vibrating arm C, the rake K, the link piece J, and the crank F, when the several parts are constructed, arranged, and operated substantially as described.

No. 21,940.—W. W. Burson, of Yates City, Illinois.—*Improvement in Raking Attachment to Harvesters.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the transverse hinging of frame F^1 as described, for elevating the rake as it moves to the rear.

Second. Adjusting the rake in its position for starting by the gravity of the gear portion of the raking mechanism, combined with the transverse hanging of the frame F^1, the operation being substantially as described.

Third. The combination of the tilting platform P^1, stubble leveler P^2, and glancing board R^1, with the rake for collecting and delivering the cut product, as specified.

Fourth. The combination of shaft S, cam wheel W, spring *l*, and slotted step *h*, substantially as and for the purposes set forth.

No. 22,326.—Joseph Young, of Marshallton, Pennsylvania.—*Improvement in Raking Attachments to Harvesters.*—Patent dated December 14, 1858.—This invention relates to a peculiar means employed for operating a rake, whereby the grain is raked in gavels from the platform and discharged from the platform longitudinally with the plane of the movement of the harvester to which the improvement is attached.

Claim.—The arrangement of the rake bar H, shaft G, rod *j*, provided with friction roller *l*, jointed connecting rods F N attached to crank pulley *e*, inclined adjustable plate K, spring *p*, and nut M, substantially for the purpose set forth.

No. 20,807.—John P. Manny, of Rockford, Illinois.—*Improvement in Track Clearers for Harvesters.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—A wing board or track clearer C D, which is hinged to the divider at *a*, and composed of two or more parts, which are hinged together, and which may be adjusted together or independently of each other, substantially in the manner and for the purpose set forth.

No. 22,368.—Obed Hussy, of Baltimore, Maryland.—*Improved method of gathering grain upon and discharging it from the platform of Harvesters.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the method described of gathering grain upon and raking it from the platform of a reaping machine, and depositing it upon the ground by a raker riding on the machine directly behind the horses, and the gearing facing obliquely towards the grain which the machine is advancing to cut, and who, at a single operation with his rake, first, presses the grain in front of the machine backward against the cutter and over upon the platform; secondly, by a pivotal motion turns the prostrate grain upon the platform with its stalks parallel to the cutter; thirdly, slides the grain endwise off the platform at the side of the machine; and fourthly, deposits the grain in a gavel on the ground behind his seat and across the track of the driving wheel of the machine as set forth.

No. 20,515.—William H. Seymour and Dayton S. Morgan, of Brookport, N. Y.—*Improvement in Harvesting Machines.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings

The inventors say: We are aware that various modes of changing the gear and the velocity of the cutter have been used in which the adjustments are arbitrarily made, but these require skill and care on the part of the persons employed. These we do not claim.

But we *claim*, first, the combination of the changeable pinions P p^5 and gear wheel D actuating the cutters of reaping and mowing machines with their centres so situated relatively that the changeable parts shall always exactly fit and gear when properly placed and not otherwise, the whole being arranged and operating substantially as set forth.

Second. The combination of the replaceable pinions with the series of holes for the axle of the driving wheel of reaping and mowing machines, so arranged with relation to each other that while the rate of motion of the cutter is changed, the height of the cutter from the ground may be varied at the same time, the proper rate of motion for the different heights being always secured, and in such manner that the changeable parts shall always fit and gear when properly placed and not otherwise.

No. 21,343.—Henry G. Kaufman, of St. Louis, Missouri.—*Improvement in Harvesting Machines.*—Patent dated August 31, 1858.—The

object of this invention is to so construct a harvesting machine as to cause it to gather the straw whole with the head on it in the ordinary way, or to gather the grain by first cutting the head off of the straw, and immediately thereafter cut the straw from the ground, both operations to be performed by the same combination of devices and at the same time, or as nearly at the same time as possible, the first operation preceding the second not more than an instant. And also in providing a more efficient means for guiding the machine and for raising and lowering the knives so as to cut the stubble any required height.

The inventor says: I *claim* first, the described arrangement and combination of the wheel C, with the devices before described, viz: the levers *p* and *q*, turn table B and *m*, and the rachet C, and standard *r*, for the purpose of operating the said wheel so as to guide the machine, and raise the knives *h h h* from the ground, substantially as set forth, for the purpose specified.

Second. The combination of the finger-plate K^1, with the knife-plate M, and the knives *h h h*, when these several parts are constructed, relatively arranged, and operated in the manner and for the purpose specified.

No. 21,869.—J. F. Black, of Lancaster, Illinois.—*Improvement in Grain-Discharging Attachment to Harvesting Machines.*—Patent dated October 26, 1858.—The claim and engraving explain the nature of this invention.

Claim.—Operating the gavel discharger, that is to say, the rotating arms *g* of shaft J, from the driving wheel C, through the medium of the wheel H, provided with the slot *d*, and tooth *e*, and the pinion I^1, provided with a quadrilateral plate *h*, as and for the purpose shown and described.

No. 19,689.—Olonzo R. Dinsmoor, of Auburn, New Hampshire.—*Improvement in Haycock Protectors.*—Patent dated March 23, 1858.—The main part A is made of any material capable of protecting the hay from rain. At each corner it has an elastic ground connexion B. The central or middle part of the cover has a tapering pin, C, extended from it, and made of sufficient length to enable it to be driven down into the middle of the upper part of the haycock to a firm bearing.

Claim.—Combining with the cover elastic ground connexions, and a centre pin C, to extend into but not through the hay, the whole being arranged so as to operate with respect to the haycock, substantially described, when applied thereto.

No. 21,150.—E. M. Rees, of Norristown, Pa.—*Improvement in Hay Elevators.*—Patent dated August 10, 1858.—This improvement consists in a peculiar construction of an elevating spring-rod H, bolt F, and rod D, for operating the same, and in the manner of combining these with and arranging them on the frame, the whole forming a substantial hay elevator.

The inventor says: I do not desire to claim broadly the locking of the frame to and releasing it from an elevating rod, as such a device is described and claimed in the patent granted to T. T. Jarret, May 30, 1854.

Neither do I desire to claim broadly a spring latch for releasing and retaining the frame.

But I *claim* the plate G, with its spring bolt F, and rod H, in combination with the forked rod D, with its upper end bent, as described, and its projection f, when the several parts are constructed and arranged with respect to each other and to the frame, substantially in the manner set forth.

No. 22,062.—Robert A. Campbell, of Salem, Indiana.—*Improvement in devices for saving the seed from hay fed to stock.*—Patent dated November 16, 1858.—The nature of this invention consists in the combination of the inclined conducting passage, intermediate hay rack, and trough, having a grated or seive bottom and a sliding drawer or seed receptacle whereby the grass seed which escapes from the hay as it descends from the loft, or while being drawn through the rack is collected and sowed.

Claim —The combination of the inclined conducting passage F, intermediate hay rack E, and seive bottom trough B C C, substantially as and for the purposes set forth.

No. 20,241.—Charles E. Gladding and Joseph N. Gladding, of Troy, Pa., assignors to Charles E. Gladding, of said Troy.—*Improvement in Forks for Elevating Hay.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement and combination substantially as shown and described of the head B, joint C, strap *c*, plate *d*, loop E, and cord or wire F, whereby all projecting arms are dispensed with, so that the instrument when not required for hoisting purposes may be used as a common fork.

No. 19,921.—John Fasig, of Jackson, Ohio.—*Improvement in Hay Knives.*—Patent dated April 13, 1858.—The knife C being thrust into the hay, the ends *c c* enter readily, and power being applied by placing the hand upon the handle A^1, and upon the piece B, all the hay within the angle of the knife is cut, the sides of the angle preventing the hay from being pushed away by the force applied to cut it.

Claim.—The angular knife C, constructed substantially in the manner and for the purpose set forth, it being attached to the shank A, as described.

No. 20,772.—John B. Benton, John Frederic Behn and Gottlob Bastian, of Buffalo, N. Y.—*Improvement in Machines for Raking and Loading Hay.*—Patent dated July 6, 1858.—This machine will gather the hay or grain by means of the rake teeth *a a a*, which are connected to the arms *b* by means of the rod *c* passing through the heads of the rake teeth *a a a;* the rake teeth are further secured by one end of the circular plate *d* being fastened to the rod *c* which is finally secured to the frame E by means of the brackets *f*.

The inventor say: We do not claim the rake.

Neither do we claim the securing of the shaft to the wagon wheels, nor the forks being attached to the shaft, as broadly considered.

But we *claim* the combination of the bands *o*, plate *d*, and forks *n*, the whole being constructed and arranged for operating conjointly as and for the purposes set forth.

No. 19,812.—Judson Knight, of Newark, N. J., assignor to R. W. Booth, of Providence, R. I.—*Improvement in the Manufacture of Hoes.*—Patent dated March 30, 1858 —The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that a wrought iron plate has been applied in the form of a cap to assist in the union of the steel blade and malleable cast iron eye of a hoe by the welding process, and therefore I do not claim the iron edge of a hoe uniting plate when not interposed between the steel blade and malleable cast iron eye; and I do not claim the lapping of the margin of the wrought iron plate over the edges of the flanch of the eye.

But I *claim* the welding of a wrought iron plate between the steel blade and the malleable cast iron eye, substantially as and for the purpose set forth; or in other words, I claim the hoe constructed of the three pieces A, B, and C, arranged relatively to each other, and welded together substantially as specified.

No. 20,030.—Horatio N. Black, of Philadelphia, Pa.—*Improvement in Rice Hullers.*—Patent dated April 27, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the employment of an elastic covering for forming one of the rubbers of a huller composed of alternate layers of cloth and vulcanized rubber, the outer surface of which is formed by incorporating with the vulcanized rubber emery or other hard and gritty material, when the same is combined with an adjacent rubber of metal or other hard unyielding material with a grinding or breaking surface for the purpose set forth.

No. 19,745.—J. V. Blackwell, of Ovid, N. Y.—*Improvements in Machines for Hulling and Cleaning Clover Seed.*—Patent dated March 30, 1858 —The power is applied to the cylinder C, a cross band from which drives the feed roller D, and another the fan G. The shoe K, is vibrated by the rod M, hung eccentrically to the pully N on a side rod, which is geared with the shaft of the fan G.

The inventor says: I *claim* the application of the gravitating curtain H, at the point of the eduction of the blast, for the purpose of modifying and diffusing the same, and preventing the waste of seed, substantially in the manner shown and described.

I also claim the combination and arrangement of the overshot grating cylinder C, and feed roller D, with the blast generator G, and blast-regulating curtain H, the whole operating conjointly in the manner and for the purpose described.

No. 20,971.—David Henwood and James Stephens, of Brooklyn, N. Y.—Assignors to themselves and Thomas F. Rowland, of Brooklyn,

aforesaid.—*Improvement in Machines for Hulling and Cleaning Rice.*—Patent dated July 20, 1858.—The claims and engravings explain the nature of this invention.

The inventors say: We *claim* the cylinder F, provided with wedge-shaped spiral grooves, inclining outwards and downwards, substantially as described, in combination with the stationary india rubber lining D^2, or such equivalent lining that is firm enough to hull the grain, and yielding enough not to break much of it in the process of hulling.

We also claim making the top of the cylinder F convex or conical, with curved wedge-shaped grooves, as described, in combination with the stationary adjustable disk above it, lined with india rubber, gutta percha, or some equivalent substance for the purpose set forth.

We claim a cylinder covered with wire card clothing, in combination with a cylinder of perforated sheet metal, when both are made to revolve in opposite directions for the purposes set forth.

We claim the huller covered by the first claim, in combination with the scourer covered by the fourth claim, arranged and operating as described.

No. 20,249.—John C. Birdsell, of Rush, N. Y.—*Improvement in Machinery for Hulling and Threshing Clover.*—Patent dated May 18, 1858.—The clover is placed on the table A, where it passes over the threshing drum D, where all the clover is beaten loose. The straw is then carried forward over the apron E to the upper bolt B, the clover seed passing through the holes therein and falling on to the under bolt B^1, where it is further cleaned. It then passes to the table T, and is carried forward by the belt of slats *b b*, and having fallen down the inclined plane P, passes into the cylinder L, where it is effectually hulled.

Claim.—The arrangement of the slatted belt *b b*, with the bolt, B B^1, table T, threshing cylinder D, hulling cylinder L, and fan F, the whole operating in the manner and for the purpose substantially as set forth. It being understood that I claim the above described devices and arrangements only as applied to the construction of clover hulling machines.

No. 20,830.—John F. Taylor, of Charleston, S. C.—*Improvement in Rice Hulling Machines.*—Patent dated July 6, 1858.—The object of this invention is to obviate the difficulty attending the use of the crank which has hitherto been most usually employed for giving a reciprocating motion to a pestle D, which works within a vessel of proper form. The pestle requires to be driven with a rapid motion, and as the resistance to its motion, is of course, variable, more force being required at its downward than at its upward stroke, the crank pin as well as the journals of the crank shaft become worn and rendered useless. The invention consists in giving a reciprocating motion to the pestle by attaching the same to a lever c^1, which is operated through the medium of three geared eccentrics F G H, whereby the pestle may be driven with but little wear of the working parts, and by a moderate expenditure of power.

Claim.—The employment or use of the curved lever frame attached at one end to the bed piece A, and having the pestle D permanently secured to the opposite end, the above parts being placed relatively with the vessel B, as shown and described, and used in connexion with the geared eccentrics F G H, arranged relatively with each other and the lever frame c^1, substantially as and for the purpose set forth.

No. 19,557.—A. M. George, of Nashua, N. H.—*Improvement in Machines for Hulling Rice.*—Patent dated March 9, 1858.—The rice is placed in the hopper H, and power applied to the shaft B, the rice in passing down between the rotating conical head C, and shell D, has the hulls stripped from the kernels or grains. The hulls and kernels pass down through the tubes Q into the spouts R, and as it falls the hulls are blown from the kernels by jets of air which issue from the openings *f* in the annular chamber K. The blast is generated by the fan M. When the cylinders J are filled, the wheels *c* are thrown in gear with the wheel *d*, the openings *e* being closed by slides, and as the cylinders J rotate the grain is polished and rendered smooth.

The inventor says: I do not claim separately or in themselves considered the conical rotating head C and shell D, for they have been previously used for similar or analagous purposes.

But I *claim* the arrangement, as shown and described, of the conical head C, shell D, fan M, and annular blast or wind chamber K, for the purposes specified.

No. 20,138.—Francis Burdick and Lodowick Burdick, of South East, N. Y.—*Improvement in Machines for Hulling Rice.*—Patent dated May 4, 1858 —A detailed description of this invention would require too much space to be given here. The cylindrical runners E are of stone, and are in the form of a frustum of a cone. The runners E are enclosed in corresponding concaves G, each formed from two blocks of stone, one half the concave being cut from one and one half from the other, and so made that the runner fits the concave.

Claim.—The peculiar dress in our horizontal stone mill, composed of the frustum of a cone and its corresponding concave, constructed and operating as and for the purpose described.

No. 20,552.—Philip Dickenhof, of Philadelphia, Pa.—*Improvement in Machines for Hulling Rice.*—Patent dated June 15, 1858.—By making C of wide form a free open space is constantly secured in its "wake" for the discharge of the grain from between the spikes *f g*, and the acting edge of the rapidly revolving clearer by reason of said wide body form thrown *in advance* so as to catch such grain and convey it to the spout before it has time to accumulate on the bottom of the outer cylinder A.

The inventor says: I *claim* the combination with the compensating delivery spout *b* of a revolving clearer C interposed between the said spout and the hulling mechanism or surfaces, essentially as set forth.

I likewise claim the revolving clearer C, constructed as described,

with its opposite acting sides or edges shaped to produce similar action in opposite directions of travel, and the outer ends of said edges formed to counteract the centrifugal throw of the clearer, as specified.

No. 20,833.—Robert P. Walker, of New York, N. Y.—*Improvement in Machines for Hulling Rice.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim wheels or cylinders covered with emery in themselves, neither do I claim india rubber or elastic rollers *h* in themselves, but I am not aware that a surface of emery has ever before been used in connexion with an elastic roller or surface, to one or both of which a motion is communicated so that the emery abrades and removes the hulls of the rice or grain while partially imbedded and held by the elastic surface as specified.

What I *claim* is, first, a surface of emery in combination with an india rubber or other elastic surface for hulling rice or other grain, when motion is communicated to one or both of said surfaces in such a manner that the said surface of emery abrades the hulls for removing the same, as the rice or other grain is partially imbedded or retained by the said elastic surface, for the purposes and substantially as specified.

Second, I claim imparting an end-wise motion to an elastic roller *h* or its equivalent, in combination with a revolving roughened surface, when the same is used for the purpose of hulling rice or other grains, substantially as specified.

No. 20,860.—Joseph S. Bossard, of Sumterville, S. C.—*Improvement in Machines for Hulling Rice.*—Patent dated July 13, 1858.—This is an improvement in that class of machines for cleaning and hulling rice in which pestles or pounders are used for effecting the purpose. The invention consists in a novel arrangement of arms *b b d* attached to a horizontal rotating shaft E for elevating the pestles, whereby the pestles or pounders are elevated the requisite distance by comparatively short arms, and consequently with a corresponding diminution of power.

Claim.—The employment or use of the arms *b b d* attached radially to the rotating shafts E, in connexion with the projections *c c d* on the pestle shafts C, the parts being arranged to operate as and for the purpose set forth.

No. 19,018.—Emil Cohen, of Washington, D. C.—*Husking and Shelling Glove.*—Patent dated January 5, 1858.—A represents a glove or mitten to the palm of which is secured a shield B of leather, metal, or any other suitable material; from this shield extends a number of pins *a* in a direction which is perpendicular to the face of the shield, and consequently to the palm of the hand.

Claim.—The husking and shelling glove, as described, as a new article of manufacture, when constructed and operated substantially in the manner and for the purposes set forth.

No. 19,083.—Henry Fisher, of Canton, Ohio.—*Improvement in Mowing Machines.*—Patent dated January 12, 1858.—This improvement consists in the inner end of a finger-bar, pivoted to the frame of a machine of a weighted lever, by means of which the weight of the outer end of the finger-bar is counterbalanced, thereby removing, in a great measure, the friction of the dividing shoe, which otherwise has a tendency to cause the machine to turn on it as a pivot.

Claim.—The arrangement and combination of a weighted lever G, with a finger-bar pivoted to the frame of the machine, substantially as and for the purposes set forth.

No. 19,504.—Charles Howell, of Cleveland, Ohio.—*Improvement in Mowing Machines.*—Patent dated March 2, 1858.—This improvement consists in a new mode of connecting the main frame to the trunk frame, by means of which the height of the cut may be readily regulated as required, and at the same time the finger-bar allowed freely to accommodate itself to the inequalities of the ground.

Claim.—The method of connecting the truck to the main frame of a reaper or mowing machine and of regulating the height of the cut, &c, substantially as set forth.

No. 19,913.—William Crook, of New Hope, Pa.—*Improvement in Mowing Machines.*—Patent dated April 13, 1858.—To the back of the cutter frame is secured the driver's seat Y, so far behind the centre of vibration of the cutter frame that a man of ordinary weight, when sitting on it, will act as a counterbalance, or nearly so, to the cutting apparatus.

Claim.—Securing the driver's seat to the hinged cutter frame of a mowing machine in such a position as regards the centre of vibration of said frame, that the weight of the driver may act as a counterbalance, or nearly so, to the cutting apparatus, for the purpose specified.

No. 20,035.—Thomas D. Burrall, of Geneva, N. Y.—*Improvement in Mowing Machines.*—Patent dated April 27, 1858.—This invention consists of a peculiar arrangement of devices for connecting a caster wheel with the main frame, in such a manner that the finger board can be elevated, when not in use, the desired amount for cutting the grass closer to the earth or further from it, or for converting the mowing machine instantly into a reaping machine.

Claim.—The auxiliary frame *r* and caster wheel *w*, forming a carriage to which the animals are attached by a loose pole, when combined with the sector *s*, lever *t*, and standard *v*, as specified, whereby the forward part of the main frame *a* and the cutter bar *d* are elevated or depressed on a line between the caster wheel *w* and main wheel *b*, substantially as and for the purposes specified.

No. 20,164.—Henry Marcellus, of Amsterdam, N. Y.—*Improvement in Mowing Machines.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Attaching the main frame D of the machine to the axle

A, by connecting the frame, by means of journals *c d*, to the sleeve or collar C, which is placed loosely on the axle A, substantially as and for the purpose set forth.

No. 20,479.—JOHN BUTTER, of Buffalo, N. Y.—*Improved Mowing Machine.*—Patent dated June 8, 1858.—The nature of this invention relates to an improvement in the construction of the frame A B, so as to give the machine the feature of flexibility when mowing, and adjustability for reaping; and in the construction and arrangement of a wheel L to carry the inner end of the finger bar, so that the wheel will tread on a line with the finger bar, and allow the cutter bar to vibrate through the wheel; also, in so constructing the guard fingers that they may be connected to the finger bar and support the finger bar *clear* from the ground, and allow the bar to work on the under side of the finger bar.

The inventor says: First, I *claim* the combination and arrangement of the jointed levers C D E, for the purpose of supporting the driving wheel and giving flexibility to the machine, substantially as set forth.

Second, I claim the arrangement of the carrying wheel L near the heel of the cutter bar, so that the finger bar will pass through the wheel, and the cutter bar (or connecting rod) also vibrate through the wheel, substantially as described.

Third, I claim constructing the guard fingers so that they may be connected to the finger bar, and support it clear from the ground, and also allow the cutter bar to work on the under side of the finger bar, as set forth.

Fourth, I claim the sleeve W, when connected with the spring bars H H, for the purpose of supporting and adjusting the driver's seat on the axle of the driving wheel, as described.

Fifth, I claim the arrangement and support of the raker's seat on the lever C, as set forth.

Sixth, I claim supporting and carrying the outer end of the finger bar, by means of the specific arrangement of the divider N, wheel L, and spring O, as described.

No. 21,607.—GEORGE F. JEROME AND MOSES JEROME, of Mineola, N. Y.—*Improvement in Mowing Machines.*—Patent dated September 28, 1858.—This invention relates to the employment of certain means for elevating and depressing the cutting device or sickle, and sustaining the same, whereby the sickle, as the machine is drawn along, is allowed to readily conform to the inequalities of the surface of the ground.

The inventors say: We *claim*, first, the caster wheel K, when attached to the shoes G G, or their equivalents, by having its arbor J pass loosely through a socket I attached to the cross bar H, and having a swivel *b* at the upper end of the arbor, so that by the aid of the pulleys *c d* or other guides and a chain or cord *e*, the weight of the finger bar and sickle will be transmitted to the caster wheel, and the finger bar and cutter raised and lowered, while the caster wheel is allowed to turn freely in any direction, without affecting in any way its concomitant parts.

Second. We claim the lever L and spring N, in combination with the chain or cord *e*, caster wheel K, and shoes G G, when the whole are arranged to operate substantially as and for the purposes set forth.

No. 21,777.—FISK RUSSELL, of South Boston, Mass.—*Improvement in Mowing Machines.*—Patent dated October 12, 1858.—This invention relates to an improvement in that class of mowing machines in which detached pivoted vibrating oscillating cutters are used. The object of the invention is to so arrange the cutters that they will offer no obstruction to the cut grass, but allow the same to pass freely over the finger bar without the possibility of choking or clogging the cutting device.

Claim.—Attaching the cutters J to hubs or bosses *q*, which are fitted on pins *r* in the finger bar, and provided with arms *u*, which are fitted in notches in the cutter bar H; the bosses *q*, arms *u*, and bar H being covered by a plate substantially as and for the purpose set forth.

No. 19,936.—ABRAHAM MARCELLUS, of Amsterdam, N. Y.—*Improvement in Track Clearers for Mowing Machines.*—Patent dated April 13, 1858.—The improvement in this track clearer consists in the manner in which a plate or board is operated or vibrated. The plate or board is pivoted to the shoe D, and fitted within the wing E, at the outer end of the finger bar B of the machine, the vibrating board and ring forming the track clearer.

The inventor says: I do not claim separately the wing E and the plate or board F, for they have been previously used.

But I *claim* operating the plate or board F from the driving wheel C, by means herein shown or its equivalent, for the purpose set forth.

No. 19,800.—WILLIAM J. STEVENSON, of New York, N. Y.—*Machine for Shelling Peas.*—Patent dated March 30, 1858.—The operation is as follows: The peas to be shelled are placed in the hopper H, and the roller D is rotated in the direction of the arrows. The hopper is vibrated vertically by means of the cams G, and the peas are fed thereby from a hopper on the endless cords F, which convey the peas to the rollers C D. The pods, as they pass underneath the roller C, are depressed or forced down, the cords F yielding; and the pods will be split by the pressure, and will be caught in the "bite" of the rollers, and as the pods are drawn between the two rollers C D, the peas will be stripped from their pods and forced between the cords F into the draw B.

The inventor says: I do not claim separately and broadly the employment or use of rollers as separators; for they have been previously used for such purposes, as, for instance, in the roller cotton gin, where the seed is stripped from cotton by the same process as herein described.

Neither do I claim broadly the employment of the rollers with an endless belt or carrier, irrespective of the construction of the same

and its arrangement with the rollers, whereby the apron serves as a carrier for the pods, and allows the shelled peas to pass through it.

I *claim* the combination of the rollers C D E and endless cords F, arranged to operate substantially as and for the purpose set forth.

No. 19,198.—P. C. Mosier, of Homer, Ill.—*Improvement in Corn Planters.*—Patent dated January 26, 1858.—The nature of this invention consists in pivoting the beam A to the forward axle C, and having its rear end, which carries the tubular furrow opener E, covering shares F F, seed hopper G, and driver's seat, arranged to run directly upon the ground.

Claim.—The beam A, when shaped as specified, and pivoted to the axle C by its forward end, and has its rear end which carries the tubular furrow opener, covering shares, seed hopper, and driver's seat, arranged to run directly upon the ground, substantially as and for the purposes set forth.

No. 19,242.—Nathaniel Drake, of Newton, N. J.—*Improvement in Corn Planters.*—Patent dated February 2, 1858.—A A are the traction wheels, B is the axle, D the ploughs, and they are so connected to this axle that they may rise and fall independently of each other; the ploughs are hung to the beams Ee Ee Ee, which are jointed to the axle B. The stanchions or posts F are framed into the axle B, to support the rollers G H. K K K are the hoppers, in which the seed is placed; they terminate in tubes L.

The inventor says: I *claim*, 1st, the agitator *g*, arranged with relation to the seed boxes and valves substantially as set forth.

2d. Combining with one of the weights which operate the valves, or its equivalent, a cam-shaped gear wheel, corresponding in form with the cams which operate said weights, substantially as and for the purposes set forth.

No. 20,024.—George Taylor, of Richmond, Ind., assignor to Himself and John W. Free, of Laporte, Ind.—*Improvement in Corn Planters.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Now I do not claim any particular method for the distribution of the grain; but I disclaim the method shown, and all other methods of distribution, for I hold that what is strictly my invention is applicable to many or most methods or devices for distribution now in use.

Neither do I claim the devices shown for operating the distributing apparatus by means of inclined planes *j j*, held in contact with cam *j* by means of a spring S, as this contrivance is already before the public.

Nor yet do I broadly claim the use of either springs or weights for operating the marking contrivance.

But I *claim*, 1st, the combination of parts j^1 j^1 *l*, shaft L, and wheel K, with slide G, for the purpose of correcting the machine and making it plant in line with work already done.

2d. I claim the weighted spring arms *p p*, operated as shown, in combination with the devices shown for correcting the machine, when said spring arms are so situated as to mark midway between the rows of planting.

No. 20,074.—Oliver Lippincott, of Camden, N. J.—*Improvement in Corn Planters.*—Patent dated April 27, 1858.—This invention consists in the arrangement for attaching a planting apparatus to plough Z^1, so that the farmer may plough, furrow, plant, and cover his corn at one and the same time.

Claim.—The arrangement of the plough Z^1 and its beam B with frame A and its hopper C, weight L, slide N, wheel E, and covering share I I^1, the whole arranged for joint operation as shown and described.

No. 20,193.—Robert J. Clay, of St. Louis, Mo.—*Improvement in Corn Planters.*—Patent dated May 11, 1858.—This invention consists of a double seed hopper D D^1, and in applying thereto a reciprocating drop valve J, so constructed and operated as to cause it to drop one, two, or more hills of corn every revolution of the wheel, to which the said valve is to be connected, and by which it is to be operated.

Claim.—The arrangement of the hoppers D D^1, valve J, wheels *k*, shaft *a*, standard *e*, and scraper *l*, when the whole are constructed to operate conjointly as and for the purpose specified.

No. 20,297.—L. B. Phelps, of Geneva, Ohio.—*Improvement in Corn Planters.*—Patent dated May 18, 1858.—This invention consists in constructing an implement for corn planting with runners *a a*; they are made out of two-inch plank, are from four to six inches in width, and about three feet in length. That part of the runners which runs upon the ground is made like a sled runner, and is shod with iron, which should be about four inches in width. The furrow openers *c c* are adjustable, and are applied to the front ends of the extended section of the runners, and are held or secured there by a strip of iron bent at right angles around the front ends of the runners, and are firmly screwed to them. The seed boxes *n* are placed directly in rear of the furrow openers, and are fastened to board *h*.

The inventor says: I do not claim to be the inventor of runners, handles, seed boxes, or furrow openers or drills: these are old devices, and in common use.

But I *claim* the arrangement of the adjustable furrow openers *c c*, handles *f f*, lever *k*, and spring catches *y y*, with runners *a a*, the whole being constructed for joint operation as described and shown.

No. 20,467.—Augustus C. Carey, of Ipswich, Mass., assignor to Himself and Alfred B. Ely, of Newton, Mass.—*Improvement in Corn-Planters.*—Patent dated June 1, 1858.—The object of this invention is to obtain a corn-planter that will measure off the distance between the hills in a row. To the frame A, in front of the hopper E, is secured a rigid piece O, which projects on one side into the path of the arms N as they revolve in a vertical plane. The end of each arm N is furnished with a claw or long spike *i*, which enters the ground as

the arm N falls, and thus detains the arm, and, as the machine advances over the ground, causes the arms M to revolve in the direction of these arrows; this rotates the roller K and discharges the contents of the hole *d* at regular intervals.

Claim.—The described arrangement of mechanism operating independently of the carrying wheels of the machine for the purpose of spacing off the distances between the hills, that is to say, the roller K, the arms M and N, and the piece O, arranged and operating in the manner described for the purpose set forth.

No. 20,639.—Pascal Hatch, of Norwich, Vermont.—*Improvement in Corn-Planters.*—Patent dated June 22, 1858.—This invention consists in the employment of glazed receptacles C C, immediately in the rear of each grain box A, so arranged and operated that the proper number of kernels of corn for each planting charge will first be deposited in said receptacles, and remain there in plain view of the superintendent during the interval between each movement which deposits a charge of corn in the ground.

Claim.—Combining the glazed receptacles C C with grain boxes A A, and with the delivering apparatus connected therewith, when said parts are constructed, arranged, and operated substantially in the manner and for the purpose set forth.

No. 20,781.—Warren Drummond, of Woodbridge, New Jersey.—*Improvement in Corn-Planters.*—Patent dated July 6, 1858.—This machine is designed for planting two rows of corn at a time. It employs two hoppers, two adjustable tubes K L, with covering shares attached, and two covering rollers H H, which are furnished with scrapers I, so that all dirt shall be scraped from their periphery. The dropping of the corn is regulated by a double acting cut-off E *e* e^1 *f* f^1.

Claim.—The particular manner described of arranging and combining for united use only the two dropping-slides D D, double-acting cut-off plate E *e* e^1 *f* f^1, double crank axle H *g g*, covering rollers H H, combined brace and scraper I, adjustable furrow opening and closing tubes or shares K L, and secondary hopper C C, for the purpose set forth.

No. 21,180.—Thomas M. Bedgood, of Cleveland, Ind.—*Improvement in Corn-Planters.*—Patent dated August 17, 1858.—This invention consists in so arranging and combining the several parts of the machine that the furrow is opened for the reception of the seed, the seed dropped in specified quantities and at specified distances, and covered with soil to a specified depth by it, thus performing at one operation what is usually effected by several distinct machines in a perfect manner and with less expense and labor.

Claim.—The inventor says: I do not claim, by itself, any individual part of the machine described.

But I *claim* the combination of the truck wheel E, cam wheel H, lever I, and gauge F, when constructed and arranged in relation to each other and to the seed box C and spout J, as described, and operating as set forth.

No. 21,187.—John S. Davis, of Arcadia, Ohio.—*Improvement in Corn-Planters.*—Patent dated August 17, 1858.—When the valves have been moved by the action of the lever R, the spring U brings them back to their original position and closes the orifice through which the seeds pass. Should it be desirable to plant corn in rows both ways across the field, the pins H are all to be removed from the wheel G, and the ground furrowed or marked in one direction. The operator can at pleasure drop the seeds in these furrows, by causing the machine to be drawn across at right angles thereto, and by a sudden movement toward the handle B of the lever V, whose fulcrum is at V^1, the valves P are opened, and the seed deposited in the furrow. By repeating this movement at the moment the tube O passes the furrow, rows are planted in both directions. The adjustable guards M and trucks K move laterally with the hoppers, being connected at the piece A to which the hoppers are secured, so that the hoppers and adjustable guards will always have the same relative position towards each other.

Claim.—The adjustable guards M, truck K, and adjustable hoppers I, in combination with the adjustable connecting rods S S, lever R, and rod Q, the whole combined and operating in the manner described, and for the purpose set forth.

No. 21,287.—Horace Whitman, of Kingsville, Ohio.—*Improvement in Corn-Planters.*—Patent dated August 24, 1858.—The nature of this improvement consists in hinging the adjustable or articulating frame that carries the teeth and blades to the framework of the machine, and in the manner of elevating and depressing the frame and teeth, in combination with the means employed to distribute the grain at certain and definite distances.

Claim.—The adjustable or articulating frame *c* hinged to the machine and provided with the teeth and blade, in combination with the rock-shaft Q, weighted lever T, and lever I, when arranged in relation to a seeding machine substantially in the manner and for the purposes set forth.

No. 21,393.—Franklin W. White, of Worcester, Mass.—*Improvement in Corn-Planters.*—Patent dated August 31, 1858.—This invention relates to the devices for dropping the corn or potatoes into the furrow opened by the machine; and in connexion therewith the manner of covering the grains, seed, or anything dropped in the furrow.

The inventor says: I *claim*, first, operating the seed slides through the rod *p* and its arm *r* and the hole or holes *s* in the wheel *d*, substantially as described.

I also claim, in combination with a dropping apparatus and the double mould-boards for opening the furrow, the openings *w* and guides *x* for admitting and directing the earth or soil that is to cover the seed, substantially as described.

No. 21,404.—A. G. Babcock, of Galesburg, Illinois.—*Improvement in Corn-Planters.*—Patent dated September 7, 1858.—The nature of this invention consists in the arrangement of a carriage with two wheels, axletree, and body-frame, with an upright standard on each side of the frame near the front. Across from the top of the standards is a rocking shaft or rod, to which is attached a swinging or vibrating frame.

Claim.—The arrangement and combination of the entire machine, for the purpose of planting corn.

No. 21,583.—Charles Van Houten, of Sunbury, Ohio.—*Improvement in Corn-Planters.*—Patent dated September 21, 1858.—The nature of this invention consists, first, in the employment of the hinged, adjustable, and laterally sliding hopper and share-frames, furnished with a spring stop or catch, in combination with a long transverse pinion, and the propelling axle.

It consists, second, in the combination of the hinged grated apron, with the subsoiling covering shares and furrow opener, whereby the furrow is opened and the dirt thrown to each side, and subsoiling performed, and the soil perfectly pulverized before falling upon the cam, and any desired quantity of soil can be thrown upon the corn.

The inventor says: I *claim*, first, the employment of the hinged, adjustable, and laterally sliding hopper and share frames E, furnished with a spring stop or catch M, in combination with a long transverse pinion S, and the propelling axle C, substantially as and for the purposes set forth.

Second. The combination of the hinged grated apron J, with the subsoiling covering shares I and furrow opener H, substantially as and for the purposes set forth.

No. 22,183.—Daniel Ladd, of Dearborn, Michigan.—*Improvement in Corn-Planters.*—Patent dated November 30, 1858.—The nature of this invention consists in planting corn and other seeds by means of a suitable frame mounted on wheels, drawn by a horse, and so constructed that by the rotating of the axle the seed is deposited at equal distances in furrows made by small ploughs attached to the under side of the frame; the seed, passing from a box containing hoppers at each end, which is supported on a frame, is deposited in the furrows through tubes reaching nearly to the ground in rear of the plough, and is covered by scrapers attached to the frame in rear of the tubes.

Claim.—The peculiar arrangement of the frame A, shafts B B, axle C with cavities *a a*, wheels D D, box E, ploughs F F, tubes G G, scrapers H H, and rod I attached to axle C, when made and used identically as described and for the purposes set forth.

No. 19,438 —Daniel B. Neal, of Mt. Gilead, Ohio.—*Improvement in Cotton Seed Planters.*—Patent dated February 23, 1858.—Motion is communicated by the driving wheels to shaft J, and by the shaft to cylinders F F; the cylinders turn in such a manner that their arms or teeth *c c c c* coming together will turn downward and convey the seed from the hopper. The amount of seed which reaches the cylinders

F F is regulated by the bottom C and the slide D. The cover D slides between the two bottoms C and *g*, and serves to cover the aperture in the bottom C, when the bottom is stationed at any given point.

Claim.—The arrangement of the adjustable bottom C and *g*, with the sliding cover D and cylinders F F, all operated as set forth and for the purpose fully described.

No. 19,874.—James Ross, of Midway, Alabama.—*Improvement in Cotton Seed Planters.*—Patent dated April 6, 1858.—The nature of this invention consists in combining with the discharge plate an agitator, having a combined vertical and oscillating movement, for the purpose of more thoroughly preventing the packing of the cotton seed in the hopper.

Claim.—The combination of the hollow shaft and arms, flanges *l l*, shaft *c*, discharge plate *a*, and mechanism vibrating the same, arranged and operating substantially as and for the purpose set forth.

No. 20,049.—J. T. Donovan and W. J. Fowler, of Seguin, Texas.—*Improvement in Cotton Seed Planters.*—Patent dated April 27, 1858.—The forward movement of the machine causes the rotation of wheel W^1 in the direction of the arrow, the notches of this wheel catching the seed and conveying them to the tooth T. The rotation of shaft B produces the rotation of the agitating shaft C, the arms of which loosen the seed and prevent packing, while the depending brushes *b* insure the filling of the notches *n* of wheel W^1, as the seed will be thus prevented from arching over the wheel W^1.

Claim —The combination of notched wheel W^1, shafts C, arms *a*, and depending brushes *b* thereof, with the circular hopper, the whole arranged for joint operation as shown and described.

No. 20,432.—John S. Huggins and Rowland Chapman, of Darlington district, S. C.—*Improvement in Cotton Seed Planters.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the frame A and its furrow opener B, ring C, handles D, braces F, hook G, brush H, and cover I, with the cylinder K and its receivers N, discharge aperture *h*, cavity *f*, and fender O, the whole being constructed for operation conjointly in the manner and for the purpose set forth.

No. 20,572.—Arnold McDonald, of Salem, Miss.—*Improvement in Cotton Seed Planters.*—Patent dated June 15, 1858.—When the machine is in motion the roller A, turning on the ground, gives motion to the cog-wheel B on its axle, which, turning into the cog-wheel C, gives motion to the shaft T, and its grooved seed distributing wheel D and stirrers *b b b b*. The stirrers *b b b b* keep the seed in constant agitation, and cause them to fill the groove *i i* on the seed distributing wheel D, which, in passing through the opening *x x* in the bottom of the hopper E, deposits them in drills.

Claim.—The combination of shaft T, its grooved seed distributing wheel D, and stirrers *b b b b*, with hopper E, the whole being con-

structed, arranged, and operating in the manner and for the purpose described.

No. 20,694.—Edward T. Bostrom, of Newnan, Ga.—*Improvement in Cotton Seed Planters.*—Patent dated June 29, 1858.—This invention consists in a novel distributing device, whereby a proper and uniform discharge of seed from the hopper is insured, and also in a peculiar arrangement of furrow share, covering blades, cleaners, and gauges. These are provided so that the furrows that receive the seed are made of a uniform depth, the seed properly covered, and all weeds, sods, &c., prevented from entering the furrows while they are being formed, and the seed covered.

The inventor says: I do not claim separately any of the parts, irrespective of the arrangement shown.

But I *claim* the combination of the screw F and shaft E, placed within the seed box D, and provided with beaters *a*, the whole being arranged to operate as and for the purpose set forth.

No. 21,308.—Horatio P. Allen, of Bowling Green, Ky.—*Improvement in Cotton Seed Planters.*—Patent dated August 31, 1858.—This invention consists in the tangentially set lifting shelves when slotted and used on the inner circumference of a rotating hopper E, which has a continuous discharge passage, whereby the seed are lifted and held till they are brought to the front and rear parts of the hopper, and thus their discharge insured at these two points at the same time; the hook I drawing one portion of the seed off the left shelf and out at the rear of the hopper, while another portion is escaping at the front by their own gravity, owing to the shelves when at the front of the rotating hopper becoming inverted and compelling the seed to fall down and discharge through the central space of the hopper.

The inventor says: I *claim*, first, the combination of the hook, when arranged to reciprocate, with rotating hopper, substantially as and for the purposes set forth.

Second. The tangentially set shelves, when slotted and used on the inner circumference of a rotating hopper, which has a continuous discharge passage G, as specified and for the purpose set forth.

No. 19,329.—Joshua Fairbank and Edwin C. Durfee, of Leon, New York, administrators of John B. Fairbank, deceased.—*Improvement in Hand Corn Planters.*—Patent dated February 9, 1858.—The nature of this invention consists in so constructing the parts of the machine as to make it capable of depositing the seed in the ground by pressing it out at the side of the rectangular tube B that carries it into the soil. The seed hopper is located in a central position, and the corn is conducted from it through the inclined tubes J J to the depositing cups R.

Claim.—The particular improvements which constitute the said invention, and which are claimed as having been originally and first invented by the said John B. Fairbank, are—

First. The adjustable measuring cups B, with a movable bottom

operated by the upward motion of the cups relatively to other parts, as specified.

Second. The thruster S and Slide V, or their equivalents, when used for giving the side pressure to the corn, in the manner and for the purposes above stated.

No. 19,540.—H. F. Batcheller, of Sterling, Illinois.—*Improvement in Hand Corn Planters.*—Patent dated March 9, 1858.—This invention consists in the employment or use of a slide and seed-distributing roller B, arranged relatively with a seed box A, whereby the slide D is made to rotate the seed-distributing roller, and also to force the seed into the earth. An adjustable gauge board C is also employed attached to the device, so that it may easily be removed when necessary.

The inventor says: I do not claim the seed-distributing roller B, for that is an old device and in common use on many kinds of seed drills; nor do I claim the slide D, for that is also in common use in hand planters.

But I *claim* the combination of the pressure slide D and seed distributing roller B, arranged as shown and placed relatively with the seed box A, so as to operate substantially as and for the purpose set forth.

No. 19,833.—Daniel G. Coppin, of Cincinnati, Ohio.—*Improvement in Hand Corn Planters.*—Patent dated April 6, 1858.—The nature of this improvement consists in the arrangement of devices employed for making a suitable receptacle in the ground for the corn, so that it can be covered with a proper depth of dirt without pressing the dirt over the grain; also, dropping and scattering the corn as it is discharged from the machine, to prevent it from rotting by lying in a heap and give it a chance for growing properly.

Claim.—The combined arrangement of the concave plate K, lever *h*, and seed rod f^1, arranged with the pipes *d* and *g*, and spring J, all constructed and operated as represented, for purposes mentioned in the specification.

No. 19,054.—H. Wainright and S. T. Williams, of Farmingdale, New Jersey.—*Improvement in Potato Planters.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the employment of a fork for drawing potatoes from a hopper in planting, being aware that such has been before used.

But we *claim* the combination of a tripping fork H with a reciprocating trough I, so that the fork will, by a uniform movement, alternately take a potato from the trough and deposit it in the drill tube, as specified.

We also claim the arrangement of the inclined reciprocating troughs I I, with revolved winged rollers *i i i*, operating as described, in combination with the hopper L, provided with removable bottoms *m m*, whereby the potatoes are supplied as fast as required to the troughs, as described.

We also claim the wedge-like projections *h h*, in combination with the reciprocating trough, in the manner and for the purpose set forth.

No. 19,178.—John R. Albertson, of Allegheny, Pa.—*Improvement in Potato Planters.*—Patent dated January 26, 1858.—The nature of this invention consists in furnishing the front end of the hopper *h* with rods *r*, so arranged as to allow the fingers on the belt *z* to pass between them; said rods being used for the purpose of preventing the seed from rubbing against the belt, thereby avoiding friction, wearing, and tearing of the belt. It also consists in the arrangement of the belt with the fingers *f*, the pulleys *p*, the wheels *w*, and the depositing tube *n*, said parts being so arranged that the seed is lifted from the hopper and carried up and deposited in the tube *n*, and there held by the fingers *f*, until it is the proper time to deposit the seed.

Claim.—The arrangement of belt *z* and fingers *f* with rods *r* and hopper *h*, in the manner and for the purpose described.

No. 19,294.—Edward E. Hawley, of New Haven, Conn.—*Improvement in Potato Planters.*—Patent dated February 9, 1858.—The operation of the machine is as follows: The hopper F being filled with potatoes or pieces of them, and the hopper H with fertilizing material, the machine is moved by a team attached to its pole or tongue, causing the planting wheels to rotate. The potato or pieces of them are taken up by the pockets *e* in the periphery of the planting wheel E, as soon as the pockets pass the point where the two planting wheels come in contact with each other, and are carried around the knife G, cutting off any portions projecting from the pockets beyond the line of the periphery, and dropped from the pockets into the mouth of the conductor L, from whence they fall to the ground into the trench prepared for them by the cultivator M.

The inventor says: I *claim* first, the combination of the planting wheel E with the knife or cutting blade G, to effect the purpose named, as set forth.

Second. The combination of the planting wheels E E^1 with the hopper F, when arranged in relation to each other in the manner and for the purposes described.

No. 20,001.—F. S. McWhorter, of Smyrna, Del.—*Improvement in Potato Planters.*—Patent dated April 20, 1858.—This machine consists of an endless chain of conveyors E, which continuously receive the pieces of potato from a side hopper I, and carry them to a planting tube C, which conducts them into the ground.

Claim.—The employment of a transverse hopper I, having an inclined bottom, and arranged on one side of the endless chain conveyor C, in combination with a longitudinal guide and retaining box G H, which has its rear portion inclined and its front portion horizontal, and a brush K, which brushes off any surplus pieces of potatoes which may collect in the cells or chambers of the endless conveyor, substantially as and for the purposes set forth.

No. 19,010.—Henry F. Baker, of Centreville, Ind.—*Improvement in Seed Planters.*—Patent dated January 5, 1858.—In the illustrations A represents a revolving shaft, arranged in rear of the drill teeth, being supported by the bearings D E of the drill frame. B B are the blades or clearers, arranged radially on the shaft A. These clearers are made with a sharp edge, and with a slight hook form at their lower end, and are of a sufficient length to pass a short distance below the points of the teeth. C is a pinion on the end of the clearer shaft. The heaver D is adjustable, so that the pinion may be thrown in and out of gear. The adjustment is effected by a curved slot G, and adjusting lever I, and stop bar J.

The inventor says: I do not claim broadly the use of clearers, in combination with seed drill teeth, as this is common.

But I *claim* the arrangement of hook-pointed edged blades, or other suitable clearers, in such relation to the points of the drill teeth and in such a relation to one another on the shaft, that in the revolution of the shaft they alternately come on opposite sides of the teeth, and pass down slightly below the points of the same, substantially as and for the purposes set forth.

No. 19,026.—M. J. Hunt and J. H. Haines, of Rising Sun, Maryland.—*Improvement in Seed Planters.*—Patent dated January 5, 1858.—The nature of this invention relates to the construction and operation of seed slides so as to keep the grain in motion and more certainly insure regular planting; and the peculiar construction of the cross-head that operates said slides, so that a single one or a pair may be used without cramping the parts or causing them to work hard.

Claim.—First. A vibrating slide formed with an offset *d*, substantially in the manner and for the purpose described.

Second. Giving to said slide a vibrating motion by means of cross-heads G, having a third arm H extending from it, substantially in the manner and for the purpose set forth.

No. 19,122.—Samuel Baker, of Mount Pulaski, Illinois.—*Improvement in Seed Planters.*—Patent dated January 19, 1858. The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, broadly and irrespective of the arrangement shown, the reciprocating bar W, provided with the recess *k*, and working vertically through the seed-box X, for distributing the seed; for this is a well known device, and is common to many seeding machines.

But I *claim* the reciprocating bar W, provided with the recess *k*, when operated by means of the working beam F, link *a*, rod *b*, and crank *c*, on the adjustable shaft G, connected with the lever L, substantially as shown, for the purposes specified.

No. 19,126.—John A Brown, of Richmond, Indiana.—*Improvement in Seed Planters.*—Patent dated January 19, 1858.—In operating this machine, as the seed-boxes revolve, the tappets *c* c^1 come in contact with the arms E E; this moves the slides to the position shown at the bottom of figure 3, and allows the seed to fall upon the valves *d d*. The levers of these valves now come in contact with the horizontal parts *e e*, opening the valves and discharging the seed to the

earth. The other set of tubes follow in a similar manner, and thus they operate alternately until the required labor is performed.

The inventor says: I am aware that corn planters are in use in which the seed-boxes are attached directly either to the spokes or hubs of the wheels. My invention, however, is quite distinct from these, inasmuch as in mine the boxes are attached to the axle, from which one wheel may be loose, and free to move within the seed-boxes, as shown.

But I *claim* the arrangement of seed-boxes B B^1 upon axle *a*, in combination with the distributing and discharging devices shown, said devices being operated by the arms E E, as set forth.

No. 19,222.—J. D Willoughby, of Pleasant Hall, Pennsylvania — *Improvement in Seed Planters.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first. The rubber spring *u*, in combination with the chair D, screw T, and nuts *v v*, to hold the joint *c* in any desired position with any desired firmness, for the purpose of making bar S a flexible and adjustable brace for grain drill-tubes or shovels, which can be graduated to bear different degrees of resistance, and to hold the tube G^1 at any desired angle, to regulate the depth of the tube in the soil when the seed is being planted.

Second. The combination of the rod *g* with the inclined standard D on the pole, for the purpose of cutting off the discharge of the seed, and elevating the seed-tubes and cleaners, substantially as described.

No. 19,274 -Joseph H Wiggin, of Boston, Mass —*Improvement in Seed Planters* —Patent dated February 2, 1858.—This invention consists in the arrangement of the planting cylinder, and the reciprocating toothed bar operated by the rear wheel, which operates in such a manner that every forward movement of the bar gives to the seeding cylinder half a rotation on its axis, charges the seed boxes with grain from the hopper, and discharges the same into the hill, and that every return movement of the bar repeats the same operation.

Claim.—The arrangement of the seeding cylinder *h* h^1 and toothed bar *b* b^1, for planting seed automatically, in the manner and for the purpose set forth.

No. 19,456.—Daniel L. Tilton, of Mount Carmel, Ill.—*Improvement in Seed Planters.*—Patent dated February 23, 1858.—C is a seed hopper, one side of which consists of a rocking block D, whose fulcrum *d* rests in a bracket E. The vibration of the block D is effected by a rod F extending forward to a circle of tabs *b* on the wheel B, and confined at its front end by a stirrup G. H is a swing valve, which, being raised by means of a cord I, closes the ventage in seed hopper C at any time desired.

Claim.—The arrangement of the vibrating block D, adjustable bracket E, with or without the valve H, in the described combination with the hopper C, for the purposes set forth.

No. 19,404.—L. A. Butts, of Cuba, N. Y.—*Improvement in Seed Planters.*—Patent dated February 23, 1858.—This invention consists in connecting a seed-distributing device with a covering device in such a way that both will be operated simultaneously, and the seed not only planted and covered at the same time with one and the same machine, but also planted in readily distinguishable hills.

The inventor says: I am aware that covering holes have been applied to seed-planting machines; and I am also aware that various plans have been devised for connecting and disconnecting, or throwing in and out of gear, with the driving wheels, the distributing devices of such machines.

I therefore do not claim, broadly and irrespective of construction and arrangement, such devices.

But I *claim* the arrangement of the hoes V, rods *h*, shafts K M, plungers I, and connecting rods U N, substantially as and for the purposes set forth.

No. 19,579.—Joseph Redhead, of Woodville, Miss.—*Improvement in Seed Planters.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the seed distributor G hung upon hinged arms, and agitated as described, for the purpose of sifting the seeds through the opening or openings in its bottom, as set forth.

Second. I claim a supply seed box C, rocking or oscillating on its supporters, as an auxiliary in furnishing the distributor with seeds without so overcharging said distributor as to cause the seed to choke or clog therein, substantially as described.

No. 19,549.—William C. Doss, of Texana, Texas.—*Improvement in Seed Planters.*—Patent dated March 9, 1858.—The nature of this invention consists of a cylinder F made to revolve at the bottom of a hopper E, the cylinder being provided with fingers G about an inch in length, by which cotton seed are deposited regularly through a tube at the bottom of the coulter M, and behind it, and by means of cups H.

Claim.—The cylinder F provided with the cups H and fingers G, in combination with the cylinder J armed with obliquely set paddles K, arranged and operated in the manner and for the purpose specified.

No. 19,818.—Samuel Thompson, of Hopedale, Ohio, assignor to Himself and A. W. Taggart, of said Hopedale.—*Improvement in Seed Planters.*—Patent dated March 30, 1858.—This invention consists in having a series of cutters D attached to the periphery of wheels C, which are placed in a framing A, and combined with reciprocating seed-slides F in such a way that the cutters will form holes in the sod to receive the seed dropped by the action of the slides.

The inventor says: I do not claim separately the reciprocating slides F for distributing the seed, for they are a well known device and in common use.

But I *claim* the cutters D attached to the wheel C of the framing A, in combination with the seed-distributing slides F, operated by the cams *e* attached to the cutter-wheels C, substantially as and for the purpose set forth.

No. 19,953.—Thomas Russell, of Waldoborough, Maine.—*Improvement in Seed Planters.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* arranging the arm *b* of the rocker-shaft *c*, so as to extend and operate in the space I between the wheels as described, in order that such arm may serve to clear the said space between the wheels from earth which may adhere or be taken up therein.

I also claim, in connexion with a hopper made removable from the frame as specified, applying the movable brush O to the dropper or valve K, by means of an arm *u* extending down from the brush-shaft and into the dropper K, in the manner described, the same being for the purposes specified.

No. 20,158.—James J. Johnston, of Allegheny, Pa.—*Improvement in Seed Planters.*—Patent dated May 4, 1858.—The nature of this invention consists in an arrangement for lifting up and lowering down the share of the planter, and cutting off the seed from the seed-chamber, and also in an arrangement of flexible bottoms in the seed-chambers.

The inventor says: I *claim*, first, the arrangement of the flexible bottoms *b*, springs *c*, rod *d*, and division piece *e*, in the seed-chambers *a*, as herein described and for the purpose set forth.

Second. The arrangement of the depositing tube *g* with lugs *t*, share *h*, rod *i*, lever *j*, and sliding gate *k*, as described and for the purpose set forth.

No. 20,143.—James Charlton, of Allegheny, Pa.—*Improvement in Seed Planters.*—Patent dated May 4, 1858.—The nature of this invention consists in an arrangement for enlarging or contracting the size of the seed-chambers, so that they may be made to suit the various kinds and sizes of seed. Also in an arrangement for regulating the depth of the furrow made by the share or tooth of the planter.

The inventor says: I *claim*, first, the rings *y*, with the lugs *b*, projecting studs *t*, and heads *c*, in connexion with the strips *x* and cylinder *g*, for the purposes of enlarging or contracting the seed-chambers, and agitating the seed in the hopper.

Second. The arrangement of the flexible rods S, axle *k*, yoke *j*, lever *p*, and strip *r*, with notches 1 and 2, as described and for the purpose set forth.

No. 20,440.—Elmon Parker, of Baltimore, Md.—*Improvement in Seed Planters.*—Patent dated June 1, 1858.—The cams J *m* are so arranged that when the wheel turns, and as quick as the seed drops, the cam will let the rod *k* go by the spring L, the tube and rod will spring forward off of the seed, and let the seed lie where it is dropped. Inside of the other wheel are the cams *m*, from which is run rod *n*, as far forward as the dropping tube *i*, turned up over the beam, and the end turned down so that it will go through the hole of the slide when the hole is out over the dropping tube. When the cam lets the rod go, the forward end will spring down, by means of the spring *p*, and knock out any seed that may be in the hole.

Claim.—The arrangement of rods *n k* and their springs *p* L with the cams J *m*, the whole being constructed substantially as and for the purpose set forth.

No. 20,651.—Joseph McKown, of Gardstown, Va.—*Improvement in Seed Planters.*—Patent dated June 22, 1858.—With this seed planter the seeds are drawn from the hopper B continuously by two alternately acting slides F G, and dropped into the seed tubes, which conduct them into the soil. The seeds, as fast as dropped, are covered by means of shares and a roller.

Claim.—The arrangement of two or more alternately operating slides F G, cut-off device H I, crank shafts J N O, intermediate gearing L M, adjustable standards J^1, and extension connecting rods K K K^1 K^1, substantially in the manner and for the purpose described.

No. 20,749.—Augustus Wales, of Pontiac, Ill.—*Improvement in Seed Planters.*—Patent dated June 29, 1858.—A is the frame of the machine, C a cross-piece in the frame, on which are erected the uprights B B; *f* is the driving wheel and is provided with two cranks *g*, one on each side, and to which are secured the pitmen *h h*. These pitmen connect with a lever, *i* i^1 being an extension of said lever. D is a roller which has its bearings in the uprights B B, through which the levers pass. Lever i^1 connects with a gate E.

Claim.—The arrangement of the two cranks *g* to the wheel *f*, the pitmen *h h*, the levers *i i* i^1 i^1, and rollers D D, with gates E E provided with slides *c c c*, all being constructed and operated in the manner set forth and for the purpose described.

No. 20,738.—George Smith and A. G. Perry, of Clyde, Ohio.—*Improvement in Seed Planters.*—Patent dated June 29, 1858.—This invention consists principally in the construction, combination, and arrangement of the several parts of a hill and row corn planter, with a cultivator, so as to be readily adjusted and adapted to purposes, first, of a seed drill; secondly, a hill and row planter; thirdly, a ridge plough; fourthly, a cultivator, hilling plough, and shovel plough.

Claim.—The shaft O and spring P, adjustable spring box Y, pulley H, lever L, seeding cylinder R, hopper S, and the cultivator, as described, when the whole are constructed and arranged for operation conjointly, in the manner and for the purposes set forth.

No. 20,709.—Richard B. Ground, of Marine Town, Illinois.—*Improvement in Seed Planters.*—Patent dated June 29, 1858.—The frame work consists of three individual frames, whose side beams *m n o* are all combined with and freely play upon the journals of a single shaft *q*. The side beams *n n* of the intermediate frame play freely between the side beams *m m* and *o o*; and the forward ends of the beams *n n* project a short distance forward of the shaft *q*, and are connected to each other by the cross-bar *r*. The grain boxes *t t*, the channelling ploughs *y y*, and the apparatus for depositing the seeds or kernels in the soil, are all combined with the sides of the innermost frame of the planter.

Claim.—The arrangement of the respective parts of the planting apparatus with the adjustable three-fold frame work of my improved corn planter, substantially in the manner and for the purposes set forth.

No. 21,034.—J. H. Thomas and P. P. Mast, of Springfield, Ohio.—*Improvement in Seed Planters.*—Patent dated July 27, 1858.—By the first feature of this invention the agitation, lifting, and certain deposit of grain in equal quantities is accomplished; also a discharge of the same into the drill tubes. And by the second feature grass seed can be planted at the same time that wheat is planted, in the rear of the drill tubes, instead of (as usual) in front of the same and thus the disadvantage of having the grass seed planted in the deep furrows with the wheat is avoided, and said seed can be planted on the surface, as it should be in order to spring up speedily.

The inventors say: We *claim*, first, the use of flaring, inclined, gutter-shaped arms G^3 G^3 on the shaft, which is arranged in the hopper G, to lift and agitate the grain, in combination with the peculiar construction of distributing slide described, substantially as and for the purposes set forth.

Second. The employment of the above wheat hopper G and its attachments, as described and shown, in combination with a grass seed hopper H, and the flaring seed conductors H^1 when said grass seed hopper and flaring conductors or spreaders H^1 are arranged behind the wheat hopper G, and so located that the back board *a* of the wheat hopper shall completely overhang the same, substantially as and for the purposes set forth.

No. 21,102.—James D. Willoughby, of Carlisle, Pennsylvania.—*Improvement in Seed Planters.*—Patent dated August 3, 1858.—In operating this machine, motion being given to the shafts by means of the cog wheel A and the pinions D and E, so that as the rubber rollers F turn they revolve toward each other; the seed being placed in the hopper falls between the rollers, and is carried out between them. As the rollers fit closely together, the seed, in order to pass down, must indent the rollers, and it is thus pressed tightly as it passes through, but in no way injured, the slide being so arranged that more or less of the rollers may be exposed to the seed.

Claim.—The arrangement of the rollers F F, placed horizontally with the slide H, as constructed, for regulating the discharge of the seed, and the frame J for keeping said roller in place, and preventing the lateral discharge of seed, as is fully set forth.

No. 21,112.—Addison Berdan, of Macon, Michigan.—*Improvement in Seed Planters.*—Patent dated August 10, 1858.—As the machine is drawn along, the driving wheels B give a rotary motion to the main shaft C and bevel wheel F; that in turn gives a rotary motion to the pinion G, shaft H, and crank I, which in turn give reciprocating motion to the piece L, by means of connexion J; said connexion being pivoted to the piece L at K. When the piece L is thrown to the left of the connexion J, the adjustable tubes 3 are thrown directly under

the hoppers O, from whence they receive their seed through the holes in the top plate N. The seed in the hoppers is divided from the seed in the tubes by means of the brushes 1, as the piece L moves to the right, as seen in the engraving.

Claim.—The arrangement of the reciprocating piece L, adjustable tubes 3, stationary piece M, and top plate N, with hoppers O, the whole being constructed for operating conjointly as set forth.

No. 21,127.—H. C. Fairchild, of Brooklyn, Pa.—*Improvement in Seed Planters.*—Patent dated August 10, 1858.—This invention consists in having the lower end of the seed box fitted with a stationary cylinder, to which a plunger and case are attached, the seed box being allowed to rotate, and by its movement distributing the seed and actuating the plunger.

The inventor says: I am aware that seed-distributing devices formed of movable and stationary plates or slides, and a cut-off similar to the device herein described, have been used; but I am not aware that a distributing device has been arranged with a rotating or semi-rotating seed box and plunger, so that the distributing of the seed and the operating of the plunger could be effected by rotating the seed box. I do not claim, therefore, broadly and separately, the distributing device; but,

I *claim* the rotating or semi-rotating seed box A, provided with the cylindrical case B, fitted within the case C, in connexion with the plunger E, connected with and operated by the movement of case B, as shown, the plunger case D attached to case C, and the seed-distributing device formed of the perforated bottoms *d f* of the cases B C and the cut-off I, the whole being arranged for joint action, substantially as and for the purpose set forth.

No. 21,137.—E. W. Kimball, of Ottawa, Illinois.—*Improvement in Seed Planters.*—Patent dated August 10, 1858.—This invention consists in placing a reciprocating hand-slide within a proper case, and having an endless band, provided with a seed-cup attached thereto, the slide dividing the case into two equal parts, and having an opening made in it to allow the seed to pass through, the above parts being used in connexion with a spring plate and rest plate or guide.

Claim.—The slide B, placed within the box or case A, perforated at D, and provided with the endless band *c*, and the seed-cup D attached in connexion with the elastic or yielding plate *e* and rest plate or guide *f*, placed at the lower end of the box or case. It being understood that I do not claim separately any of the parts, but the whole combined and arranged as and for the purpose set forth.

No. 21,217.—Jonathan H. Rose, of Versailles, Illinois.—*Improvement in Seed Planters.*—Patent dated August 17, 1858.—This invention consists in a novel arrangement and adaptation of a seed distributing device to a plough, whereby the operator, while guiding the plough, may actuate at will and with facility the seed distributing device, the same, owing to its peculiar construction, being capable of

ready adjustment, so that the discharge of seed may be regulated as occasion may require.

The inventor says: I do not claim broadly the parts pertaining to the shovel-plough, nor do I claim the covering shares F F; neither do I claim broadly the employment of an adjustable slide to regulate the amount of seed to be planted at each dropping, for slides have been arranged in various ways for such purpose. I am not aware, however, that a seed-slide and adjusting bar have been arranged as shown, so as to form the exceedingly simple device described, to wit: a supplemental seed chamber and adjustable seed-slide combined.

I *claim* the seed distributing device formed of the slide, be·t or lowered as shown, and the adjustable bar G fitted in the seed-box E, the whole being arranged and connected with the plough for joint operation, substantially as and for the purpose set forth.

No. 21,397.—W. A. Mahaffy, of Carimona, Minnesota, assignor to John Greek, of Evansville, Indiana.—*Improvement in Seed Planters.*—Patent dated August 31, 1858.—This invention relates to an improved seed-distributing device, whereby the seed is discharged in measured quantities from the seed-box, and conveyed from thence to the conveying tubes at the bottom of which the furrow teeth are formed, the seed being deposited in the furrows in quantities precisely the same as they are discharged from the seed box.

The inventor says: I am aware that the reciprocating perforated seed-slides have been previously used; and I am also aware that wheels or cylinders, provided with seed cells, have also been used for distributing seed; but I am not aware that reciprocating slides have been used in connexion with rotating cylinders, provided with seed cells and pins to serve as cams or tappets to actuate the slides, and also as conveyors to carry the seed to the conveying tubes. I do not claim, therefore, separately and broadly, the seed-slides, nor the wheels provided with seed-cells.

But I *claim* the seed slides *b*, in combination with the wheels or cylinders E, arranged for joint action, substantially as and for the purpose set forth.

No. 21,440.—Benjamin Owen, of Dayton, Ohio —*Improvement in Seed Planters.*—Patent dated September 7, 1858.—This invention consists in a covering device arranged so that the seed may be covered with a proper quantity of earth by a simple arrangement of means. It is more especially adapted to Indian corn or maize, but may be used for planting other kinds of seeds in hills.

Claim.—Operating the arms S and hoe T, by means of the disks N R Q, provided with teeth or spurs, and arranged as and for the purpose set forth.

No. 22,156.—J. F. Beckwith and A. G. Gage, of Alabama, N. Y.—*Improvement in Seed Planters.*—Patent dated November 30, 1858.—This invention consists in arranging the lever for raising the marking wheel, so that the axle of the wheel forms the fulcrum of the lever, by which means the power is applied directly to the axle of the marking wheel without the aid of intermediate connexions. Also in arranging the crank on the marking wheel axle in connexion with the arrangement of the markers, so that the position of all the measuring recesses in the feeder is indicated to the driver.

The inventors say: first, we *claim* the combination of the raising lever L, when arranged as described, with the marking wheel for the purposes set forth.

Second. The combination of the cranks on the axle of the marking wheel, when arranged as described with the markers, whereby the exact position of the measuring recesses in the seed deliverer are indicated to the driver.

No. 22,228.—Jarvis Case, of Bloomington, Ill.—*Improvement in Seed Planters.*—Patent dated December 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, dispensing with side rails and connecting the front and rear truck by the driver's seat, hinged to the front truck and rigidly secured to the rear one, substantially as described.

Second. I claim the so arranging of a reversible marker upon the front truck of the machine, that when planting the runner shall not touch the marker arm; but when said front truck is raised up to turn the machine around, the runner shall catch and raise up and hold up said marker, for the purpose and substantially as described.

Third. I claim in the construction of the runner the hollowing out for the marker [illegible], the forming of the seed ducts in the sides of the runners, and so inclining the straight edge thereof as that its heel shall be the lowest point, all as described, and for the purpose specified.

No. 22,438.—F. M. Marshall, of Seguin, Texas.—*Improvement in Seed Planters.*—Patent dated December 28, 1858.—This invention consists of a beam A, four and a half feet in length. At one foot and three-fourths from the front is attached underneath a gauge wheel B nine inches in diameter. The object of this wheel is to regulate the depth of the furrow made by the plough, said wheel being movable, and being raised or lowered by the screw and tap connecting it with the beam.

Claim.—The arrangement of perforated plates A^1 and B, beam A, gauge wheel B, bull-tongue plough S, roller F, crank H, arm D, and handles K K, the whole being constructed for joint operation as set forth and described.

No. 20,014.—Samuel Woodruff, of Sparta, N. J.—*Improvement in Seed Planting Ploughs.*—Patent dated April 20, 1858.—This invention consists in the employment of a small box attached to the back of the hoe, provided with a valve and plunger, and used in connexion with a seed receptacle or sack, which is slung around the shoulders of the operator and made to communicate with the distributing device by a flexible tube.

The inventor says: I am aware that seed-distributing devices have been attached to hoes, and arranged in various ways, in order that the

seed may be distributed, the holes made to receive it, and the seed covered, at one operation; and I therefore do not claim separately any of the parts shown and described.

But I *claim* the box B, provided with the valve C and plunger D attached to the hoe, and used in connexion with the sack or receptacle G, placed on the operator, and communicating with the box B by means of the flexible tube E, the whole being arranged substantially as and for the purpose set forth.

No. 19,322.—Thomas B. Whyte, of Greenwich, N. Y.—*Improvement in Machines for Planting Potatoes.*—Patent dated February 9, 1858.—A little behind the centre of the frame X and upon it stands the hopper L, with its lower receptacle L^2. The bottom of L^2 is closed with a slide F, which is a cutting or slicing apparatus. Against the rear of the hopper lies a board V, which is regulated by the hand-screw *x*.

Claim.—The arrangement of slide E, knife *e*, and adjustable board V, with hoppers L and L^2, in manner and form and for the purpose set forth.

No. 19,869.—Jesse W. Pelletreau, of East Moriches, N. Y.—*Improvement in Machines for Planting Potatoes.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The general arrangement of the hopper K, and automatic dropping apparatus, consisting of the spouts *l*, clappers *m*, wheel *n*, and blocks 9 9, in connexion with the opening and covering ploughs, substantially as specified, whereby the potatoes or pieces of potato, being fed into the machine by hand, are not injured, and all the advantages of hand planting are attained without the laborious work connected therewith, as specified.

No. 19,163.—Thomas Thompson, of Thompsonville, N. C.—*Improvement in Ploughs.*—Patent dated January 19, 1858.—B is the beam curving downward and secured to the land-side by the bolts *a a*. L is the land-side, cast with a face-piece or standard *f*, which is secured to the beam by a bolt *b*, the mould-board M being secured to this face-piece. The land-side has a small depending ear *e* passing inside the bar C, and secured thereto by a bolt *c*. The share is drawn tight against the mould-board and land-side by the rod *r* passing up inside of the face-piece or standard and secured to the top of the beam. H H are handles, curved at their lower extremities, and made to embrace the curve of the stock.

The inventor says: I make no claim to the curved beam, nor do I claim an adjustment or handles for regulating the depth of ploughing.

But I *claim* the curved beam B and land-side L, having the depending ear *e* and upright standard *f* secured to the beam as described, in combination with the opposite curved adjustable handles H H, as constituting an improved construction of plough.

No. 19,125.—Samuel R. Borum and William McClean of Norfolk, Va.—*Improvement in Ploughs.*—Patent dated January 19, 1858.—D represents a standard which transversely is of V form. This standard gradually expands from its upper to its lower end so as to form mould-boards; shares *c* are attached to the lower ends of the mould-boards, one to each. The standard is constructed of cast-iron, and its upper end is secured to the beam A.

The inventors say: We do not claim the invention of double mould-boards, for we know they are old.

But to the best of our knowledge and belief, it is new to make the standard transversely of V-shaped form, gradually expanding from the upper to the lower part, the said peculiarly shaped standard being combined with the horn or projection *b* of the land-side C^1, in the manner set forth.

We *claim* the arrangement of the peculiarly formed V-shaped standard D, with the horn or projection *b* of the land-side C^1 and its wings B^1, as shown and described.

No. 19,179.—Joseph Banks, of Dadeville, Alabama.—*Improvement in Ploughs.*—Patent dated January 26th, 1858.—Fig. 1 shows the form of iron bars F G and H, the hind bar F being straight, and the two forward bars G H being curved. The upper ends of these bars are secured to the under side of the beam A respectively by bolts *g h i*. The two rear bars F G are united by a rivet near their lower ends, which are sharpened as shown. The lower end of the front bar H terminates at some distance above the other two bars, and being blunt serves as a shoulder for the rear end of the point L to bear against. A rivet passes through all three of the bars near the lower end of the front bar H.

Claim.—The combination of the triple-branched coulter I, bars F G H, and point L, constructed and arranged as specified.

No. 19,262.—Joseph O. Ramage, of La Fayette, Ala.—*Improvement in Ploughs.*—Patent dated February 2, 1858.—This improvement consists in a peculiar manner of securing the plough-point to the foot piece. H is the handle, B the beam, curving so as to form the stock; to the lower end of the stock is attached the foot piece *a* by a pin *b* upon which it can turn, S is a sub-soil point having a slot *e* in rear, R is the root-cutter having a point F, which enters a cavity in the stock. The sub-soil point is laid upon the face of the foot piece and allowed to project over the point any desired distance, bolt *h* of the root-cutter then passes through slot *e* and opening *i* between the stock and foot piece. Nut *n* is then tightened and secures the point S to the foot piece; by loosening nut *n* the pressure of the lower face of the root-cutter R is removed.

Claim.—Connecting the piece R with the stock by point and cavity as shown at *g*, and passing a bolt on the bottom of the same through opening *i* and the slot of the plough-point, whereby the said piece is made to perform the functions of root-cutter, brace, and securer of the plough-point, substantially as set forth.

No. 19,321.—George Watt, of Richmond, Va.—*Improvement in Ploughs.*—Patent dated February 9, 1858.—The nature of this invention will be understood by examining the claim and engravings.

The inventor says: I do not claim of itself the inclination of the

land-side towards the mould-board, for the purpose of leaving soil overhanging the furrow, as such device broadly considered is not new.

But I *claim* constructing mould-board and land-side of cylindrical surfaces of equal diameters, intersecting along the cutting-edge of the plough, in combination with the curved standard S, the whole being constructed substantially as and for the purposes set forth.

No. 19,388.—Marshall Turley, of Galesburgh, Ill.—*Improvement in Ploughs.*—Patent dated February 16, 1858.—This invention consists in the device employed for cutting the stocks, weeds, &c., for gathering them into rows, so as to be covered by the furrow-slice, and the adjustment of the plough in making a wider or narrower furrow. A is the larger and B the smaller supporting wheel, both arranged on an axle C, so that the former can run in the furrow previously turned and the latter on the land. D is the tongue, by which the plough is guided. It is placed in or near the line of resistance of the plough, which may be on one side of the centre of the axle C; a brace E extends from the tongue to the axle of the plough, to cause it to follow the tongue.

The inventor says: I *claim*, 1st. The combination of the beams, plough-shank, lever, and brace or adjusting rod, arranged behind the axle, substantially as set forth.

2d. The combination of the wheel B for holding with the cutter *m* for cutting the stalks, substantially as described.

3d. I claim the combination of the weed-gatherer *n* with the plough or ploughs, when arranged and operating as set forth.

No. 19,391.—William W. Van Loan, of Catskill, N. Y.—*Improvement in Ploughs.*—Patent dated February 16, 1858.—The cutter or blade *a* is fixed firmly to the land-side, and is fixed at the depth which will be required by different soils.

The inventor says: I am aware that pulverizing blades have been attached to the mould-board of ploughs and also placed in rear of cultivators; but neither of these can perform the function of my under-cutters, and I lay no claim to such devices.

But I *claim* the attachment of one or more horizontal cutters to the land-side of the plough, whereby the land is cut horizontally below the surface, so that it may be turned over by the mould-board during the succeeding cut with greater ease, substantially as set forth.

No. 19,401.—Elijah H. Bloodworth, of Thomaston, Ga.—*Improvement in Ploughs*—Patent dated February 16, 1858.—Attached to the beam Z and its handles O are the double feet L L. Shank *a* of the feet passes through the opening of the beam Z at A, and brace C is secured to the left outside of the beam at B, and brace D is secured to the right hand outside of the beam at B by bolts passing through the beam Z at holes A and B, and laps applied to fasten them.

Claim.—The combination of beam Z and its handles O with the double feet L L and braces C D, the whole being arranged in the manner and for the purpose set forth.

No. 19,455.—Turney Sanford, of Redding Ridge, Conn.—*Improvement in Ploughs.*—Patent dated February 23, 1858.—This invention

consists in the construction of the plough whereby the beam is rendered susceptible of being adjusted both vertically and laterally, and secured at any desired point, for the purpose of regulating the depth and width of the furrow.

Claim.—The bars D D F F, in connexion with the metallic rods G H and braces I I; the whole being constructed and arranged relatively with each and the standard C, land side A, and mould-board B, as shown, and for the purpose set forth.

No. 19,563.—David Hoke, of Byhalia, Miss.—*Improvement in Ploughs.*—Patent dated March 9, 1858.—The beam A has handles B B. The stock C is a simple bar, with a horizontal bar *a*, and is secured to the under side of the beam by means of the bolts *b b*. A mortise *d* is formed in the flanch *a*, and a corresponding mortise through the beam, to receive the coulter D, which is held in the beam by a bolt *k* passing through any one of a set of holes *g g*. The coulter is held firmly back against the point of the stock by means of the wedge E.

The inventor says: I *claim* the arrangement of the coulter D, in combination with the stock C and beam A, substantially in the manner and for the purpose specified.

I also claim the mode of constructing the stock with a long horizontal flanch *a*, by which it is not only secured to the beam, but by which the coulter is held back against the foot of the stock, substantially as described.

No. 19,658.—Grey Utley, of Louisburg, N. C.—*Improvement in Ploughs.*—Patent dated March 16, 1858.—B is the beam, H H are the handles, and S the stock. The stock is connected with the beam by the bolt *a*, about which it turns as brace *b* is moved by the nuts *c c*, securing it to the beam. The mould-board M is formed with a flange *f* having slots *e e*. Bolts *i i* pass through the stock and secure the mould-board thereto. Opposite to the mould-board, and forming part of the stock, is a secondary land side L^1 for resisting the pressure against the turning portion of the plough.

Claim.—The combination of the vertically adjustable mould-board M with the sub-soil point and the two land sides L L^1, substantially as and for the purpose set forth.

No. 19,725.—Daniel L. Tilton, of Mt. Carmel, Ill.—*Improvement in Ploughs.*—Patent dated March 23, 1858.—In the engravings, A is the beam, B the mould-board, J J are tines or prongs, journalled perpendicularly in the beam in front of the mould-board, and depending obliquely or in curved form from the under side of the beam to near the ends, where they take nearly a vertical direction.

Claim.—The construction and arrangement, substantially as described, of the tines J, operating in the manner and for the purposes explained.

No. 19,706.—Thomas McConaughy, of Burnsville, Ala.—*Improvement in Ploughs.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Extending the piece P, to which the point is secured, rearwards a distance nearly equal to its height, and giving it increasing lower flanges at bottom, said piece being formed with thick bounding edges, and a thin plate filling the intermediate space, substantially as and for the purposes set forth.

No. 19,886.—Joshua C. Williamson, of Washington, Ga.—*Improvement in Ploughs.*—Patent dated April 6, 1858.—This plough, exclusive of the stock, consists of but three pieces, viz: the plough iron E, brace F, and shoe, cutter, or shovel G; and the invention consists in the peculiar device employed for securing the cutter to the plough iron and brace.

Claim.—The combination of the plough iron E, brace F, and cutter or share G, when formed and united together, and to the beam, in the manner and for the purpose set forth.

No. 19,878.—Thaddeus S. Scoville, of Elmira, N. Y.—*Improvement in Ploughs.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim making the eyes of the spur-wheels larger than the journals on which they turn.

Nor do I claim the simple use of washers or of clearing-teeth.

But I *claim* the combined arrangement of the loosely turning spur-wheels D D, the separating washers *f f*, and the clearing-teeth *i i*, acting upon or close to said washers, substantially as specified, so that the eccentric movement of the said spur-wheels, together with the said closely-fitting washers and clearing-teeth, will effectually keep the implement free from impediment.

No. 19,909.—Thomas E. C. Brinly, of Simpsonville, Ky.—*Improvement in Ploughs.*—Patent dated April 13, 1858.—The nature of this invention consists in the cutting out or scolloping the hind part of the mould-board, as represented by letter A. The part C is a piece of cast iron for screwing the hook B to the beam of the plough and adjusting it; the holes in the hook are for the purpose of raising and lowering, it to suit the depths of the furrow.

Claim.—The grass-hook B and its plate C, when constructed, arranged, and operated in relation to the beam and mould-board of the plough, substantially in the manner and for the purpose set forth.

No. 20,269.—John M. Hall, of Warrenton, Ga.—*Improvement in Ploughs.*—Patent dated May 18, 1858.—The nature of this invention consists in forming a plough which, by the combination of the parts, shall produce a plough that will be capable of performing all the work ever required, either as a common plough, sub-soil, opening-sweep, or hill-side plough, or any two of them combined, by simply arranging the parts as the nature of the work requires.

Claim.—The construction, arrangement, and combination of the body of the implement and its movable parts described, whereby it is readily adapted to properly receive, in turn, the several parts employed for performing the various modes of cultivation specified.

No. 20,659.—Henry M. Platt, of Darien, Conn.—*Improvement in Ploughs.*—Patent dated June 22, 1858.—The nature of this invention consists in causing a four-winged and screw-formed share A to revolve as it passes through the soil, and thus pulverize it for the purpose of agriculture.

Claim.—The arrangement of the screw-shaped ploughshare A, having wings E, with boxes H and F, wheels I, and roller D; the whole being constructed and operating conjointly in the manner and for the purpose set forth.

No 20,633.—Alexander Dickson, of Hillsboro', N. C.—*Improvement in Ploughs.*—Patent dated June 22, 1858.—The object of this invention is to render an ordinary surface-plough available, when necessary, as a sub-soil plough. The invention consists in the use of a supplemental land side F and a coulter G attached to the plough.

Claim.—The supplemental land side F and coulter G, arranged and applied to the plough as shown, and for the purpose set forth.

No. 20,790.—J. P. Harris, of Byhalia, Miss.—*Improvement in Ploughs.*—Patent dated July 6, 1858.—To the lower end of the stock A is secured a foot B, made in a single piece of cast iron or sheet iron, in the form of a hollow shell, fitting round the front side of the stock, the sides or wings thereof curving backward and outward on either side of the stock A, the sole *b* covering the angle between the said sides at the bottom. The sole inclines upward as it extends back, so that a wedge-shaped face is formed in the lower extremity of the foot, which receives the end *c* of the stock.

Claim.—The hollow foot B, formed and arranged for the reception of the stock A and point C, substantially as specified.

No. 20,935.—G. D. Colton, of Galesburg, Ill.—*Improvement in Ploughs.*—Patent dated July 20, 1858.—D represents a back cross-bar of the frame A; this bar is pivoted or secured by means of a nut and screw at the point *p* at one side of the axle C, and may be adjusted to different positions by removing the screw at *p* and placing it in the holes *g g*. The frame is secured at the other side of the axle by means of the strap of metal marked *n*, which passes around the axle. This strap is made sufficiently full to allow of the frame playing up and down, said frame following of its own weight upon the axle, but is elevated by means of the windlass G and cord *m*. The windlass G and seat F are both supported by means of the two uprights *r r*, which sit in the end of the axle.

The inventor says: I *claim* arranging the frame B, secured to the axle C as described, with the strap *n*, cord *m*, and windlass G, the several parts being operated in the manner and for the purpose set forth. Also this in arrangement with the revolving coulters and a double-pointed beam, all being constructed and operated substantially as described.

No. 20,968.—Walter Warren, of Penn Yan, N. Y.—*Improvement in Ploughs.*—Patent dated July 20, 1858.—The beam and mould-

board are held together by bolts passing through the parts E and F and G; the bolts hold the parts together, but are not needed to resist the draught applied to the beam; the peculiar joint of these parts increases the firmness as the draught is increased. I I are the handles, of ordinary construction; the right one is attached to B, the left to the hind part of beam A, which is extended upward to receive and support the handle.

Claim.—The described arrangement of beam A and its portion G with the mould-board B and its land-side portions E F; the whole being constructed as and for the purpose set forth.

No. 20,984.—Samuel R. Bliven, of McDonough, N. Y.—*Improvement in Ploughs*.—Patent dated July 27, 1858.—There are some ploughs constructed so that certain parts will reverse and thus turn the sod on either side of the implement, as occasion may require. This is an improvement in one of these; it consists in the employment of two stationary mould-boards in connexion with a reversible share so arranged as to attain the desired end.

The inventor says: I do not claim broadly a reversible share, for they have been previously used, although I am not aware that they have been arranged like the one shown.

I am also aware that double mould-boards have been used; I therefore do not claim such.

But I *claim* the reversible share E attached to the shaft F and connected with the lever G, or its equivalent, in combination with the two mould-boards B B¹; the parts being arranged relatively with each other as and for the purpose set forth.

No. 21,167.—Joseph Jones, of New Castle, Del., assignor to Edmund Jones and Joseph Jones, Jr., of said New Castle.—*Improvement in Ploughs*.—Patent dated August 10, 1858.—The mode of working these improved ploughs is thus described: The workman, standing on the frame A, lays hold with his left hand on the lever F, and on the lever H with his right. On depressing lever F and raising lever H, two of the ploughs will be raised from the soil, independent of the others. Should it be required that the whole gang be raised simultaneously, then the connecting pinion *h* is brought in mash with *f f*, and all the racks will be operated on at once.

Claim.—The combination of the described gear and levers, when constructed and arranged for operation conjointly, in the manner as and for the purposes set forth.

No. 21,182.—William Black, of Manchester, Pa.—*Improvement in Ploughs*.—Patent dated August 17, 1858.—The nature of this invention consists in attaching to and using with the ploughs that are used for surface furrow ploughing an adjustable revolving or rotary sub-soil digger, to dig and loosen the sub-soil that is under the bottom of the furrow made by the plough at the same time and by the same team that the surface ploughing is done; which digger is to have its axis horizontal at or near a right angle to the land side, and its axle in journal bearings that will yield upward if the digger should strike

a stone or other hard substance in the sub-soil. This digger is to rotate behind the mould-board in the rear of the land side of the plough, so as to dig and loosen the sub-soil immediately after the plough has turned the furrow slice of surface soil out of the way of the digger.

The inventor says: I do not claim either of the individual parts thereof, nor do I claim the precise form of the digger teeth or picks shown and described, as similar ones may be seen on a patent granted E. F. Berry, February 19, 1856.

Nor do I wish to be understood as limiting my claim to the precise arrangement shown and described of the springs E, joints 6, rods 2 and 3, with the plough P and digger H, as that is susceptible of various other modifications.

But I *claim* the combining with the plough P the adjustable rotary digger H, having sharp teeth or picks T, substantially as described, for the purpose set forth.

No. 21,423.—Samuel Hulbert, of Ogdensburg, N. Y.—*Improvement in Ploughs*.—Patent dated September 7, 1858.—The nature of this invention consists in having a pipe at or near the front end of the beam, in which to place a spring, and pass a bolt through it to the rear end of the spring by which to draw the plough.

The inventor says: I do not claim any of the parts, separately considered.

But I *claim* the adjustable beam F, slot D, pivot C, spring clevis E, and adjustable handle G, combined, arranged, and operating as set forth and described.

No. 21,598.—David Cockley, of Lancaster, Pa.—*Improvement in Ploughs*.—Patent dated September 28, 1858.—The nature of this invention consists in attaching the mould-board, the cutter, the land side, point, and share by means of dovetailed clutches and one short bolt underneath, for the purpose of preventing holes being made through the cast iron mould-board, so as to allow the mould-board to be chilled on its whole surface; thus making it susceptible of a higher polish, and consequently of lighter draught and greater durability.

The inventor says: I *claim* the adjustable cutter-wheel N, cleaner W, and devices V X Y Z, when arranged with the regulator C in combination with the beam F, and the whole constructed for operation conjointly, as and for the purposes set forth.

I also claim the mode of arranging and fastening the point *c*, share *d*, and land side with its cutter *j*, so as to hold them with the short screw *k* and plate *l*, in combination with the mould-board *h* and beam F, substantially as described.

No. 21,630.—B. B. Scofield, of Andover, Illinois.—*Improvement in Ploughs*.—Patent dated September 28, 1858.—D represents a mould-board, and E a land side. These parts are of the usual construction. The standard F, however, instead of being attached to the beam by a nut or key, as usual, passes up through the beam, and has a rack *e* formed at one side of it, the rack being slightly curved, forming a segment of a circle, of which the pivot *f* is the centre. The said pivot

connects a bar *g* to the back part of the beam A, the lower end of the said bar being attached to the back end of the land side E. G is a pinion, the axis of which is fitted in a suitable upright *h* on the beam A. The axis of this pinion has a lever H attached to it, and to the beam A a semi-circular bar I is secured, to which the lever H may be attached at any desired point by means of a clamp J. The pinion G gears with the rack *e*.

Claim.—The arrangement and combination of the pivoted bar *g*, share D, land side E, standard F, curved rack *e*, pinion G, and lever H, as and for the purposes shown and described.

No. 21,824.—John Dickson, of New Castle, Pa.—*Improvement in Ploughs.*—Patent dated October 19, 1858.—This invention consists in the use of a double land side, or land sides, for increasing the size and weight of the plough, the share being moved when the plough is altered by the removal or addition of the double land side and a smaller or larger share attached as the decreased or increased size of the plough requires.

Claim.—The use of a double movable land side for increasing the size and weight of the plough, in the manner described.

No. 21,846.—William Reany, of Berzelia, Ga.—*Improvement in Ploughs.*—Patent dated October 19, 1858.—This invention consists in an improved mode of changing the form of a plough so as to adapt it to different soils, and to shallow or sub-soil ploughing at pleasure.

The inventor says: I *claim*, first, the mode of varying the form of the plough by the use of the adjustable coulters, figs. 3 and 4, the latter being provided with the sub-soiler E, and the several parts constructed and arranged for operation, substantially as set forth.

Second I claim the use of the wedge C, in combination with the mould-board, for adjusting the entire front part of the mould-board to correspond with the adjustment of the coulters, as described.

No. 21,953.—John Gehr, of College of St James, Maryland.—*Improvement in Ploughs.*—Patent dated November 2, 1858.—The nature of this invention consists in certain devices for keeping clear the mould-board of the plough. As the plough is drawn along, the roller is made to revolve, imparting a side motion to the dirt and other matter coming in contact with it, thereby keeping the mould-board from becoming foul. The flange on the upper part of the roller prevents any matter from entering between the upper head of the roller and the plough beam.

Claim.—The hollow corrugated roller *a*, in combination with the mould-board *c*, brace *g*, and guard *f*; the whole being constructed and arranged substantially in the manner and for the purposes set forth.

No. 21,975.—Allen Albert McMahen, of Oxford, Mississippi.—*Improvement in Ploughs.*—Patent dated November 2, 1858.—On the outer side of the mould-board there is a lug or dead eye 6, through which and one of the holes in the brace G a bolt 7 passes to hold the mould-board to the coulter. Thus the mould-board may be set up or down, to suit the depth of ploughing that is to be done for the time being.

Claim.—In combination with a coulter having a brace and adjustable openings therein, a mould-board whose shank is made adjustable in the beam, so that said mould-board may be adjusted to the coulter and in the beam, as described; the whole being combined and arranged in the manner and for the purpose set forth.

No. 22,013.—John M. Burke, of Dansville, New York.—*Improvement in Ploughs.*—Patent dated November 9, 1858.—This invention consists in depressing the rear end of the mould-board, and curving the depression inward, in order to give a smooth finish to the surface of the earth that is thrown upward and outward by the mould-board to form the hill.

Claim.—Depressing and bending inward the rear and lower edge *f* of the mould-board, as described, for the purpose set forth.

No. 22,332.—Thomas Wiard, of Louisville, Kentucky, assignor to G. W. Pitken, H. W. Pitken, and W. S. P. Wiard, of said Louisville.—*Improvement in Ploughs.*—Patent dated December 14, 1858.—The inventor says: I am aware that ploughs and cultivators have been so made as to be capable of a change of mould-boards. This I do not lay any claim to, my invention pertaining to the manner in which I construct the standard, with one rigid and one movable wing, for the purpose of making said standard and wings susceptible of receiving the several changes of points and mould-boards which are ordinarily used on a farm; thus making one stocked standard serve the purpose of holding the several varieties of ploughs used.

In naming what he claims as new, the inventor says: I *claim* the standard A, with its permanent wing B, and recesses or shoulders for the reception of the removable wing I, constructed and arranged substantially in the manner and for the purpose set forth.

I also claim, in combination with the standard A, constructed as set forth, the adjustable cutting and guiding wheel L, so that said wheel may be thrown into or out of action, as the circumstances of the case may require, and as described.

I also claim the uniting of the handles, beam, and standard together, by means of the pockets *a*, dowels *e*, recesses *f*, and bolt *h*, substantially in the manner described.

No. 22,389.—Reed Vincent, of Rockton, Ill.—*Improvement in Ploughs.*—Patent dated December 21, 1858.—A is a convex standard, B a perpendicular brace, C a curved handle secured by a bolt to perpendicular brace B; D having a horizontal brace extending from convex standard A to brace B, connecting and supporting the same; letter E being a bolt securing the standard to the side of the beam.

Claim.—The combination of the convex standard A, the braces B D, and the mould-board, when arranged in connexion with the beam and bent handles C, as described and represented, and for the purpose set forth.

No. 20,689.—Moses Barrowman, of Buffalo, New York.—*Improvement in Drain Ploughs.*—Patent dated June 29, 1858.—The nature of this invention relates to the construction of a centre piece A, which serves as a main frame or support for other parts of the plough, and in the combination and arrangement of the several parts.

The inventor says: I do not claim either of the bearing or adjustable wheels described, nor the arms, levers, or shafts by which they are supported, when separately considered.

Nor do I claim their combination or arrangement differently than as set forth.

Neither do I claim the combination of the cutter or cutters with the winding trough or circular conveyor, as that has been done before.

But I *claim*, first, the centre piece A, for the purpose of a main frame or support for the other parts of the plough, substantially as set forth.

Second. I claim the arrangement and combination of the adjustable wheels G G, the arms H H, shaft K, lever J, and segment I, relatively to each other and the plough, as described.

No. 19,077.—Myrtillus A. Cravath, of Loda, Ill.—*Improvement in Gang Ploughs.*—Patent dated January 12, 1858.—The peculiarities of this invention consist in an arrangement of gauge wheels, whereby they are kept entirely clear of the newly ploughed ground; a mode of attaching the ploughs to the frame so as to facilitate their being thrown out of and into the ground, and retained in either position; and in an approved construction of land-side beam for adjustment of the depth of ploughing.

The inventor says: I *claim* as new, and of my invention, first, the method, substantially as described, of attaching the ploughs to the frame, whereby they are made capable of being thrown out of and into action by partial rotation on their axes, as exhibited.

Second. In combination with the above, the described arrangement of the wheels E F G, whereby the chief weight of the implement devolves upon the wheels E F, which run on the level bottom of the furrow.

Third. The described construction and arrangement of the jointed land side beam A A^1, in combination with the lever *t* and rack *u*, or equivalent devices, operating substantially as set forth.

No. 19,652.—Lewis Roach, of Covington, Ky.—*Improvement in Gang Ploughs.*—Patent dated March 16, 1858.—A is the frame, B B^1 are ground wheels connected and rotating in conjunction with the axle *b*. E is the rotating plough shaft journalled in swinging stirrups D D^1, the hinge attachments of which to the frame A form also the axis of carrier wheels I, which gear with cog-wheels J on the axle *b*, and also with pinions H on the plough shaft E. L L are wheels running loosely on the plough shaft E. The ploughs K K^1 are bolted to splines G G^1 of the represented spiral form, which are attached to the arms F *f*, on the shaft E.

Claim.—The described arrangement of spiral splines G, (to which the ploughs are attached,) and adjustable arms F *f*, in combination with the gravitating shaft E and the gauge wheels L.

No. 20,122.—G. W. N. Yost, of Cincinnati, Ohio.—*Improvement in Gang Ploughs.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the torsion spring above described, in combination with the ploughshare, for the purpose of allowing a single share to swing backward in passing stones, and then automatically to replace itself in working position, thus avoiding the breaking of the plough or stopping of the team, substantially as set forth.

Second. The use of the team guide for managing the team, so as to obviate the necessity of employing many drivers, substantially as described.

Third. I claim the use of the team shade in combination with the team guide, for sheltering the team from the heat of the sun or from rain, substantially as set forth.

No. 20,342.—Jesse Frye, of Mendota, Illinois.—*Improvement in Gang Ploughs.*—Patent dated May 25, 1858.—Ante dated March 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the attachment of the tongues to the forward and rearward plough-stocks, and the connexions between the various plough-stocks, so that when the team is turned, the plough shall be turned so as to point towards a common centre, substantially in the manner and for the purpose described.

I also claim the connexion of the forward furrow wheel with the tongue by means of the curved slotted arm R and bolt I, in combination with the cranks and connecting rods between the wheel shafts, so that when the team is turned, the forward wheels shall be turned in the same direction, and the rear furrow wheel shall be made to track the forward wheels, substantially in the manner and for the purpose set forth.

I also claim hanging the hinged coulter *t* to the rear of the front furrow wheel by means of a chain, which, when the team is turned, will raise said coulter out of the furrow, substantially in the manner and for the purpose set forth.

No. 20,647.—Don C. Matteson, of Stockton California.—*Improvement in Gang Ploughs.*—Patent dated June 22, 1858.—The false beam N has attached to the end of it a goose-neck G. The lever *i* by means of chain *r* is to throw the plough out of the ground, and also gauge the depth of the furrow by raising or lowering, and going from field to field, by means of a catch L, axletree *w* with tongues 7, attached to the right side.

Claim.—The arrangement, as described, of the false beam N, goose-neck G, axle *w*, lever *i*, catch L, and the system of ploughs attached to their frame, as set forth; the whole being constructed and operating substantially as and for the purposes specified.

No. 19,496.—Samuel Dennis, jr., of Jasper, New York.—*Improvement in Hill-side Ploughs.*—Patent dated March 2, 1858.—In this improvement two mould-boards F and shares G are used—one to turn a furrow to the right, and the other for turning a furrow to the left hand

side. These are so connected by gearing, that when one is lowered into its operating position, the other is raised so as to be clear of the land.

Claim.—The combination of two mould-boards and shares with a single stationary land side in the construction of a hill-side plough, substantially as described for the purpose stated.

No. 20,812.—Modest Merk, of Rochester, New York.—*Improvement in Hill-side Ploughs.*—Patent dated July 6, 1858.—This improvement consists in the peculiar manner of constructing and arranging the mould board.

A is the draught beam, B the handles, C the coulter share, and D the subsidiary mould-board; E is the furrow bar occupying the position of the ordinary land side; and F F the frame, constructed of iron and firmly bolted to the bar E, and connecting it with the wood work.

Claim.—The reversible convex winged coulter share C, constructed as described, in combination with the plane subsidiary mould-board D, connecting arm J, and furrow bar E, arranged and operating substantially as and for the purpose set forth.

No. 21,306.—Henry S. Akins, of Speedsville, N. Y.—*Improvement in Hill-side Ploughs.*—Patent dated August 31, 1858.—In this invention the act of moving the hook which fastens the mould-board B from one side to the other reverses both the coulter F and chain clevis. In reversing the plough the hook should be unhooked from the mould-board, and the mould-board turned down, as shown in the engravings, and raised up on the side opposite to that which it occupied before.

The hook L should then be drawn over to the side on which the mould-board is, and hooked into the mould-board. The plough will then be completely reversed and in the position to turn a furrow in the opposite direction to the one last turned.

The inventor says: I do not claim broadly the combination of the reversible mould-board with the adjustable coulter.

But I *claim*, first, the reversible mould-board and coulter, in combination with a reversible clevis, in the manner and for the purposes substantially as described.

Second. Attaching the hook L to the lever I, which operates the coulter E, thereby making the operation of reversing the hook, adjusting the coulter, and fastening both the mould-board and coulter in their respective positions by one and the same hook, and at one operation, as set forth.

Third. The reversible chain clevis O, for the purpose of producing reversible side draught, when connected and operated in the manner substantially as described.

No. 21,547.—Thomas E. C. Brinly, of Simpsonville, Kentucky.—*Improved Plough Press and Drill.*—Patent dated September 21, 1858.—The operation of this machine is as follows: The follower E is detached from the screw B by removing the screw-bolts *s* and one of the bars *e*. Then the follower and also the bed D of the press are moved, and the drill G is inserted, as shown in the engravings. The plough plate is

then placed upon the lower cross-bar of the frame A, and the requisite holes are bored by the drill G, which may be worked by hand or any other power.

After a suitable number of plates have been bored, the drill is removed and the bed of the press, and also the follower, are put in place. The bored plates are then inserted into the press, and by means of the screw B the follower is brought down, and thus the plates are warped of the desired form.

Claim.—The above described press, in combination with the drill for pressing and drilling the mould-boards of ploughs; the whole being constructed, arranged, and operated substantially as set forth.

No. 19,412.—Paul Dennis, of Bemus's Heights, N. Y.—*Improvement in Shovel Ploughs.*—Patent dated February 23, 1858.—This is a combination of a peculiarly constructed mould-board B, an adjustable gauge roller F, and a point or share E, made separate from the mould-board, and attached to it in such a manner that the share and mould-board may be made to penetrate the soil at a greater or less depth, as may be desired. The point or share can be readily removed from the mould-board, to be ground or replaced by a new one. The soil is made to pass over the mould-board into the furrow, so that the surface will be left in a mellow but level state, with all the weeds, grass, &c., cut up.

Claim.—The bar A and mould-board B E, in combination with the adjustable rollers F; the whole being constructed and arranged substantially as and for the purpose set forth.

No. 19,427.—Peirce Klingle, Linnæn Hill, D. C.—*Improvement in Steam Ploughs.*—Patent dated February 23, 1858.—To each end of the frame E F F E are attached the ploughs P and P, hinging at E F and F E. The bearing wheels B and B are placed within the frame in the centre of the machine. The boiler A is placed immediately over the bearing wheels. At both ends of the machine, in front of the point of each plough, are the steering wheels D D, working in the ends of the curved frames H and H, which project from the main floor over and beyond each plough.

Claim.—The combination of the driving wheels B B and ploughs P P with the steering wheels D D; the whole being constructed, arranged, and operated substantially in the manner and for the purpose set forth.

No. 21,661.—James W. Evans, of New York, N. Y.—*Improvement in Steam Plough.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination and arrangement of the main shaft G, and cranks H I, forming part thereof, with the main axle E and driving wheels D, by means of screw shaft M and the bevel K and L and the screw thread N upon the axle, so that by the action of the piston rod 15, attached to crank H, the reciprocating

action is communicated to the ploughs Y Y, and at the same time the machine is moved forward in due proportion to the stroke of the ploughs by the rotation of wheels D, thereby cutting a continuous furrow by a rectilinear and direct thrust of the plough or ploughs.

Second. The construction and arrangement of the supports or guide-pieces P P, the pairs of vertical rods Q Q Q^1 Q^1, operating by means of the eccentric V and the lever and arm T W, in the manner described, for guiding, securing, elevating and lowering the plough.

No. 19,215.—William Stoddard, of Lowell, Mass.—*Improvement in Ploughing Machines.*—Patent dated January 26, 1858.—The nature of this invention consists in so constructing a series of ploughs X with adjustable gauge pulleys, connected to the mould-board thereof, for governing the depth of the furrow, and connecting these ploughs firmly to endless bands or chains, which are carried by, combined with, and connected to swinging arms and pulleys thereon, in such a manner that the ploughs are moved to turn the furrows, and at the same time a constant yielding movement is given to the ploughs, while the ploughs are governed to the required depth, and to a uniform depth, while they are operated to turn the furrow at right angles with the machine.

Claim.—Constructing the ploughs X, with an adjustable depth gauge e and S attached to the mould-board thereof, in the manner described, when such ploughs are connected (for operation) to an endless chain or band, in combination with the flexible arms J, which carries the ploughs X and bands W, essentially in the manner and for the purposes fully set forth and described.

No. 19,189.—Joseph W. Fawkes, of Christiana, Pa.—*Improvement in Machines for Ploughing.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of the barrel-shaped wheel or driver E, constructed with spurs K K, in the manner described, in combination with guiding wheels C C, and screw D, and segmental rack *b*, for the purpose of drawing the plough frame and ploughs described, in the manner set forth in the specification.

No. 20,300.—Abner Reeder, of Wrightstown, Pa.—*Improvement in Apparatus for Cleaning the Coulters of Ploughs.*—Patent dated May 18, 1858.—When the ploughman finds that the coulter D has become clogged, he removes his hand from the handle B^1 of the plough, and, placing it on the bent end of the rod E, forces the latter downwards until the prongs pass into the front of the coulter and clear away the accumulated soil; when the ploughman releases the rod, the spiral spring *h* forces it back to its original position.

The inventor says: Without claiming broadly an apparatus under the control of the ploughman for clearing the coulter of ploughs, or the employment of a spring in connexion with such apparatus, I *claim* the spring sliding rod E, with any convenient number of prongs, when connected to, and arranged on, the plough, as and for the purpose set forth.

No. 19,849.—Lewis W. Harris, of Waterville, N. Y.—*Improvement in Potato Diggers.*—Patent dated April 6, 1858.—In this invention a drag G is employed in connexion with a share E, so arranged that the hills or drills containing the potatoes or other roots will be opened by the share and the roots subjected to the action of the drag, whereby the earth will be levelled and the potatoes brought to the surface of the ground This invention also consists in the use of supplementary shares F F, in connexion with the drag and opening share, whereby the sides of the hills or drills are removed or pared off preparatory to the action of the central opening share and drag.

The inventor says: I *claim* the employment or use of a share E and drag G, so constructed and arranged to operate as and for the purposes shown and described.

I further claim, in combination with the share E and drag G, the supplementary shares F F, arranged to operate conjointly with the drag and opening share, as and for the purpose specified.

No. 20,949.—Malcolm Little, of Clyde, N. Y.—*Improvement in Machines for Digging Potatoes.*—Patent dated July 20, 1858.—This machine is composed essentially of a large, strong fork E, supported and drawn by means of a pair of wheels A A, axle B, and tongue or shafts C C. The fork is so constructed and arranged that the attendant can manage it in such a manner as to remove the potatoes from the ground with it while it is drawn along.

Claim.—The arrangement of the fork E within and in combination with the roller G, substantially in the manner and for the purpose specified.

No. 21,226.—Luke White, of Essex, Vt.—*Improvement in Machines for Digging Potatoes.*—Patent dated August 17, 1858.—The nature of this invention consists in constructing a machine by which potatoes may be dug from the ground, the earth taken up with them, separated from them, and the potatoes assorted at the same time.

Claim.—The combination of wheel *c*, having buckets on the outer edge thereof, with wheels *d* and separator *e;* the whole being constructed and arranged as and for the purpose set forth.

No. 21,225.—Alexander Wells, of Brooklyn, N. Y.—*Improvement in Machines for Digging Potatoes* —Patent dated August 17, 1858.—This invention consists in the use of rotating spirally-flanched diggers, which are fitted in adjustable frames attached to the main frame of the machine, and operated by gearing from the wheels on which the main frame is mounted, in connexion with the serrated or toothed clearers; the whole being arranged so that potatoes, or other roots which are grown in hills or drills, may, as the machine is drawn along, be dug or brought to the surface of the ground, so that they may be easily gathered.

Claim.—The rotating spirally-flanched diggers *o*, in connexion with the clearers P, arranged for joint action, substantially as and for the purpose specified.

No. 21,413.—Nathaniel Gear, of Zanesville, Ohio.—*Improvement in Machines for Digging Potatoes.*—Patent dated September 7, 1858.—The nature of this invention relates more especially to the construction and operation of the scoop for digging, and the skeleton wheel for gathering and sifting out the earth, &c., previous to its delivering the potatoes in the receptacle behind it.

Claim.—In combination with the scoop for digging, the skeleton wheel K for gathering, carrying, sifting, and delivering, the potatoes into the box or receiver, substantially as described and represented.

No. 21,664.—Peter Fitzgerald, of Constantina, Ohio.—*Improvement in Hay Rakes.*—Patent dated October 5, 1858.—The nature of this invention consists in raising the rake teeth of a carriage rake to empty them of the hay collected by them by the movement of the truck wheels of the machine, and in an arrangement of the parts by which the rake teeth are kept suspended above the ground when the machine is moved from place to place as may be required. Also, in an arrangement of parts by which the rake teeth are cleared of their gathered load and by which the winnow is compressed and packed into a smaller place and space.

Claim.—The combination of the shafts J and N, and the clutch M, and brake O, with the levers Q Q^1, bar *d*, handle *e*, and cam T, for the purpose of putting the brake and clutch in operation, as described, and for the object set forth.

No. 21,712.—George Whitcomb, of Port Chester, New York.—*Improvement in Hay Rakes.*—Patent dated October 5, 1858.—The operation of this machine is as follows: The driver is on his seat D, his feet being placed on the treadles J K, by operating which the rake teeth F may be raised and lowered; an arbitrary or positive movement may be given to the rake in both movements. The head E, in working the joints *c*, serves to counterpoise the teeth F; for instance, in depressing the treadle J the head E is turned so that its centre of gravity will pass over to the front sides of the joints *c*, and the gravity of the head will therefore assist in elevating the teeth F. The driver may at any time assist the feet by operating the lever I with his hand.

The inventor says: I do not claim the wire teeth F attached to the head E, as shown; for such device mounted on wheels is in quite common use, and known as the wire-tooth horse rake.

But I *claim* the arrangement of the treadles J K, lever I, rake head E, arms G H, bar F^1, joints C, and adjustable rope L, substantially as and for the purposes set forth.

No. 21,698.—Mathias Raezer, of Reading, Pa.—*Improvement in Hay Rakes.*—Patent dated October 5, 1858.—The operation of this machine is as follows: The spring teeth *f* proceed to gather the crop; the rake being full, the operator upon the seat *d* takes his foot off the foot pin *t*, and draws lever *e* towards him, which causes the spring teeth *f* to rise, and the prongs *g* to drop down and discharge the contents of the teeth; the lever *e* is then pressed forward by means of the foot pin and the operation repeated.

Claim.—The spring bar *z*, the foot lever *e*, and the gearing *n n*, arranged and combined as described for the purpose set forth.

No. 19,420.—William Horning, of New Lebanon, Ohio.—*Improvement in Horse Rakes.*—Patent dated February 23, 1858.—A represents the wheels, B axle, C thills, D treadle, E rake-head, M teeth, O clearers, and G the platform. Projecting rearward from the rake-head are levers H which support the standards I, surmounted by a seat J.

Claim.—The arrangement of the seat J, standards I, and levers H, or substantially equivalent devices, in the described combination with the rake E N, for the purposes set forth.

No. 21,268.—Mirick Morgan, of Lancaster, Pa.—*Improvement in Horse Rakes.*—Patent dated August 24, 1858.—G are cast iron hinges or joints fastened to the roller eyes E by screw bolts and nuts H; I are the teeth which form the rake, and are made of rod iron and curved inwardly, the upper end J of each tooth being bent half round the centre of the hinge G, and then backward under the hinge so as to stiffen the tooth and prevent it from falling downward when the teeth are raised by the operation of the lever K.

Claim.—The arrangement of the axle G and cleavers O with teeth I, having curved ends J, hinges G, and roller E; the whole being constructed for joint operation, as and for the purpose set forth.

No. 21,358.—L. H. Parson and George Houston, of Middletown, N. Y.—*Improvement in Horse Rakes.*—Patent dated August 31, 1858. The operation of this machine is as follows: As the machine is drawn along, the teeth *h* collect the grass or grain, as usual; and when the rake is full, the driver on seat D draws back the lever G, and the section F, in consequence of gearing into the tooth-ring *d*, will turn the head E, and the teeth *h* will be raised backward and the grain or grass discharged therefrom. The teeth *h* are lowered by throwing forward the lever G. The rods I throw aside a portion of the gravel discharged by the rake, so that the wheels may pass through the gravel without threshing out the grain.

Claim.—The arrangement and combination of the rake E, toothed-sector F, toothed-ring *d*, supplemental springs *k*, and clearers 1, substantially as and for the purposes set forth.

No. 22,235.—John W. Hadcock and Parker Wilcox, of Norway, N. Y.—*Improvement in Horse Rakes.*—Patent dated December 7, 1858.—The nature of this invention consists in providing a shield or point of metal to rake-teeth which shall protect the said teeth from splintering or splitting, and also keep them from entering the ground.

Claim.—The arrangement of the rake-teeth D with the metal point or shield *c*, as and for the purpose set forth and described.

No. 22,232.—Christian Garver, of Londonderry, Pa.—*Improvement in Horse Rakes.*—Patent dated December 7, 1858.—The nature of this invention consists in the arrangement of a cross-piece or

cleaner A, having two parallel arms or stays B B bent at their insertion or attachment to cross-piece A at one end, and having oblong holes or openings *i* at their other end. These oblong holes are for the purpose of affording the requisite play in headed pin *o*, which keeps them in place while the rake is being raised in emptying.

Claim.—The arrangement of the cross-piece A, staples *f*, parallel arms B, slots *i*, and pins O, with rake J, in the manner and for the purpose specified.

No. 19,753.—ASAHEL COWLEY, of Harpersfield, N. Y.—*Improvement in Horse Hay-Rakes.*—Patent dated March 30, 1858.—In the engravings B B are thills; C board forming forward division of platform; D slanting notch in levers; E E head of rake; F F the teeth of rake; G G is the axle serving as fulcrum to levers; H H discharging-rods; I I are shanks connecting straps around head of separator with levers; J J head of separator; K arm extending from operator to vibrator; M L L teeth of separator; N hand-rest; R R forward arms of levers; S S hind arms of levers. To unload the rake the foot is placed on the forward division of the platform and pressed suddenly down till it rests on the thills, where it is kept till the load is discharged.

Claim.—The described combination of a separator with a wheel rake, the whole being constructed, arranged, and operated in the manner and for the purpose as set forth.

No. 19,975.—NELSON E. ALLEN, of Trenton, Wisconsin.—*Improvement in Horse Hay-Rakes.*—Patent dated April 20, 1858.—This invention relates more especially to the mechanical connexions between the rake and the driving-wheel, so that the operator from his seat can release the rake and at the same movement throw it into gear with the driving-wheel, and thus give it a compulsory revolution on its journals or shaft; and by reversing said movement lock the rake and throw it out of gear, so that it may stand in proper position for raking into the wind-row until again released.

The inventor says: I am aware that rakes have been held until released by the operator: but heretofore the rake-teeth, or their equivalents, must be in contact with the ground so that contact rotated them, and even then the rotation was not positively certain. I lay no claim to any such contrivance.

But I *claim* so connecting a lever H which actuates the dog *c* with a clutch that gears with the driving-wheel D, as that one operation throws out the dog and throws in the clutch, and *vice versa*, which makes a positive and compulsory rotation of the rake by the means set forth and described.

No 20,844.—JOHN F. FAUST, of Lebanon, Ohio, assignor to Himself and RICHARD M. ROSS, Philadelphia, Pa.—*Improvement in Horse Hay-Rakes.*—Patent dated July 6, 1858.—This invention consists in the combined arrangement of the parts with which the revolving rake is attached when being operated.

Claim.—The combined arrangement of the arms A^1 A^1, rods B B, arms E E K K, and guide rod A A, as constructed and arranged with the rake H and carriage, as represented, for operating the rake in the manner and for the purposes mentioned in the specification.

No. 19,687.—AARON F. FRENCH, of Franklin, Vt., assignor to GEORGE I. STANNARD, of St. Albans, Vt.—*Improved Binding Attachment to Reapers.*—Patent dated March 23, 1858.—A revolving rake is employed in this invention with stationary and curved rods, a band-holder and band-adjuster, so that the grain may be bound by an attendant as rapidly as it is cut by the reaping machine.

Claim.—The revolving rake formed of the curved teeth *b* attached to the shaft A, the rods D curved as shown so as to form the receptacles *e f*, and the elastic strips *k k* connected with the lever-frame F; the above parts being combined and arranged to operate substantially as shown, with or without the rod or bar, for the purpose set forth.

No. 19,118.—J. W. BALTZLY and WILLIAM HOBSON, Pana, Ill.—*Improvement in Hand Reapers*—Patent dated January 19, 1858.—The engravings and claim explain the nature of this invention.

The inventors say: We do not claim the sickle L, nor the manner of operating or driving it.

Nor do we claim a rake working through a slotted platform.

But we *claim* the semi-circular bars C, connected with the frame A, and having the axis *a a* of the wheels B B^1 attached and provided with pins *f* in connection with the rod or bar M, attached to the frame A, and arranged relatively with the above-named parts as described, so that the sickle may be adjusted at the required height with facility, and a proper handle or device obtained, for the ready propulsion of the machine by hand.

No. 19,367.—CHARLES HOWELL, of Cleveland, Ohio.—*Improvement in Reaping and Mowing Machines.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The method of connecting the caster truck with the main frame when used in connexion with a lever E and arm *d*, as described, whereby the operator is enabled instantly to raise the cutting apparatus to surmount such obstacles as may suddenly present themselves, and to regulate the height of the cut, and at the same time allow the machine to accommodate itself to the inequalities of the ground.

No. 19,904.—CHARLES BEACH, of Penn Yan, N. Y.—*Improvement in Reaping and Mowing Machines.*—Patent dated April 13, 1858.—C is a cutter; its shape may be changed when driven by any other means than the wheel B and connexion E. This cutter has a cutting edge at the upper and lower edge; the lower edge to cut with a downward motion by the aid of cutter D, the upper edge cuts when rising that which it gets under while it is down. D is a cutter attached to the upper edge of part A, and is secured to part A.

Claim.—The combination of the cutter C and D with the separator of a harvesting machine, when arranged and operated as and for the purposes set forth.

No. 20,212.—L. J. McCormick, William S. McCormick, and Cyrus H. McCormick, of Chicago, Ill.—*Improvement in Reaping and Mowing Machines.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Making the finger bar of a mowing machine of a bar of iron, wedge-formed in its cross-section, with its forward edge which carries the fingers made thin, that the sickle may act upon and cut leaning grass, and with its rear edge thick to obtain the required strength, and the under surface inclined that it may act like a runner, to pass and ride over the surface of the ground to keep the cutting edge of the sickle clear of obstructions, whilst at the same time it can have access to leaning grass, all substantially as described.

No. 20,251.—John W. Brokaw, of Springfield, Mass., assignor to Warder, Brokaw, and Child, of said Springfield.—*Improvement in Reaping and Mowing Machines.*—Patent dated May 18, 1858.—This invention consists in the use of shell standard B, provided with sliding boxes D for the reception of the journals of the driving wheel, in connexion with a change of pinions, when the former are so arranged and constructed in relation to the pinion shaft as that when the frame of the machine is lowered to adjust it for mowing, it shall require a small pinion to mesh into the master wheel, and a large one when raised for reaping, thus giving a fast motion for mowing and a slow one for reaping.

Claim.—The construction and combination of the shell standard B and sliding boxes D, when used in connexion with a change of pinions, and operating in relation thereto in the manner and for the purposes set forth.

No. 20,275.—Charles Howell, of Cleveland, Ohio.—*Improvement in Reaping and Mowing Machines.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Connecting the outer end of the finger bar A with the gear block C, by means of a curved bar B, constructed in the manner substantially as and for the purposes set forth, whether it forms a prolongation of the gear block or otherwise.

No. 20,887.—C. Moul, of Hanover, Pa.—*Improvement in Reaping and Mowing Machines.*—Patent dated July 13, 1858.—This invention relates to a new and improved device for regulating the height of the cut, and for instantaneously raising the cutting apparatus for the purpose of surmounting stumps, stones, and other obstacles which may suddenly present themselves in the path of the machine, by means of which damage to the machine is prevented.

Claim.—The combination of the truck frame H, caster wheel L, and lever K, the whole being arranged and operated in the manner and for the purposes substantially set forth.

No. 19,894.—Thomas Harding, of Springfield, Ohio, assignor to Warder, Brokaw, and Child, of said Springfield.—*Improvement in Cutting Device for Reaping and Mowing Machines.*—Patent dated April 6, 1858.—In the engravings the knife is represented as being made of a series of triangular blades *a* riveted to the sickle bar A, and describing with it, on either side, an angle of about 45° as a cutting edge, with the exception of the last one *b*, on the section or blade on the end of the sickle bar A, whilst its edge *x*, on the inside of the divider B, described a similar angle to the sickle bar, as the other, for the purpose of cutting, has its outer edge *y* prolonged more or less according to the width of the divider.

Claim.—The arrangement of the end of the sickle bar A, next the divider, of a cutting and clearing section *b*, as constructed and for the purposes set forth.

No. 20,017.—John W. Brokaw, of Springfield, Ohio, assignor to Warder, Brokaw, & Child, of said Springfield.—*Improvement in Reaping Machines.*—Patent dated April 20, 1858.—This invention consists in arranging in the space between the frame of the driving wheel and platform, commonly used in harvesting grain, an auxiliary platform of peculiar construction and operation, whereby the grain, as it is raked from the platform upon it, will be deposited automatically by its own weight in compact gavels upon the ground, out of the track of the horses, in the return swath.

Claim.—The combination of an auxiliary platform H with the platform for the reception of the grain as it is cut, when arranged, constructed, and operated in a space between the latter and the driving-wheel, in the manner substantially as and for the purposes set forth.

No. 21,207.—C. W. Marsh and W. W. Marsh, of Shabbona, Illinois.—*Improvement in Reaping Machines.*—Patent dated August 17, 1858.—This invention relates to an improved arrangement of parts applied to a reaping machine for the purpose of gathering grain as it is cut into proper-sized gavels, and enabling attendants to bind the same with facility into sheaves, and allow the sheaves to be discharged from the machine in piles, for the convenience of gathering or harvesting them.

The inventors say: We are aware that endless bands of rakes have been previously used for conveying cut grain from the platform of reapers, and we do not claim separately and broadly such device.

But we *claim* the box or receptacle I, platforms J M M, and box K, provided with the hinged or adjustable bottom end-piece *l p*, when the above parts are used in connexion with the endless bands of rakes D E, and arranged relatively with each other substantially as set forth as and for the purpose specified.

No. 21,434.—James Mitchell, of Osceola, Iowa.—*Improvement in Binding Attachment to Reaping Machines.*—Patent dated September 7, 1858.—This invention consists in the use of clamps or band-carriers, a band-twisting device, tucking rod, and discharging device applied to the reaper, arranged relatively with each other and operated, whereby the grain is bound into sheaves and discharged upon the ground, the whole working automatically as the machine moves along.

The inventor says: I *claim*, first, the combination of the jaws *o o r r*, arranged as shown, and attached respectively to the slider *m m* and springs *p p*, whereby they are made to receive and grasp the ends of the band, as described.

Second. The clamp J, constructed of two parts i^1 j^1, attached to the rotating wheel h^1, and used in connexion with the slide-bar K and ledge l^1, for the purpose of twisting the ends of the band, substantially as described.

Third. The jaws *o o r r*, clamp I, band-twisting device J, tucking-rod K, and discharge-rod G combined, arranged to operate substantially as and for the purpose set forth.

No. 19,020.—Isaac H. Conklin, of Rockford, Illinois.—*Improvement in Seeding Machines.*—Patent dated January 5, 1858.—In this invention the machine is so constructed as to sow either in hills, drills, or broadcast, and give a greater or less quantity of seed in a given area. The improvement is explained by the engravings and claim.

Claim.—First. The hoppers *j* and the hopper F, when arranged with the bar B, as shown and used in connexion with the bar E, provided with shares as described, so that the seed may, by the same mechanism, be distributed from either hopper, and sown either in drills or check-rows, as may be desired.

Second. The disk c^1, attached to the wheel A and provided with teeth d^1, arranged in connexion with the disk b^1, for the purpose of operating intermittently the bar B, for the purpose specified.

No. 19,144.—John Huston, of Ottawa, Ill.—*Improvement in Seeding Machines.*—Patent dated January 19, 1858.—This is an improvement in the distributing device, whereby the seed is equally measured at each discharge, and the tube is prevented from becoming clogged; this is effected by means of vertical and horizontal slides.

The inventor says: I do not claim broadly, and irrespective of the arrangement shown, the employment or use of two slides for distributing seeds.

But I *claim* the arrangement of the shaft G, levers J *g* H, spring I^1, bar D, and slide I, substantially as and for the purposes shown, whereby, when lever J is moved forward, the lever *g* operates the bar D, lever H operates slide I, and spring I^1 acts to restore or throw the said parts to their first position.

No. 19,333.—Chester Barton, of Savoy, Mass.—*Improvement in Seeding Machines.*—Patent dated February 16, 1858.—This invention consists in attaching the frame B^1, which carries the seed-distributing device, and to which frame the pressure rollers N N and driver's stand O are attached, to the axle A of the wheels, in such a way that the frame may be readily raised when necessary by the driver, and kept in an elevated state, so that the roller will be free from the ground while the machine is being drawn from place to place. The weight of the driver increases the pressure on the rollers, and tends to keep the machine in position when it is not elevated.

The inventor says: I do not claim the employment or use of the pressure rollers.

Nor do I claim the seed-distributing device; for these are old and well-known devices, and in common use.

But I *claim* the frame B^1, provided with the seed-distributing device, and having the pressure rollers N N and driver's stand O attached, when said frame is connected with the axle A and the shaft or windlass I or its equivalent, and the whole arranged to operate substantially as and for the purpose set forth.

No. 19,423.—G. W. Hildreth, of Lockport, N. Y.—*Improvement in Seeding Machines.*—Patent dated February 23, 1858.—As the plough moves forward, the rear propelling wheel C communicates an oscillating circular motion to the distributors, through the intermediate connexions, and the seed in the hopper E is agitated and caused to run down off the inclined end of the distributors into the conducting tubes and from thence into the soil.

Claim.—The combination and arrangement of the bar L^2, levers L^1, horizontal feet *l*, and set-screw l^1, with the cylindrical seed-distributors F, the whole being constructed, arranged, and operated in the manner described, and for the purpose set forth.

No. 19,514.—Aaron Ring, of Westbrook, Me.—*Improvement in Seeding Machines.*—Patent dated March 2, 1858.—The machine is operated in the following manner. The bag-hopper is filled with seed, the crank is then turned with the right hand, and the slide in the bottom of the hopper is then moved back, which will allow the seed to run freely into the revolving head, thence it will fly out of the distributing tubes spreading as it falls.

The inventor says: I do not claim sowing seed by centrifugal force, for that has been done before. Neither do I claim the distributing tubes in and of themselves alone, for they have been used in sowing seed broadcast.

Neither do I claim the bag-hopper in and of itself, neither do I claim the crank in and of itself alone, neither the shaft separate and alone, nor the slide at the bottom of the hopper, neither do I claim the revolving head alone.

But I *claim* the combination of these substantially as and for the purpose set forth.

No. 19,859.—Isaac B. Lutz, of La Fayette, Ind.—*Improvement in Seeding Machines*—Patent dated April 6, 1858.—This invention is chiefly designed for sowing seed broadcast among standing corn, and consists in the means employed for distributing the seed, and in a peculiar arrangement of the seed-boxes and shares so that they are rendered capable of adjustment, to enable the implement to be expanded or contracted while in motion, to conform to the varying widths of the rows of seed.

The inventor says: I do not claim the adjustable bars D separately, nor do I claim broadly the employment of screw rods for discharging the seed from the seed-boxes.

But I *claim* the rotating rods K, provided with two screw threads placed in reversed positions, and so arranged as to discharge the seed at both ends of their seed-boxes G, substantially as and for the purpose set forth.

I further claim the seed-boxes G G H, attached respectively to the adjustable bars D and beam A, and provided with seed-distributing screw rods, operated from the driving wheel B, through the medium of the gearing *m n q j j j*, substantially as set forth.

No. 19,839.—Joseph Frey, of Battle Creek, Mich.—*Improvement in Seeding Machines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The device of using a screw with double thread coarse and fine alternately, in the bottom of the seed-hopper, in combination with the oscillating hand lever and the eccentric pivot, to force the seed through the holes in the perforated bottom of said seed hopper, by means of the compound oscillating motion of the screw.

No. 19,871.—Thomas A. Risher, of Circleville, Ohio.—*Improvement in Seeding Machines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the combination of the bar and plates with the double-holed bottom and the reciprocating slides, as this I have patented.

But I *claim* the peculiar arrangement of the bars B B^1 B^2 B^3, with the right and left screws E E^1, slides a^1 and a^2, with the stirrer O, for the purpose of regulating the quantity of grain with uneven slides, as described.

No. 19,872.—Thomas A. Risher, of Circleville, Ohio.—*Improvement in Seeding Machines.*—Patent dated April 6, 1858.—In the operation of this machine, power being applied to the handles *d d*, the slides are set in motion, and, working between the two bottoms B and X, the seed passes from the upper bottom through its apertures into the apertures in the slides; and as the slides alternate and their apertures pass over the wedge-shaped piece *n n* of bottom B, the seed is discharged on alternate sides of the wedge *n n* and passes into the discharge spouts below.

Claim.—The peculiar arrangement of the bottom B as constructed with the rock slides *c c c c*, handles *d d* and *e e*, rods *h h*, set-screw *a*, and bottom *x*, all operated in the manner set forth and for the purpose described.

No. 19,902.—Charles F. Anderson, of Charlestown, N. H.—*Improvement in Seeding Machines.*—Patent dated April 13, 1858.—This invention relates to an improvement in that class of seeding machines in which the distributing devices are combined for the purpose of distributing different kinds of seed by one and the same mechanism; and the invention also relates to a peculiar device for making the hills at certain points, and to a novel arrangement of means for elevating the body of the machine so that the seed-conveying tubes and shares may

be readily elevated from the ground while the machine is being drawn from place to place, or at any time when the distribution or planting of seed is not required, while the machine is in motion, as in turning at the end of rows.

The inventor says: I *claim*, first, actuating the seed slides Q R by means of the shaft K, operated from the wheel P^1 by the spur wheel J, pinion L bevelled or made of double oblique form on its outer side, the tube or collar *i*, provided with the pin *o* and the zig-zag groove in the shaft K and the spring c^1, the above parts being arranged to operate as and for the purpose set forth.

Second. The latch or catch W, connected with the slides Q R, and used in connexion with the sliding collar M and the boss or shell *o* on shaft K, substantially as and for the purpose set forth.

Third. The blade or scraper f^2 attached to the rod e^2, and actuated when desired by means of the spindle z^2, shaft d^2, link c^2 and spring g^2, substantially as and for the purpose specified.

Fourth. Raising and lowering the frame E of the machine by means of the eccentrics C C^1 attached to the axle A, in connexion with the straps D D and clutch *f*, substantially as and for the purpose specified.

No. 20,162.—James F. Kierstead, of La Porte, Ind.—*Improvement in Seeding Machines.*—Patent dated May 4, 1858.—The object of this broadcast sower and coverer is to prevent the distributing device from becoming choked; to insure a perfect and even movement of the same, and one that may be regulated to discharge more or less seed from the hopper in a given time, as required; and further to obtain a perfect covering device, one that will conform to the inequalities of the ground and be under the perfect control of the driver.

The inventor says: I do not claim separately the adjustable perforated bar E, nor the reciprocating bar G, with its pendents *h* attached; for such devices or their equivalents have been previously used.

But I *claim* the reciprocating bar G, provided with the pendents *h*, and the adjustable perforated bar E, in combination with the bar L, the parts being arranged relatively with each other and the discharge openings *c* so as to operate as and for the purpose set forth.

No. 20,301.—Luther Robinson, of Melrose, Mass.—*Improvement in Seeding Machines.*—Patent dated May 18, 1858.—This invention is chiefly designed for planting seed in hills and check-rows, and at the same time to distribute, at the time of planting, a fertilizing material in the hills with the seed; the whole being so arranged as to insure the perfect distribution of the seed and fertilizing material, and to place the machine under the complete control of the attendant or driver. There are also drag chains, to enable the driver to plant in parallel rows.

Claim.—The perforated reciprocating slide K, in combination with the supplementary or auxiliary perforated slides *h h i i*, one or more pairs, operated substantially as shown, for the purpose set forth.

No. 20,357.—Joseph McCammon, of Dayton, Ohio.—*Improvement in Seeding Machines.*—Patent dated May 25, 1858.—This invention consists in a peculiar means employed for distributing seed, whereby

the seed is prevented from arching and packing in the hopper and seed box, and presented in a proper manner to the seed apertures, the size of which may be graduated so as to sow a greater or less quantity of seed in a given space.

Claim.—The blades *b* attached to the rotating shaft D, which is placed within the hopper or seed box A, and arranged substantially as set forth, in combination with the adjustable slides F G H and concave bottom E; the whole being arranged to operate as and for the purposes set forth.

No. 20,358.—G. W. L. McMillen, of Dayton, Ohio.—*Improvement in Seeding Machines.*—Patent dated May 25, 1858.—This invention consists in the employment of regulating slides, a gauge, and a shaker, arranged and operated so that the discharge of the seed may be regulated as desired, and the device prevented from being choked or clogged.

Claim.—The employment or use of the shaker G, placed between the rotating flanges E E, and operated by the curved rod F and cam C; the sliding plates J M, gauge K, and cylinders D D; the whole being combined and arranged to operate as and for the purpose set forth.

No. 20,366.—A. M. Pratt, of Lowell, N. Y.—*Improvement in Seeding Machines.*—Patent dated May 25, 1858.—This is a novel arrangement of the furrow and covering shares with the seed-distributing shaft, in order that the seed-distributing device may be thrown out of gear simultaneously with the elevating of the furrow and covering shares, and by the movement of a single lever, so that the machine may be rendered inoperative when desired.

The inventor says: I do not claim the seed-distributing device; for that is in common use, and well known.

But I *claim* attaching the furrow and covering shares F D respectively to shafts E C, which are allowed to turn in their bearings, and are connected by the rods *k l* to the lever J, when said parts thus arranged are used in connexion with the shaft *i* attached to the lever J, crank *h*, and lever I, which support one end of the seed-distributing shaft H; the whole being arranged to operate as and for the purpose set forth.

No. 20,575.—Daniel B. Neal, of Mount Gilead, Ohio.—*Improvement in Seeding Machines.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The peculiar arrangement of the gauge slide *e*, the screen *d*, and the pin *p*, with the bottom *g* and seed slide G, for the purpose of regulating the quantity of seed to be discharged, and at the same time preventing straws or chaff from choking the slides, as is fully set forth.

No. 20,547.—Samuel Burnside, of Reading, Ohio.—*Improvement in Seeding Machines.*—Patent dated June 15, 1858.—In this machine,

the seed slide D, conveying tube K, and hoe J, are so arranged that the seed is deposited in hills, covered, and the hills marked, the several parts acting automatically as the machine is drawn along. The machine is designed for planting seed in check rows, and to facilitate sowing in this way.

The inventor says: I do not claim separately the reciprocating seed slides D, for they are in common use; nor do claim the hoes J separately.

But I *claim* the movable conveying tubes K, with hoes J attached, in combination with the seed-slides D, the above parts being operated as and for the purpose set forth.

No. 20,643.—Samuel F. Jones, of St. Paul, Indiana.—*Improvement in Seeding Machines.*—Patent dated June 22, 1858.—This is a novel arrangement of the parts composing the seed-distributing device, whereby the operator has full and perfect control over the same, without regard to the draught movement of the machine, and so that the seed may be deposited in the exact spot wished by the operator.

The inventor says: I do not claim separately any of the parts, or when viewed irrespective of the arrangement shown and described for attaining the desired end.

But I *claim* the slides M I J, arranged respectively within the box E and tubes F G, and operated through the medium of the tube S, shaft P, pendent O, and rods N L K, as shown and described, for the purpose set forth.

No. 20,656.—William Morehouse, of Davenport, Iowa.—*Improvement in Seeding Machines.*—Patent dated June 22, 1858.—This is an improvement in that class of seeding machines by which the seed is planted in hills and in check-rows, two rows being planted at the same time. The invention consists in a novel means employed for operating reciprocating seed-slides and markers, whereby the distribution or stopping of the seed is placed entirely under the control of the driver.

The inventor says: I am aware that markers have been previously used and arranged similar to the ones described; I therefore do not claim the markers separately considered. Nor do I claim the reciprocating seed-slides F, nor the seed conveying tubes S; for they have been used.

What I *claim* is, the cams J attached to the axle I, and laterally moving rods K M, attached respectively to the shafts H *g*, the seed-slides E being attached to the shaft H by rods G, and the shaft *g* being attached to a slide *z*; the above parts operating as and for the purpose set forth.

I also claim the markers *n* attached to the frame N, when said markers are used in connexion with the cams J and rods M K for operating the seed-distributing device, and the whole arranged to operate as and for the purpose set forth.

No. 21,162.—S. R. Weldon, of Winnebago Station, Illinois.—*Improvement in Seeding Machines.*—Patent dated August 10, 1858.—

This invention relates to an improvement in that class of seeding machines which are designed for sowing seed broadcast. It consists in the employment of a seed box, formed with two compartments, and arranged with a slide, adjustable flap, and discharge orifice, so as to insure the perfect distribution of the seed, and to cut off the discharge when necessary.

Claim.—Dividing the hopper C into two equal compartments *a b*, and using a slide F to graduate the opening *a* between them, when the hopper thus arranged is used in combination with the rotating seed-distributing wheels K, flap or back-board G, and the double walls *f g*, all arranged to operate as and for the purpose set forth.

No. 21,152.—T. R. Richmond, of Masillon, Ohio.—*Improvement in Seeding Machines.*—Patent dated August 10, 1858.—This invention relates to that class of seeding machines which are designed for sowing seed broadcast, and consists in a novel distributing device, whereby the seed is dropped or discharged from the seed-box in a continuous stream, and by a simple arrangement.

The inventor says: I am aware that perforated seed-slides are an old device, and have been used in various ways; but I am not aware that a series of slides have been used in connexion with perforated caps and plates, so arranged as to discharge continuous streams of seed. I do not claim separately, therefore, the employment or use of perforated seed-slides.

But I *claim* the reciprocating slides I, operated as shown, in combination with the caps K and plates I^1; the above parts being perforated, and arranged substantially as and for the purpose set forth.

No. 21,252.—Joseph Fowler and F. M. Bacon, of Ripon, Mass.—*Improvement in Seeding Machines.*—Patent dated August 24, 1858.—This invention consists in a seed-distributing device for scattering or sowing the seed in connexion with a drag or harrow attachment, whereby the seed will be evenly sown and properly covered with earth, and all the parts placed under the perfect control of the operator or attendant.

Claim.—The combination of the rotary perforated cylinder E, board H, and toothed bars I, arranged for joint action, as described.

No. 21,273.—D. B. Keiper and A. C. Fox, of Texana, Texas.—*Improvement in Seeding Machines.*—Patent dated August 24, 1858.—This invention consists in the employment of a perforated endless band, which is fitted in a seed box and arranged for distributing seed, in connexion with a reciprocating rotary agitator and an adjustable plate K, for the purpose of preventing the seed from clogging, and insuring the proper discharge of the seed from the same box.

Claim.—The combination of the endless band F, oscillating arms *h*, and adjustable plate K, arranged relatively to each other as shown; whereby the seed is properly agitated and kept, when reduced in the box A, within the path or reach of oscillation of the arms *h*.

No. 21,257.—Paul Hildreth, of Beloit, Wis.—*Improvement in Seeding-Machines.*—Patent dated August 24, 1858.—This invention is intended to sow seed broadcast, and is called a broadcast seed sower. It is operated by means of the driving wheel E, which is attached to the motive power by shaft and wheel, and connects with the revolving distributing cylinder by shaft and cog-wheel, as seen at D, connecting also with shaft of feed-augers 1 by pulleys and belts, as seen at F H.

The inventor says: It is the arrangement of the cone or graduated pulleys F and H and the feed-augers 1, in connexion with the revolving distributing cylinder *b* and the distributing adjustable feeder C, that I *claim* as my invention, and no more.

No. 21,354.—Lewis Moore, of Ypsilanti, Mich.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—The nature of this invention consists in the combination of the zigzag strip projecting from the bottom of the reciprocating bar with an adjustable gauge plate, which has different sized seed-cells, and a hopper having oblong slots or discharge passages in its bottom.

Claim.—The combination of the zigzag strip D projecting from the bottom of a reciprocating bar C with an adjustable gauge plate B, which has different sized cells *b c*, and with a hopper A having oblong slots or discharge passages *a* in its bottom, substantially as and for the purposes set forth.

No. 21,389.—Alexander Turner, Redden Bess, and Hervey Sloan, of Franklin, Indiana.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—The nature of this invention consists in the peculiar construction of a plough and arrangement of a seeding apparatus connected therewith. The plough passes ahead of the seed boxes, and is altered and changed to suit the different kinds of seed which it may be desirable to sow.

Claim.—The arrangement of the seed boxes B and C, the seed slides *d* and *e*, rod H, wheels G and F, and ploughs J J, in the manner specified and for the purpose set forth.

No. 21,375.—Joseph D. Smith, of Lancaster, Ohio.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—This invention consists in the combination of a peculiar seed-distributing device and a device for forming the necessary furrows to receive the seed, with a peculiar arrangement of the framing whereby the device is allowed to conform to the inequalities of the ground, and the seed-distributing portion elevated free from the ground when desired, as in moving from place to place, or in turning at the ends of rows, &c.

The inventor says: I do not claim broadly the employment of two wheels for opening the furrow, the seed being dropped between the wheels.

But I *claim* the arrangement and combination of the spout R, wheels M, frame H, and frame D, as and for the purposes shown and described.

No. 21,349.—J. B. McCormick, of Versailles, Kentucky, and William R. Baker, of Boston, Mass.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—To the underside of the frame E two plates or shares H H are attached. These plates or shares are placed, one by the concave side of each wheel G. The front ends of the shares are rounded, and they fit within the shoulders *b* of the wheels, said shoulders serving as a protection to the shares. The back ends of the shares are covered a little outward, so as to form a sort of mould board *c* to make the necessary furrows.

Claim.—The arrangement and combination of the rotating wheel G with the stationary plates or shares H substantially as and for the purpose shown and described.

No. 21,350.—E. L. Lyon, of East Randolph, New York.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—This invention consists in the peculiar construction and arrangement of the seed-distributing devices as applied to the wheels, whereby the seed may be planted evenly in check rows or in parallel drills in an expeditious manner.

The inventor says: I do not claim broadly, attaching seed-distributing devices to wheels.

But I *claim* the sliding seed boxes F attached to the radial bars E, and outer end pieces *a* of the seed boxes, being provided respectively with the recesses *e f d*, and the outer ends of bars E projecting beyond the peripheries of the wheels, the whole being arranged for joint operation substantially as and for the purpose set forth.

I also claim, in combination with the above-named parts, the covering shares H, arranged substantially as described.

No. 21,314.—Thomas J. Bottoms, of Thomasville, Georgia.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—In the operation of this invention, the seeds are placed in the hopper *b* and pass down through a hole or chamber *p* in the beam. The slide *o* is so constructed that it can be moved forward or backward so as to enlarge or diminish the size of the hole in the beam. The front shovel opens the ground, and the rear shovels cover the seed. When the seeds fall through the beam, they are caught on the grain spreader and scattered broadcast. The spreader is only used when small seeds are sowed broadcast. The valve *m* is pressed up against the hole by means of the spring *c* at all times, except when opened by the eccentric pins in planting.

Claim.—The eccentric pin *i*, lever *d*, spring *c*, valve *m*, spreader *n*, rag pin *l*, slide *o*, and hopper *b*, the whole arranged and operating as described for the purposes specified.

No. 21, 323.—Smith Conklin and George Newton, of Sterling, Vermont.—*Improvement in Seeding-Machines.*—Patent dated August 31, 1858.—This invention consists in the arrangement of a seed-distributing device with the peculiar means employed for regulating the discharge of the seed therefrom.

Claim.—The inventors say: We do not claim broadly a perforated reciprocating slide without reference to the form or shape of the perforation and the gauge or regulating bar H, for such device is common to many classes of seeding-machines.

But we claim the arrangement and combination of the plate F, guides C, bars G H, and box E, as and for the purposes shown and described.

No. 21,452.—Samuel Stanbro, of Salem, Mich.—*Improvement in Seeding-Machines.*—Patent dated September, 7, 1858.—The object of this invention is to overcome the defects in the measuring conveyor, and diminish the cost of its construction; and the invention for effecting this object consists in the application of a twisted cord as conveyor, in connexion with a series of curved bridges through which the cord vibrates, which forms a cheap conveyor and measurer that can easily be replaced when worn out.

Claim.—The application of a twisted cord, in combination with measuring tubes, arranged substantially as described, for the purpose of measuring and delivering the seed.

No. 21,595.—George C. Bunsen and Cyrus Roberts, of Belleville, Ill.—*Improvement in Seeding-Machines.*—Patent dated September 28, 1858.—This invention relates to an improvement in that class of seeding-machines designed for sowing seed broadcast or in drills.

The inventors say: We *claim*, first, the employment or use of the cylinder G provided with the step-like projections *j j* between circumferential flanges *h h*, oblique partitions *i*, and zigzag grooves *k*, said cylinders being fitted within a cylindrical case F at the bottom of box D, and having a reciprocating rotating motion, as and for the purpose set forth.

Second. The arrangement of the adjustable tubes K attached to the arms J, the rollers *g**, and cutters *i**, whereby both the cutters and tubes may be adjusted as described, and the pressure on the cutters graduated as desired, as also the depth of the furrows made by the cutters.

No. 21,780.—Andrew Simmons, of Nora, Ill —*Improvement in Seeding-Machines.*—Patent dated October 12, 1858.—This invention consists in making the seed-slide of a corrugated form, with seed openings at its edges, and on opposite sides of its ridges or corrugations, so that the grain is carried from the hopper at both motions of the slide, but will not waste out when the slide is at rest.

Claim.—Forming the seed-slide of a corrugated plate, and making the seed-openings therein at the edges and on opposite sides of the ridges or corrugations, substantially in the manner and for the purpose set forth.

No. 21,850.—Marshall S. Root, of Medina, Ohio.—*Improvement in Seeding-Machines.*—Patent dated October 19, 1858.—In this invention there is an arm P extending horizontally from rod O and backward, against which a bent arm Q which is inserted into the wheel D acts as an inclined plane against the arm P, as the wheel revolves upon

the ground. This action of the bent arm Q against the arm P opens the slider N at regular intervals, the intervals being such as to sow the seeds at the required distances apart. The opening of the valve or slider N allows the seed to escape through the orifices in the bottom of the seed box at *b g*. In order to close the orifices through which the seeds pass, a coiled spring R is introduced, which by its elasticity moves back the slider N, the moment it is relieved from the pressure of the bent arm Q.

Claim.—The bent arms Q Q, arms P and U, rod O, and spring R, when these several parts are arranged as described for operating the corn planter and sower, and combined with the revolving harrow as set forth.

No 21,807 —A. G. Babcock, of Galesburgh, Illinois.—*Improvement in Seeding-Machines.*—Patent dated October 19, 1858.—The nature of this invention consists in the arrangement of two rollers placed on a centre shaft, the right hand roller being made fast to the shaft, on which is supported a frame composed of two side and four cross timbers.

Forward of the rollers is placed a grooved cylinder, of the same length as the rollers, extending across the frame and supported by it, and at a sufficient distance from the rollers to admit the drags. Immediately over it is placed a hopper with an aperture in the bottom extending its whole length, through which the grain is discharged immediately into the grooves of the cylinder. Back of the cylinder is an apron, which extends partly around the cylinder, and terminates at the most dependent point. Beneath the lower edge of the apron is placed a guide plate, by which the grain is conveyed to certain points.

Claim —The described arrangement of the form rollers A A, grooved cylinder D, elastic wipers 3, hopper E, guide plate H, drags *i*, and windlass K, when constructed as and for the purpose set forth.

No. 21,995.—Joseph Walton, of Delaware, Ohio.—*Improvement in Seeding-Machines.*—Patent dated November 2, 1858.—The inventor says: I mount the drive wheel A, rotary disk B, and hopper upon any convenient frame, in such a manner that the top surface of the disk B may be horizontal, or nearly so, when at work, and the centre of the disk directly beneath the throat L of the hopper ; on the top of the surface of the disk I place wings *c c c* with their outer edges tangent to a small circle seen in fig. 3. The partition N N, I place at an angle of 60° with the line of draught. The gate or valve H I, for regulating the flow of grain from the hopper, I make with a semicircular disk three-sixteenths of an inch smaller than the throat L, which I make about six inches in diameter. The gate is raised or lowered by the screw K.

Claim.—The rotary disk B, in combination with the throat L, the partition N N, the valve H I, the finger E, and the grass-seed hopper, when the whole are arranged and combined for joint operation as set forth.

No. 21,969.—Hermann Kaller, of Perry, Ill.—*Improvement in Seeding-Machines.*—Patent dated November 2, 1858.—To the front part of frame A, and at each side, a tube F is attached, said tube being secured by bolts *a*. These tubes may be formed by having metal plates *b* attached to the wooden standards *c*, the plates *b* projecting back of the standard so as to form the tube. To the front sides of the standards *c* the furrow shares G are attached, one to each, and at the upper part of each tube F a hopper H is placed. Directly below each hopper H a cylinder I is placed, and both cylinders are placed on opposite ends of a shaft J, which extends across the machine.

Claim.—The cylinders I I, provided with the seed cells d^1, having the slides *e* attached and arranged within the tubes F, and relatively with the hoppers H, to operate as and for the purpose set forth.

No. 21,958.—Aaron Hatfield, of Petersburg, Ill.—*Improvement in Seeding-Machines.*—Patent dated November 2, 1858.—The nature of this invention consists in the particular manner in which the seeding devices are arranged, and in which they are operated for drilling in grain and sowing it broadcast, one or both at the same time, and whether between corn rows or otherwise.

The two seed boxes F and D are similarly constructed, only that they have no plate corresponding to the additional bottom plate *v* in the seed box E, and have each a notched plate *x* instead of the slide *s*, which plates *x*, however, can be adjusted similarly by means of stirrups, nuts, and screws *y*, so as to cover up the holes *j* of the seed tubes *g f*, to a greater or less extent, and thereby to allow passage to corresponding quantities of seed or grain. The seed hoppers D E F are arranged for drilling in the seed or grain, whilst that (C) at the rear of the machine is arranged for sowing broadcast. They may be differently arranged, if desired.

Claim.—The arrangement of the seed hoppers represented in combination with the mechanism for driving the seed slides and dropping the grain or seeds, and covering them as described and shown.

No. 21,959.—W. Y. Henry, of Monmouth, Illinois.—*Improvement in Seeding-Machines.*—Patent dated November 2, 1858.—This invention relates to an improvement in that class of seeding machines which are designed for planting seed in check rows, and consists in a peculiar arrangement whereby the seeding device, markers, and shares are placed under the complete control of the driver, and the operation of planting seed in check rows greatly facilitated.

Claim.—Connecting or arranging the levers or rods M M of the pestles or weights *h*, and the levers I of the tubes H, substantially as shown, when used in combination with the wheel *i* connected with the slide Q, and the whole arranged to operate as and for the purpose set forth.

No. 22,208.—John W. Vandiver, of Shelbyville, Missouri.—*Improvement in Seeding-Machines.*—Patent dated November 30, 1858.—This invention consists in a peculiar seed-scattering device placed within the seed-conveying tubes, and arranged so that the seed may

be scattered in the hill as it is dropped; so that the seed of each dropping will be planted in the hill as it is dropped at suitable distances apart, most favorable for its growth and cultivation.

Claim.—The bars or rods *j*, pivoted within the said conveying tubes E, and having elastic plates *l l* attached, the upper ends of said bars or rods being connected with the vibrating plates F of the seed-distributing device, substantially as and for the purposes set forth.

No. 22,184.—Daniel Markham, Austin S. Markham, and David Eldred, of Monmouth, Illinois.—*Improvement in Seeding-Machines.*—Patent dated November 30, 1858.—This invention consists in a peculiar manner of arranging two seed-distributing devices in one and the same hopper, whereby seed may be planted in check rows, in drills, or broadcast, as may be desired.

Claim.—The arrangement of the rotating shaft F, provided with distributing wheels *i*, having buckets attached to the slide bar G, the plate I, and adjustable strips or bottom *h*, substantially as shown; whereby seed may be planted from the same seed-box, either in drills, check rows, or broadcast, as may be desired.

No. 22,180.—R. W. Hunt and M. Kennedy, of Galesburgh, Ill.—*Improvement in Seeding-Machines.*—Patent dated November 30, 1858.—A represents a horizontal frame, which is mounted on two wheels B B, and C is a draught-pole attached thereto. On the back part of the frame a driver's seat D is placed, and to each side of the frame a bar *a* is attached by a joint *b*, the front ends of the bars being attached to the under side of the frame. The back of each bar *a* is attached by a pivot *c* to a bar *d*, and the upper end of the bars *d* are pivoted to bars *e e*, which are pivoted to frame A. The upper ends of the bars *d* are attached to a transverse bar *f*.

Claim.—Arranging the levers *i* and plates *j*, which form the dropping device, with the levers *m m* in the tubes *g*, as described, whereby the above named parts are rendered capable of being operated simultaneously by the simple action of the bars *u* on the ends of the levers *i*.

No. 22,171.—Warren Drummond, of Woodbridge, N. J.—*Improvement in Seeding-Machines.*—Patent dated November 30, 1858.—This invention relates to an improved seed-distributing device. It is designed for planting seed in hills or drills, more especially for planting in hills, checks, and rows, and is intended to prevent the clogging or choking of the seed-distributing device, and also the breaking of the seed as the seed-cells are drawn underneath the cut-off.

Claim.—The elastic rollers K arranged relatively with the slides J, to operate as and for the purposes set forth.

No. 22,339.—John Badger, of Baileyville, Ill.—*Improvement in Seeding-Machines*—Patent dated December 21, 1858.—This invention consists in the employment or use of a series of circular plates and stirrers fitted on a rotary shaft, which is placed in a seed-box provided with a slotted bottom and a slide; the whole being arranged so that the seed may be sowed evenly in a broad-cast manner, and

the amount of seed to be sowed in a given area of ground graduated as desired.

Claim.—The circular plates I and stirrers *h*, attached to the rotating shaft F^1, within the seed-box C^1, arranged and combined with the slotted bottom D and slide E, substantially as and for the purpose set forth.

No. 22,374.—Albert W. Morse, of Eaton, N. Y.—*Improvement in Seeding-Machines.*—Patent dated December 21, 1858.—To the rear of box *b* is attached a seeding box *f* with tubes *c c c*; motion is communicated to the rod *d* by means of band E, which runs on grooved pulleys *g*. The seeding box *f* is attached to box *b* by hooks *h*. The said box *f* can be removed when the clod-crusher or roller is used as a compressing roller for pulverizing the ground when it is not desirable to sow seed. When a seed sower is wanted without a clod-crusher or roller, the intermediate wheels *m* are removed, and the external wheels m^1 and m^2 retained, as shown in fig. 3, which is a rear elevation of the machine.

Claim.—The arrangement of the hopper *f* with the rollers *g g*, belt or strap E, rollers *m*, and rings *a*, as described, for the purposes set forth.

No. 22,418.—Joseph Fowler and F. M. Bacon, of Ripon, Wis.—*Improvement in Seeding-Machines.*—Patent dated December 28, 1858. This invention relates to an improvement on the seeding-machine patented by these inventors August 24, 1858, and consists of an improvement in the seed-distributing device whereby the seed may be more evenly distributed or planted than by the patented machine above alluded to.

Claim.—The reciprocating perforated slide H and perforated roller G, in connexion with the inclined board J, the whole being arranged to operate as and for the purpose set forth.

No. 22,190.—S. Minnich, of Hopewell, Ohio.—*Improvement in Apparatus for Holding Sheep.*—Patent dated November 30, 1858.—The nature of this invention relates to the construction and adaptation of a couch upon which sheep are placed while being shorn of their fleece.

The couches in which the sheep are secured while being shorn are two in number, and are formed exactly alike. They consist of three longitudinal pieces each, seen at D D^1, E E^1, and F F^1, the pieces D E F forming one couch, and D^1 E^1 F^1 forming the other. They are alike, both in structure and office.

Claim.—The adjustable couches D E F and D^1 E^1 F^1, in combination with the neck piece I and extension levers M L, arranged and operating in the manner and for the purpose set forth.

No. 20,585.—David R. Reed and James E. Chapman, of Castile, N. Y.—*Device for Holding Sheep while being sheared.*—Patent dated June 15, 1858.—This invention consists in the employment or use of a concave bed G and rotating adjustable wheels E E, whereby sheep

may be securely held and properly and readily adjusted while being sheared, so as to greatly facilitate the operation of shearing.

Claim.—The adjusting wheels E E and bed G, fitted to a suitable base A, and arranged substantially as and for the purpose set forth.

No. 19,431.—William H. May, of Alexandria, Va., and Charles W. Coontz, of Winchester, Va.—*Improvement in Machine for Sowing Fertilizers.*—Patent dated February 23, 1858.—The nature of this invention consists in arranging a series of vertical wooden shafts E, armed with radial metal stirring arms K K¹, within a guano or fertilizer hopper of a seed drill; the stirrer arms being attached by means of screws *c* on their ends, which allow of their attachment and detachment in a ready manner; and the lower ends of the shafts being encircled by a metal ferrule J, which prevents the splitting of the same when subject to great strain, and when being bored or punched to receive the arms. The arms of the shaft revolve horizontally.

Claim.—The combination of a metal ferrule or thimble J, wooden shaft E, and metal stirring arms K K¹, when said ferrule is arranged on the lower end of the shaft, and the stirring arms furnished with a screw thread, and connected with and fastened to the thimble and shaft, substantially as and for the purposes set forth.

No. 21,181.—Lyman Bickford, of Macedon, N. Y.—*Improvement in Machines for Sowing Fertilizers.*—Patent dated August 17, 1858.—This invention consists in forming the part of the hopper through which the distributing apertures are made, and also the side or slides by which the size of the apertures is regulated, of thin metallic plates or other fit material, or of plates of metal or other material shaped to an edge, so that a thin or sharp edge bounds the sides of the apertures, which severs and detaches particles from the mass, and causes the passage through the apertures of the substances sown, and permits these substances to pass the apertures obliquely as well as otherwise.

Claim.—The inventor says: I do not claim as my invention the formation simply of distributing apertures in the bottom of a hopper of a machine for sowing fertilizers, seeds, or other things; for such are employed in the machine for which letters patent were granted to Warren S. Bartle, April 22, 1856, and in other sowing-machines.

But I claim a hopper bottom A, formed of sheet metal or its equivalent, in which are arranged apertures *a*, constructed as set forth, when combined with a series of vertical stirrers *k*, and a slide or slides *b*, arranged on the inner side of the bottom A, in the manner and for the purposes substantially as described.

No. 21,803.—Judd Stevens, of Marengo, Illinois, assignor to Himself and John L. Beadle, of said Marengo.—*Improvement in Spading Machines.*—Patent dated October 12, 1858.—The nature of this invention consists in the employment of mechanism by which the spade is given a sliding and turning motion, for raising and discharging the earth, similar to the manipulation of that implement by human hands.

Claim.—The inventor says: I claim jointing or hanging the spade K to the wheel A, in such a manner that in the forward motion of the machine it will remain in proximity with the periphery of the wheel until the lifting of the earth commences, when it shall pass outwards, or slide upon its bearing, thereby acting more efficiently to raise and disintegrate the soil, substantially in the manner and for the purpose set forth.

I also claim the combination and arrangement of the tripping lever H with the spade *b*, substantially as and for the purpose described.

No. 22,473.—Carlos W. Glover, of Farm Ridge, Illinois, assignor to Himself, Bronson Murray, and J. Van Doren, of La Salle county, Illinois.—*Improvement in Stacking Agricultural Products.*—Patent dated December 28, 1858.—This invention consists in forming a stack of any material out of two, three, four, or more lengths of the material, which overlap or break joint with each other, the heads all pointing to a common centre, and so arranged that, when the radial sides of the spread out material are drawn together and bound, a conical or pyramidal stack shall be formed.

Claim.—Making a stack of two, three, four, or more lengths of straw or other material, that overlap and break joint with each other, and which are laid with their seed ends pointing to a common centre and communicating at the apex, and ending at the base, and drawn together and secured, substantially as represented, using a foundation to build upon an apron or binding cords and chains, as set forth.

No. 22,475.—John Van Doren, of Farm Ridge, Illinois, assignor to Himself, Bronson Murray, and Carlos W. Glover, of La Salle county, Illinois.—*Improvement in Stacking Agricultural Products.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The so placing of two, three, or more layers of stalks or straws in a box or former as that they shall break joint with each other, beginning at the apex and so continuing until one-half of the stack is formed, and then reversing the operation and laying them from the base to the apex, for the other half of the stack; so that when bound up they shall form a stack shingled on its outside to protect the interior, substantially as described and represented.

No. 19,430.—James H. Maydole, of Eaton, New York.—*Improvement in Machines for Gathering Stones.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, so constructing the scoops, and so arranging them in reference to, and in combination with, the other parts, that they will strike the earth and stones directly endwise in passing over the apron, and as they rise be turned or rotated to retain the stones, as described.

Second. So constructing the fingers of the scoops and so arranging them in connexion with those of the apron, that they shall cover the fingers of the apron instead of the spaces between them, as set forth.

Third. The combined adjustment of the carriage and of the scoops

upon it described, by which the apron and scoops may be maintained at different angles at the same height, or at the same angle at different heights from or in the ground, or both varied at pleasure, as set forth.

No. 20,774.—G. W. Bishop, of Brooklyn, N. Y.—*Improvement in Machines for Gathering Stones.*—Patent dated July 6, 1858.—This invention consists in having a receptacle or box A mounted on wheels, and having an inclined plane D at its front end, the wheels of the box having rods attached; said rods are connected to a scraper F which works over the inclined plane, and which scraper, by means of springs or drop-guide G G, in connexion with the rods, is made, as the machine is drawn along, to draw up the stones into the box.

Claim.—The box A provided with the inclined plane D, and used in connexion with the reciprocating scraper F and spring guides G G or their equivalents, the whole being arranged to operate as and for the purpose set forth.

No. 20,038.—Peter S. Clinger and Cyrus Cremer, of Conestoga Centre, Pa.—*Improvement in Straw and Stalk Cutters.*—Patent dated April 27, 1858.—The manner in which to work this machine is, first to cause the cylinder to revolve by means of a belt running around the pulley I from a horse or other power; then take a bundle of stalks and drop them lengthwise into the trough K, from whence they will fall on the stationary knives A A A, and by action of the knives B B B or spikes C C C on the revolving cylinder each stalk will be cut into four parts, and each part will then fall into the concave beneath, and by the action of the teeth on the revolving cylinder and the teeth in the concaves the stalks will be torn apart in the direction of the fibre, and will be delivered beneath the machine.

The inventors say: We do not claim the invention of a revolving cylinder or stationary concaves with knives, teeth, or spikes, but we are not aware that they have ever before been combined for the purpose specified.

What we *claim* is, the revolving toothed cylinder H, armed with knives B and spikes C, in combination with the stationary knives A and toothed concave E, constructed to operate conjointly as and for the purpose set forth.

No. 22,117.—Carlos W. Glover, of Farm Ridge, Ill.—*Improvement in Straw Carriers.*—Patent dated November 23, 1858.—This invention consists in combining with a series of vertically and horizontally moving bars, for carrying forward and upward the stalks, the spring guide and holder, to prevent said stalks in their greatest ascent from slipping back or getting entangled.

Claim.—In combination with a series of bars *a b*, having the motions described, the spring shield for aiding to guide the stalks or other thing conveyed thereon, and preventing their falling back or becoming entangled, substantially as set forth.

No. 19,200.—Jacob H. Mumma, of Harrisburgh, Pa.—*Improvement in Straw Cutters.*—Patent dated January 26, 1858.—The object of this invention is to divest corn stalks of adhering soil, crush, and then cut them into short pieces for food for cattle; also to be used as a straw cutter.

Claim.—The arrangement of the feed rollers *e* e^1, operated on by tappets *o o*, crushing cylinder *d* d^1, provided with gum springs *n n*, cutter bar *g* and *h*, and cutter *l l*, substantially in the manner and for the purposes set forth.

No. 19,462.—Thomas H. Willson and Daniel T. Willson, of Harrisburgh, Pa.—*Improvement in Straw Cutters.*—Patent dated February 23, 1858.—This improvement relates more especially to that class in which yielding feed rollers are used to crush the straw or stalks, and carry the same to rotary cutters, whose axis of revolution is parallel to the axis of the feed rollers, and in which the motion of the feed rollers is derived directly from the cutter shaft.

The inventors say: We *claim*, first, the arrangement of axis of the driving pinion to the yielding feed roller above the axis of said roller as described, when said yielding feed roller vibrates in vertical guides for the purpose set forth.

Second. Constructing the feeding trough with inclined openings in its bottom, arranged as described, in order to facilitate the passage of the dirt, and prevent the short pieces of fodder from escaping.

Third. Constructing the lower feed roller with openings in its periphery for the escape of the dirt or other hard materials which collect upon it during the passage of the fodder between the rollers.

Fourth. The combination of the longitudinal ribs on the lower feed roller with the openings in its periphery for the purpose described.

No. 19,425.—W. O. Hickok, of Harrisburgh, Pa.—*Improvement in Straw Cutters.*—Patent dated February 23, 1858.—This invention consists in the employment of a reciprocating serrated plate G, in connexion with rotating cutters *h*, so arranged that straw, corn stalks, and other substances usually cut by such machines, are cut expeditiously. Crushing rollers J K are used in connexion with the cutters.

The inventor says: I do not claim the feed rollers E F.

Nor do I claim broadly the crushing cylinders J K, nor the rotating cutters *h*.

But I *claim*, first, the reciprocating serrated plate G. in combination with knives *h*, arranged to operate substantially as and for the purpose set forth.

Second. The toothed crushing cylinders J K, rotating with different speed, in combination with the plate G and knives *h*, the whole being arranged substantially as and for the purpose set forth.

No. 19,779.—W. W. Hollman, of Eddyville, Ky.—*Improvement in Straw Cutters.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the movable bottom, when constructed as set forth, with the cam shaft C, cams A and B, and connecting-rod D, for giving a projection of straw under the knife by raising the lever W, said projection being gauged and furnished by the upward

and downward motion of the lever, in the manner and for the purpose set forth.

No. 19,895.—Joseph B. Okey, of Indianapolis, Indiana, assignor to Himself and W. Y. Wiley, of Marion county, Indiana.—*Improvement in Straw Cutters.*—Patent dated April 6, 1858.—*a* is a double feed box; B a drum or wheel; C a slot for the screw D to operate through; G is a gauge plate; F F are knives or cutters.

Claim.—The combination and arrangement of the box *a*, gauge G, knives F F, or their equivalents, upon the drum or wheel B, when constructed and arranged substantially as set forth.

No. 19,952.—E. P. Russell, of Manlius, New York.—*Improvement in Straw Cutters.*—Patent dated April 13, 1858.—This invention consists in an improvement in that class of straw and stalk cutters in which a reciprocating knife is made to work over the end of the feed trough, or box, for the purpose of cutting the straw or stalks. Also, in the peculiar manner of hanging the knife, and the means employed for feeding the straw or stalks to the knife.

Claim.—The arrangement of the knife B and feed rollers K L, when attached for operation, and arranged relatively with the feed box A, substantially as and for the purposes set forth.

No 19,935.—John K. Landis, of Lancaster, Pa.—*Improvement in Straw Cutters.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a yielding bed or bottom in the feeding trough or box, connected to and depressed by the lower feeding roller as it is forced down by the material fed into the machine, substantially as described.

And, in combination with the above, I claim the rotary cutting apparatus arranged to receive the cut fodder and cut it still finer, as described.

No 20,103.—John Tittle, of Johnstown, Pa.—*Improvement in Straw Cutters.*—Patent dated April 27, 1858.—This invention consists in the peculiar means used for operating the feed rollers and regulating their movement, and the mode of hanging and operating the knife; also, in the use of a pressure bar for holding the straw or other substance firmly down upon the bed at the end of the feed box, so that the knife can act upon the straw or other substance to be cut.

The inventor says: I *claim* the arrangement, substantially as shown, of the knife G, with its arms or levers F F^1, when connected for operation conjointly with the feed rollers I J, pressure bar K, and feed box A, in the manner and for the purpose set forth.

I also claim in combination with the lever *n*, pawl *m*, bar *o*, and curved portion *r*, the sliding bar M, arranged as shown for the purpose specified.

No. 20,224.—Solomon P. Smith, of Crescent, N. Y.—*Improvement in Straw Cutters.*—Patent dated May 11, 1858.—In the engraving A is the straw box mounted upon a frame K. The mouth B is provided with a fixed metallic shear plate D along its lower side, for the knife E, fast on the arm C, to work against. L is a recoil spring, arranged so as to enable the operator to employ the surplus momentum of the knife-arm to cause the return of the same to its elevated position *o*, (figure 2,) ready for a new stroke.

Claim.—The arrangement of the arm C, knife E, and recoil spring L, with straw box A, when constructed for operation conjointly in the manner and for the purpose set forth.

No. 20,361.—Oren Moses, of Malone, New York.—*Improvement in Straw Cutters.*—Patent dated May 25, 1858.—The journals *c c* of the tooth feeding roller F, are received into the slots *m m*, in the guard plats *g g* and in the upper ends of the legs *h h*; the said journals *c c* are connected to the driving shaft *a* by means of the properly perforated metallic plates *e e*, which are received into recesses between the guard plates *g g* and the inner side of the upper portions of the legs *h h*, which allows the roller F to rise and fall without changing the distance from driving shaft *a*, or interfering with the working of the gearing.

Claim.—The inventor says: I am aware that a toothed vibrating feeding roller has been used in straw cutters in conjunction with a rigid cleaning comb; and therefore I *claim* the arrangement of the bridle pieces or connecting plates *e e*, attached to cleaning comb *d*, with driving shaft *a* and journals *c c* of feeding roller F, the whole being constructed for operation conjointly with feed-box A, rest *l*, shaft *b*, disk T, and knives *l*, in the manner and for the purposes set forth.

No. 20,582.—Charles P. Perry, of Norristown, Pa.—*Improvement in Straw Cutters.*—Patent dated June 15, 1858.—This invention relates to improvements in that class of straw cutters in which revolving knives, a feed roller, and a plain roller are used. This invention consists in so connecting and gearing together the shafts of the said cutters and rollers by a peculiar combination and arrangement of links and cog-wheels, that the feed roller may yield and change its position as regards that of the plain roller, without disturbing the movement and operation of the machine.

The inventor says: I do not claim the upward cut of the knives, neither do I claim, broadly, allowing the feed roller *d* to yield more or less from the roller *c*, and at the same time to continue its rotary motion.

But I *claim* the shaft E with its pinions J, the shaft Z with its wheel R, and the spindle P with its pinion K, when the said shafts are linked together, and the said wheels and pinions are arranged with respect to each other substantially as and for the purpose set forth.

No. 20,958.—Robert Sinclair, jr., of Baltimore, Maryland.—*Improvement in Straw Cutters.*—Patent dated July 20, 1858.—The claim and engraving explain the nature of this improvement.

Claim.—The described arrangement of the teeth *a a* upon the masticating and propelling cylinder *b*, constructed with the nodular projections on either side, and operating like molar teeth to propel and crush the fodder, as set forth.

No. 21,110.—Darius Babcock, of Dryden, New York.—*Improvement in Straw-Cutters.*—Patent dated August 10, 1858.—On each axis is a shaft *a* of the feed rollers D D a lever F is placed, said levers being allowed to turn or work freely on the shafts, and to each lever a pall G is attached, the palls catching into the ratchets E. On each lever a sliding collar *b* is placed, said collars being secured at any desired point by set-screws *c*. To each collar *b* a connecting rod H is attached, and to the upper ends of these rods are attached a crank wheel *d* by one and the same pin *e*. The crank wheel *d* gears into a wheel I, which is placed at one end of a shaft J at the upper end of the framing A. On the shaft J, at about the centre, a bevel wheel K is placed.

Claim.—Operating the feed rollers D D through the medium of the levers F F, rods H H connected with said levers by means of the sliding collar *b*, palls G G, and crank pulley *d*, arranged substantially as described and for the purposes specified.

No. 21,954.—Oliver C. Green, of Dublin, Indiana.—*Improvement in Straw-Cutters.*—Patent dated November 2, 1858.—This invention relates to a straw-cutter, having a V-shaped box, armed with knives at its front end, adapted to cut shear-wise with the knife on the sliding gate, and consists in a certain arrangement of parts to facilitate the operation of cutting.

Claim.—The described arrangement of the hinged connecting rod P, lever G, spring H, pin I, sliding gate D, and oblique knife E, with the V-shaped knives *b* at the ends of the trough B, for the purpose set forth.

No. 21,970.—James Lashbrooks, of Rockport, Indiana.—*Improvement in Straw-Cutters.*—Patent dated November 2, 1858.—This invention consists in placing series of toothed circular blades on parallel rollers fitted within a hopper, the blades being arranged relatively with each other, and with the clearing prongs, so that the desired work may be done rapidly without danger of clogging or choking the machine.

Claim.—The two rollers B B, provided with the circular toothed blades C, in combination with the clearers *b*, the whole being arranged to operate as and for the purpose set forth.

No. 22,072.—Wilson Green and Malcom McFisher, of Chattanooga, Tenn.—*Improvement in Straw-Cutters.*—Patent dated November 16, 1858.—A is the treadle, B the knife, *a* the connexion of the knife with the lever or treadle, C the double-leafed wooden spring, and *c* the connexion of the lever with the spring which elevates the knife; D is a leather strap on the end of the treadle, forming a stirrup in which the right foot is placed to adjust the spring to raise the knife, should it from any cause become wedged between the jaws when the cut is made.

E is a lever worked with the right hand, and serves to press the straw firmly into the box while being cut, causing the knife to cut much easier; F is an upright in which both levers work; G is a board attached to the treadle, moving up and down in front of the knife, regulating the length of cutting the straw.

Claim.—The arrangement of the treadle A, leather strap D, the regulating board G, and knife B, combined with the double-leafed lever C, lever E, and upright standard F, for joint operation, as set forth and described.

No. 22,207.—Peter Vandesande, of Rochester, N. Y., assignor to Himself and Martin Vanderwerf, of Rochester, N. Y.—*Improvement in Straw-Cutters.*—Patent dated November 30, 1858.—The thread of the worm or screw H is deeply cut, and the spur teeth on the wheel I are permanent, so that the variation in the position of I, as the gate rises, does not throw it out of gear.

Claim.—Operating the feed rollers I J by means of the worm H on the shaft of the cutter-wheel, when combined to the adjustable feed gate K, pressure plate L, and weighted lever M, for regulating the pressure of the feed, and preventing the choking of the rollers, and keeping the straw uniformly compressed at the point of cutting during the progress of the knife, substantially as set forth and described.

No. 22,336.—Olive Ann Brooks, of Somersworth, N. H., administratrix of the estate of Lebbeus Brooks, deceased, late of Great Falls, N. H.—*Improvement in Straw-Cutters.*—Patent dated December 14, 1858.—This invention will be understood by an examination of the claim and engravings.

The inventor says: It is not intended to claim a rotary cutter cylinder and a roller for the cutter to work against, to feed and cut straw; nor is it intended to claim the feeding and cutting of straw in the manner described in the specification of the United States patent numbered 13,807, wherein the knife has a compound motion composed of two circular motions, and operates in conjunction with a roller; nor is it intended to claim a rotary cutter cylinder or set of cutters and a swinging bed operating together, as shown in the United States patent 12,699; nor is it intended to claim a straw-cutting machine as constructed in such a manner that its bed and knife shall each operate with a compound motion, as described in the United States patent numbered 18,084.

But what is *claimed* as the invention of said Lebbeus Brooks is, an improved straw-cutting machine, as constructed of two cutting knives or shears I M, or their equivalents, and so that while one of them, when the machine is in operation, shall have a compound motion, whereby its cutting edge shall be made to move in an elliptical path toward and away from the trough B, the other shall have only a reciprocating motion in a circular arc toward and away from the said trough, the lever frame carrying the lower knife or bed being made

to turn on a fulcrum rod or its equivalent, and to be connected with the upper knife by means or mechanism essentially as described.

Also, the application to the upper knife, having a compound motion as described, of a toothed rake N, to operate therewith and facilitate the feeding of the straw forward in manner as specified.

No. 20,976.—Leonard Ellig, of Mill Creek Township, Lebanon county, Pa., assignor to Andrew Garret, of Myerstown, Pa.—*Improvement in Straw-Shakers.*—Patent dated July 20, 1858.—The slide cap *a* is so constructed as to slide up and down the side-boards *m m*[1] and be secured at any place. The movable bottom *w* is perforated for the purpose of relieving the grain from the straw, and is suspended on four arms at any desirable angle. The arms are of equal length.

The inventor says: I *claim*, first, the movable bottom *w* in combination with the arms 4 and 5 and spring *p*, as set forth in the specification.

Second. The movable cap *a*, adjusted as described and for the purpose set forth.

No. 21,111.—N. J. Becker and J. M. Harvey, of Amsterdam, New York.—*Improvement in Machines for Threshing and Separating Grain.*—Patent dated August 10, 1858.—The nature of this invention consists in a novel combination of parts operating in unison for actuating the threshing cylinder, blast fan, straw carrier, and separating screens, by one and the same main driving belt, in a positive and advantageous manner; in a new mode or arrangement of means for changing the direction of the blast to operate portions of the separator and transverse of the grain through the machine, to suit heavy or light grades of grain; and also in causing the reciprocating perforated bed and conducting board of the straw carrier to give an accelerated motion to the serrated bar frame of the carrier simultaneously with the travel of the bed, but in reverse directions to it, for the more effectual separation of grain in the straw and escape of it to the conducting board of the separator, and for more regular and rapid discharge of the straw.

The inventors say: We *claim* the combination of the swinging arm or arms S S, straw carrier brackets or projections *m m*, elbow lever T, connecting by links *n p* the swinging arm S to the separator, pitman *v v* operated by crank pin from the fan shaft to drive the swinging arm S, and fan and threshing cylinder pulleys D E, arranged substantially as described, and driven by the same band or belt as set forth.

We do not claim the combination of a reciprocating or independently moving perforated straw carrier with a stationary bed plate, but as gearing the serrated bar frame G to the perforated bed plate H and conducting board I, that said latter portion shall give an accelerated motion to the bar frame G simultaneously with but in reverse directions to the travel of the bed plate, essentially as and for the purposes set forth. Providing the feeding throat of the thresher or thresher concave with a dust spout or outlet Z above, and furnishing the cylinder race with a dust passage X in front, under the feed table, as shown and described.

No. 19,148.—P. W. Mills, of Conneaut, Ohio.—*Improvement in Threshing Machines.*—Patent dated January 19, 1858.—This invention consists of a ribbed threshing cylinder, having one end of greater diameter than the other, and a corresponding concave in combination with a winnower, for the purpose of threshing and winnowing grain at one operation, and for delivering the straw from the tail of the screen in regular order for binding; the heads of grain and butts of the straw being conducted abreast from their entrance into the machine to their delivery.

Claim.—The ribbed cylinder D having one end of greater diameter than the other, with the corresponding concave E, when employed in connexion with the winnower, provided with the screen N, for the purpose of threshing and winnowing grain, and delivering the straw at the tail end of the machine, in regular order for binding, as set forth.

No. 19,865.—John R. Moffitt, of St. Louis, Missouri.—*Improvement in Threshing Machines.*—Patent dated April 6, 1858.—This improvement consists in the construction and arrangement of the frame H, in which runs the multiplying gearing, which imparts motion to the threshing cylinder, whereby the said gearing is maintained in position for effective action, in any condition of the machine.

Claim.—The construction and arrangement of the metallic gearing frame H, provided with arms *h h*, and attached to the machine, substantially as explained.

No. 20,449.—Hamilton E. Smith, of Philadelphia, Pennsylvania —*Improvement in Threshing Machines.*—Patent dated June 1, 1858.—This invention consists in arranging the concave E of a threshing machine in respect to the spiked roller G, in order that the stalks of the grain may pass freely and unbroken, while the heads are being acted upon by the cylinder D and concave E.

Claim.—Arranging the concave of a threshing machine in respect to the spiked roller, substantially as set forth, in order that the grain may be operated in the manner specified.

No. 21,214.—Samuel D. Reynolds, of Lane, Illinois.—*Improvement in Threshing Machines.*—Patent dated August 17, 1858.—To obviate the necessity of preliminary band cutting, and enable the sheaves of wheat or other grain to be fed directly into a threshing machine, is the object of this invention.

This is accomplished by placing in suitable bearings a cutting and spreading cylinder A immediately in front of the threshing cylinder B of a threshing machine, and imparting a rotary motion to the said cutting and spreading cylinder, by any suitable means, either by banding or gearing. The band cutting in this machine is performed by a series of blades *d d*, which radiate from the central portion of the cylinder A, and whose cutting edges may be of such shape as will enable them to perform their work in the most perfect manner.

The inventor says: I do not intend to limit myself to a single series of band-cutting blades upon the periphery of the cylinder A, for the reason that I may find it expedient to combine several series of cutting

blades and spreading teeth with the periphery of said cylinder. The said cutting and spreading cylinder may be used in conjunction with any description of threshing cylinder.

I *claim* arranging a band-cutting and stalk-spreading cylinder with the threshing cylinder of a threshing machine, substantially in the manner set forth.

No. 21,963.—ABRAM JACKSON, of Lebanon, Tennessee.—*Improved Threshing Machine.*—Patent dated November 2, 1858.—This improvement relates to travelling threshers and winnowers, and is intended to be employed with a common farm wagon. It consists in the mode of gearing or attaching the thresher and winnower to the wagon, and also in the mode of supporting the frame of the former upon the axles of the wagon which forms the driving power.

Claim.—The arrangement of the band wheels D upon the spokes of the wagon wheels, in connexion with the hounds F, substantially as described for the purposes set forth.

No. 22,141.—MOSES D. WELLS, of Morgantown, Virginia, and HARRISON HAGANS of Brandonville, Virginia.—*Improvement in Threshing Machines* —Patent dated November 23, 1858.—The nature of this invention consists in the combination of a peculiarly notched rib, with a bifurcated spike upon the cylinder.

Claim.—The combination of the bifurcated spikes *a* of the cylinder with the peculiarly notched ribs R of the concave, operating together as described.

No. 20,892.—JOB E. OWENS, CLARK LANE, and ELBRIDGE G. DYER, of Hamilton, Ohio.—*Improvement in Endless Chains for Threshing Machines.*—Patent dated July 13, 1858.—This invention consists in forming a chain out of malleable cast iron links of two forms, each of the alternate links being exactly alike and capable of being united into a chain without heating, and without any pieces or parts which are not cast with it and a part of the link itself.

Claim.—A chain composed of two different kinds of malleable cast iron links, when constructed in all their parts as represented, for all the purposes mentioned in the specification, and when the alternate links of chains are the duplicates of each other throughout the series, and the two kinds of links united in the manner and for the purposes set forth.

No. 20,474.—PELEG BARKER, of Moscow, Michigan.—*Improvement in Machine for Measuring, Registering, and Receiving Grain direct from Threshing Machines.*—Patent dated June 8, 1858.—The manner of using the machine consists of setting it on the ground or floor beside the threshing machine in such a manner that the spout from the separator shall be placed in the hopper, and when one measure is full it is removed by shoving in the other measure, which pushes the full one out of the left end of the machine, the measure being then taken up, and the end of the bag being drawn over the end of the measure;

the latch is touched by the finger, which opens the door and empties the measure.

The inventor says: I *claim* the combination and arrangement of the parts, substantially as described, for receiving, measuring, and registering grain direct from threshing machines.

I also claim in combination with the machinery for registering, substantially as described, two or more measures or boxes, constructed and operated as described, for receiving the material to be measured.

No. 21,628.—F. W. BOBINSON, of Richmond, Indiana.—*Improvement in Riddles for Threshing Machines.*—Patent dated September 28, 1858.—In other riddles, while the lips or tongues turn up, pointing backward, in this invention they turn downward and forward; and while these are left for the purpose of preventing the straw and chaff from passing through the riddle, in this invention they are for the purpose of deflecting the wind upward, thereby lifting the straw and chaff, and separating them from the grain; the wooden slats being used to prevent the passage of the chaff and straw.

Claim.—The plate C, with lips or tongues *c c c c*, as shown and described, in combination with slats B B B B, for purposes set forth.

No. 21,367.—F. W. ROBINSON, of Richmond, Indiana.—*Improvement in Straw Carriers of Threshing Machines.*—Patent dated August 31, 1858.—The object attained by this invention is the prevention of the straw from passing down through the endless chain of slats and choking the riddles.

The platform F forms a sort of diaphragm immediately below the upper part of the endless chain of slats D, closing the entire area of the interior of the straw carrier.

The inventor says: I am aware that a platform or table has been previously combined with one endless chain of slats, in a manner somewhat similar to mine, though for a dissimilar object, as in the case of J. C. Birdsall's clover huller, of May 18, 1853; such parts, therefore, of themselves, I do not claim.

But I *claim* the combination of the perforated platform F with the endless chain of slats D, in the manner and for the purposes set forth.

No. 19,357 —JOSIAH FOSTER, of Sandwich, Mass.—*Improvement in Tree Protectors.*—Patent dated February 16, 1858.—The nature of this improvement will be understood by referring to the claim and engravings.

The inventor says: I do not claim surrounding the trunk of a tree by a trough to contain a liquid, and so that such liquid may present an impediment or barrier to the passage of insects or worms across the trough.

But what I do *claim* is arranging the trough around the tree so that there may be a clear space for the passage of insects or worms between it and the tree, and suspending the said trough from the body of the tree by means of an elastic or flexible elastic cover of cloth or other suitable materials, extending around and affixed at its upper edge or part to the trunk of the tree, and at its lower edge to the trough, the

whole being substantially in manner and so as to operate as and for the purpose above specified.

I also claim, in connexion with a flexible cover applied to the trunk of the tree as described, making the circumventing trough in two or more sections or separate troughs so jointed or applied together at their abutting ends as to be capable of being tipped, so as to enable their contents to be discharged in manner as set forth.

No. 21,057.—W. H. Angel and M. Coffeen, of Watertown, N. Y.—*Improvement in Wheat Separators*.—Patent dated August 3, 1858.—The object of this invention is to separate the perfect grains of wheat from all impurities, which is effected by an arrangement of perforated plates; in this arrangement mainly consists this invention.

The inventors say: We *claim*, first, the arrangement of the three perforated plates, having holes of the same diameter or area, and placed at the same inclination with the fourth perforated plate, having holes of a less diameter or area than the other plates, and at a greater inclination, as set forth.

Second. We claim the spring bar or rod P and yoke R, in connexion with the plates Z and bars N, at the other end of the plate box, for giving to the plate box the compound motion, as described.

No. 19,615.—Henry H. Beach, of Philadelphia, Pa.—*Improvement in Grain Winnowers*.—Patent dated March 16, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the bottom delivery board F, having one or more series of fingers at its lower end, when the same is vibrated in a vertical direction, the blast of air from the fan acting upon the fingers in the manner described and for the purposes set forth.

Second. The combination of the series of inclined planes S S^1 with the shoe O and fingers M M^1, when arranged in relation to each other and to the cover B and partition C as described, for the purpose of deflecting the blast of air from the fan and directing it through the riddle and through the fingers, as set forth.

No 19,905.—Alfred Belchamber, of Ripley, Ohio.—*Improvement in Chaff Screens for Winnowing Machines*.—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim forming chaff screens for winnowers by punching sheet metal plate, so that burs may be formed and turned up; for this has been previously done.

But I *claim* constructing the screen of sheet metal plates or strips *a*, bent or turned over at one edge, and slitted or cut at the opposite edge, so that portions *c d* may be bent up as shown, the plates being secured in the frame or between the sides A A, so as to overlap each other, and the whole arranged substantially as and for the purpose set forth.

No. 21,087.—Joseph H. Riggs, of Gloucester, Mass.—*Improvement in Ox Yokes*.—Patent dated August 3, 1858.—The object of this invention is to retain all the advantages of lightness, cheapness, and durability possessed by the common yoke, and yet render the point of draught adjustable.

A is the yoke with its bows made similar to those in common use; to the lower end of the yoke is attached a rack *a*; this may be a simple plate of metal cast of the required form and of a width equal to the yoke. Another rack *b*, the teeth and grooves of which correspond to those of the rack *a*, is furnished with lips or flanches *c*, which are turned up on each side and lap over the edges of the rack *a*; these lips are notched out at the middle of their length to receive a staple *d*.

Claim.—The racks *a* and *b*, arranged and operating in the manner substantially as set forth, for the purpose specified.

No. 21,392.—George W. Weeks, of Boston, Mass.—*Improvement in Ox Yokes*.—Patent dated August 31, 1858.—The nature of this invention consists in making ox yokes and bows hollow, of iron or other suitable material, so as to be as light and strong as possible. B B are the bows, H the draught ring, and F the link.

Claim.—Making ox bows and yokes, of iron or other suitable material, hollow, substantially as described, for the object specified.

II.—METALLURGY.

No. 22,245.—Lewis Solomon, of New York, N. Y.—*Improved Amalgamator*.—Patent dated December 7, 1858.—This invention consists in constructing a machine in such form and manner as to prevent the mercury used in the amalgamation of ores from flowing along the lower side of the cylinder in advance of the ore, and insure a more thorough searching of the ore by the mercury.

The inventor says: I *claim*, first, the use of elongated amalgamating chambers I, when arranged to operate in the manner and for the purposes specified.

Second. The arrangement of the amalgamating chambers I within a heated chamber A, for the purposes specified.

No. 19,246.—Joseph H. Fisher, of Placerville, California.—*Improved Gold Amalgamator*.—Patent dated February 2, 1858.—This invention consists in placing a cylinder E, having a face of silver or other metal which readily amalgamates with mercury, within a wheel D, which is placed in a box B, the face of the wheel being open or formed of bars or slats *g*, and the whole arranged so that the wash from the crusher is made to fall upon the silver face *j* of the cylinder.

The inventor says: I *claim* the employment of a rotating cylinder, having its face or periphery of silver or other suitable metal, and placed within a wheel D, or arranged in any suitable or equivalent way, so as to receive the wash from the crusher, and unite, by amal-

gamation, the globules of alloy that escape with the wash from the crusher, as described.

No. 21,204.—Samuel Longman, of Brooklyn, New York.—*Improvement in Amalgamating Gold and Silver.*—Patent dated August 17, 1858.—The inventor, in describing his improved amalgamating machine, says: It is composed principally of an annular trough A to receive the metallic substance to be treated together with the quicksilver, and a water cylindrical roller or edge-runner B, which is fitted to turn on a horizontal axle C, which is attached to a vertical shaft D, which rotates in the centre of the trough A, and carries the roller round and round the trough. The shaft D has also attached to it two scrapers or agitators *a b*, which stir the contents of the trough in front of the roller; while the roller is passing over the substances behind, the scrapers work them together.

The inventor says: I do not claim as my invention the machine herein described, and I do not confine myself to the use of my particular machinery or apparatus in performing my invention.

I *claim* masticating or kneading, in the manner set forth, the dry metalliferous powder of the gold and silversmith's sweeps, scraps, and polishings, or the native precious metals, when so prepared with quicksilver, when sprinkled with barely sufficient water to cause the mass to agglutinate.

No. 19,901.—Herrick Aiken, of Franklin, N. H.—*Improvement in Awls and Tools.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the form, shape, construction, combination, and arrangement of the set of awls and tools, (twenty in number,) as described in the specification and represented in the drawings, for the purpose of connecting them with a handle, having a receptacle in the large end to contain the said awls and tools, and a socket and gripe secured in the other, and to confine and hold the several awls and tools for use as occasion may require.

I also claim making the shanks of the awls and tools square with parallel sides serrated and equal in size, for the purpose of inserting them into a gripe connected with a handle, the shanks being serrated so that the gripe will hold them more firmly for use than if the shanks were made plane without the serrating; and these improvements in awls and tools I claim when used in any kind of socket and gripe for holding and changing them.

No. 20,957.—George Reynolds, of Manchester, N. H.—*Improved Machine for Making Axe Polls*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the method described of manufacturing an axe poll, by compressing a bar of metal between dies or swages projecting from the face of the rolls in which they are set. Neither do I claim as new the use of a die provided with a groove or recess in which the head of the axe poll is to be formed.

But I *claim*, first, the use of a drawing die D^1, provided with projections $o\ o^1\ o^2\ o^3$, or their equivalents, substantially as described, so that the blank of metal when subjected to compression shall be thereby drawn out furthest at the corners, whereby the bit can be more completely welded into the poll, and the eye of the axe in consequence be made more perfectly, as set forth.

Second, I also claim making the lower die D, with a recess or groove across its face, of the form substantially as described, so that the metal which forms the head of the axe poll shall be thereby crowded toward the edges of the head instead of being piled into a ridge in the middle, and at the same time a greater proportion of metal be forced into the back of the head, as and for the purposes specified.

Third, I claim the combination of the feeding fingers $I\ I^1\ I^2$, or their equivalents, with one or more cams $J\ J^1$, or their equivalents, so arranged and operated that at the proper moment of time the blank of metal can be by the machine automatically fed between the dies, to undergo the several operations to which it is to be subjected, as described.

Fourth, In combination with the dies or rolls, an adjustable guide S S and gauge R, either with or without the spring fingers V V, Fig. 7, for the purposes specified.

Fifth, The compressing clamp for holding the axe poll, and shaping the head of the axe, during the operation of bending, constructed and operated in the manner and on the principle substantially as described.

No. 20,780.—Zina Doolittle, of Perry, Ga.—*Improved Machine for Upsetting Carriage Axles.*—Patent dated July 6, 1858.—To operate this machine extend the clutches F F, then place the tire upon the slides I I with the hot part on the rest L; the weight of the tire or axle depresses the slides I I and releases the clutches F F, which strike against the axle, pressing it against the dies G G; then apply one of the hand levers D, which causes the clutches F F to take a firm hold on the iron and compresses it in part; then apply the other hand lever D, keeping the first lever raised in the mean time; and when the iron is sufficiently compressed, drop the hand levers D D; and as the springs K K extend the jaws B B, the clutches let go their hold.

The inventor says: I *claim*, first, the arrangement of the centre bar or anvil A L, pivoted jaws B B, and eccentric levers D D, in the relation to one another shown, for the purposes set forth.

Second, The combination with the above of eccentric clutches F F, dies G G, springs H H, and slides I I, substantially as and for the purposes set forth.

No. 19,940.—William Maurer, of New York, N. Y.—*Improved Bar for Securing Bank Vaults.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the attachments of hooks to a sliding piece or bar broadly, as this has been proposed before.

But I *claim* attaching on the inner side of a movable cross bar, by which vaults or safe doors are secured and strengthened, a sliding piece provided with hooks and so arranged that said sliding piece may be operated after the bar is in its place, for the purpose of firmly con-

necting by means of said hooks the bar with the door and the door frame, or with both doors where double doors are used, in the manner as described.

Secondly, I do not claim the mode of hinging a bar to the door or door frame generally.

But I *claim* the arrangement and use of a revolving hinge plate, to which the bar for securing and strengthening doors is attached, constructed in the manner and for the purposes specified.

No. 19,261.—Thomas E. Purchase, of Reading, Pa.—*Improvement in making Railway Bars*.—Patent dated February 2, 1858.—The nature of this improvement consists in forming a hollow or groove in the top layer of the pile, which is to be of sufficient size to form the entire head of the rail; and providing the layer in contact with the top with a projection conforming to and fitting into such groove, or *vice versa*. The shape of the groove is immaterial, the object being to prevent displacement of the layers in charging the pile into the heating furnace.

The inventor says: I *claim* the manufacture of railroad rails from a pile, the top bar of which is of a superior quality of iron, immovable laterally, and sufficiently heavy to give the rail, when rolled, a consolidated head, connecting with the lower layers in the stem of the rail, substantially as set forth.

No. 20,128.—Benjamin Pitcher, of Peoria, Ill., assignor to Himself, William Tobey, and John Anderson, of said Peoria.—*Improvement in Bending Mould-Boards for Ploughs*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the stationary die B with the movable die C hinged to the stationary, and constructed and arranged as described, so that the heated metallic plate subjected to their action is, during the process of being bent into shape, gradually compressed and drawn from its inner to its outer edge, and retained under compression until the entire bending is completed, for the purpose described.

No. 21,638.—James A. Dorman and Joseph E. Stearns, of Worcester, Mass., assignors to James A. Dorman aforesaid.—*Improved Blind Operator*.—Patent dated September 28, 1858.—To operate this improvement, after it has been attached to the window frame, grasp the knob E with the hand, at the same time press the head of the rod G in with the thumb; this will push the slide piece H out of the recess *m*, the catch plate D and the shaft will be free to turn in either direction, at the same time it will move the blind in an opposite direction by means of the bevel gears. To fasten the blind, remove the thumb from the head of the rod G, and the spring K will press the piece H into the recesses of the catch plate D, which recesses are so arranged as to hold the blind at any desired place.

The inventors say: We do not claim an inside blind operator as such.

But we *claim*, first, the combination of the rod G, slide piece H, and spring K, with the catch plate D and knob E, when constructed and operating substantially as described.

Second. The manner of holding the blind down in place by combining with the stud R the projection S fitting into the recess T, as specified.

No. 22,172.—L. N. Fay and William Mason, of West Warren, Mass.—*Improved Blind Operator*.—Patent dated November 30, 1858.—The object of this invention is to obtain a simple device whereby a window blind, by simply turning a knob, may be opened and closed at the inside of a window, and also retained at any desired point without raising the sash, and the blind slats also adjusted, or opened, or closed by the turning of the same knob when the blind is in a closed state.

Claim.—The spirally flanched plate F and worm wheel G, when attached to the sill A, and used in connexion with the slotted bar H, stop *q*, and the slat-adjusting device formed of the arms *j k*, shaft *i*, and spring *o*, the whole being arranged to operate as and for the purpose set forth.

No. 19,751.—John E. Clokey, of Washington, D. C.—*Improvement in Opening and Closing Outside Blinds*.—Patent dated March 30, 1858.—The blind is opened and thrown back by pressing the handle O down, (this relieves the lever *d* from the catch *l*,) and then moving the handle horizontally from the side of the frame towards its centre. By removing the downward pressure the lever falls into the catch *k*, and the blind is secured in its open position.

The inventor says: I am aware that blinds and shutters have been opened and closed from the inside by various complicated contrivances; but this I do not claim broadly.

I *claim* the combination of the bent levers *d* with the bars *g*, when they are constructed, arranged, and operated in the manner described and for the purpose specified.

No. 19,891.—John Woolman, of Philadelphia, Pa.—*Improvement in Door Bolts*.—Patent dated April 6, 1858.—The nature of this invention consists in the use of a flat or elliptical bolt, confined in a casing or straps of such shape and construction as to allow said bolt, after being entered to its required place for fastening in the catch or socket to be moved with an eccentric motion, by means of a handle or lever, from its position when so entered to any required angle with said surface, so as to draw firmly together the respective surfaces to which the said bolt and the socket for receiving it are attached, and holding them in that position.

Claim.—The arrangement of the flat or elliptical bolt A, contained and moving within suitable straps or casings, with an eccentric motion, when operated and moved by means of the handle or lever B, substantially as described.

No. 19,485.—Henry Carter, of Pittsburg, Pa.—*Improved Bolt Machine*.—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, The use of a stationary heading tool arranged centrally to the converging dies, in the manner substantially as described.

Second, The use of a swinging hammer for upsetting the head in combination with the converging side dies and corner dies, arranged and operating substantially as described.

No. 21,279.—ELISHA SIMKINS, of Alleghany, Pa.—*Improved Bolt Machine.*—Patent dated August 24, 1858.—The nature of this invention consists in a mechanical arrangement for adjusting the dies, removing the bolts, stopping, starting, and regulating the stroke and force of the hammer; and also in an arrangement for relieving the machinery from the concussion produced by the action of the hammer.

Claim.—First, the flexible connecting rod *h* and the arrangement of the cylinder *e*, the spiral springs *f*, and nuts *g*, as described and for the purpose set forth.

Second, The arrangement of the lever *i*, the rachet *j*, the bevel wheels *k* and k^1, the screw *y*, and the cross head *d*, when used in connexion with the flexible connecting rod *h*, as described and for the purpose set forth.

Third, The arrangement of the compound lever *u* and the pulleys *v*, in connexion with the lever *t* and stop *r*, as described and for the purpose set forth.

Fourth, The arrangement of the stud 15, the stop *r*, the levers *p* and *q*, and the bolster *l*, as described and for the purpose set forth.

No. 20,149.—GEORGE W. DEVIN, of Ottumwa, Iowa.—*Improved Ring Bolt.*—Patent dated May 4, 1858.—The nature of this invention consists in the employment or use of a slide bolt A with ring C attached, and used in connexion with a spring D socket or "nosing" and guide.

The inventor says: I do not claim separately a slide bolt and spring, for that is a common and well known fastening.

But I *claim* the slide bolt A, provided with the spring D and ring C, and secured to the door substantially as shown, in combination with the socket or nosing E provided with apertures to receive the shackle of a padlock, the whole being arranged as and for the purpose set forth.

No. 20,940.—EDWARD DOEN, of New Britain, Conn.—*Improved Spring Bolt.*—Patent dated July 20, 1858.—The claim and engravings explain the nature of this improvement.

Claim.—The combination with the guided sliding bolt A and surface-plate B of a loose or freely arranged spring S let into the body of the bolt, and protected or encased thereby for operation on at points some distance apart, and with the bolt and against the surface-plate, substantially as described, for the purpose set forth.

No. 21,910.—C. L. STEVENSON, of Charlestown, Mass.—*Improved Machine for Drawing Bolts.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A machine for drawing bolts from timber, consisting essentially of the rotating toothed wheel D, which is forced up by the bolt by the pressure applied through the roll E or its equivalent.

No. 22,470.—JOSEPH L. CHAPMAN, of Philadelphia, Pa., assignor to Himself and GEORGE CHAPMAN, of said Philadelphia.—*Improved Turn-buckle for Window-blinds.*—Patent dated December 28, 1858.—The object of this invention is to obtain a fastening that will secure window shutters or blinds, in an open state without allowing the same to play or rattle, and at the same time accommodate itself to shutters or blinds of different thicknesses, and one also that will not be liable to work loose in a building by the action of the shutter or blind upon it when thrown open.

The inventor says: I *claim* the turn-buckle F and sliding-collar D provided with the flanch *b*, and the spring E placed on the spindle or arbor A, the whole being arranged to operate substantially as and for the purpose set forth.

I also claim, in combination with the above named parts, the washer C placed on the arbor A for the purpose set forth.

No. 19,988.—CHARLES FRAMPTON, of Brooklyn, N. Y.—*Improved Burnisher.*—Patent dated April 20, 1858.—From the quadrant towards the handle, the surface of the burnisher is made nearly flat for the distance of about an inch, commencing at the sharp edge at one end of the burnisher, and continuing the same up over the rounded and flat part thereof towards the handle; two or more grooves are cut rounded in cross section at the bottom, leaving three or more ribs at their sides rounded in cross section on their tops. These grooves and ribs should be of uniform depth and height throughout; except at their termination towards the handle, the grooves should slope up easily into the flat surface. The engravings clearly illustrate the peculiarities of this invention.

Claim.—A burnisher for spinning screws, whose operative extremity is formed substantially in the manner described.

No. 22,452.—JAMES S. RAY, of East Haddam, Conn.—*Improved Burnishing Attachment for Lathes.*—Patent dated December 28, 1858.—The object of this invention is to facilitate the manipulation of the burnishing tool to such a degree that apprentices, females, and inexperienced persons may perform the desired work. A is the bed of the lathe, B B^1 are uprights or heads attached thereto, and C is a mandrel which is fitted in the heads. The lathe is of the usual construction. D is a standard, which is attached to the bed of the lathe, a short distance in front of the end of the mandrel C, and a little at one side. To standard D a plate E is attached at right angles, said plate being parallel with the mandrel C, and extending nearly to the head B^1 of the lathe. The standard D and plate E are of metal, and the plate E has a circular opening *a* made through it, said opening having its inner edge about in line with the end of the mandrel. The guide plate F is so attached to the plate E as to admit of being adjusted thereon nearer to or further from the head B^1. G is a

burnishing tool, formed by having a cylindrical head *d* on a shank *e*, the outer end of the head *d* being flattened at two opposite sides e^1 e^1.

Claim.—The arrangement and combination of the plate E, plate F, spring *k*, mandrel and tool G, as and for the purposes shown and described.

No. 21,304.—Le Roy S. White, of Hartford, Conn., assignor to E. W. Sperry, E. Hurlbut, and J. H. Ashmead, of said Hartford.—*Improved Burnishing Machine.*—Patent dated August 24, 1858.—The nature of this improvement consists in the construction and adaptation of machinery for burnishing spoons and other ware.

Claim.—The holding or rolling jacks H, and the oscillating or vibrating stock F, substantially in the manner and for the purposes described.

No. 22,459.—O. W. Stow, Southington, Conn.—*Improved Burring Machine.*—Patent dated December 28, 1858.—This invention consists in a novel manner of applying the gauge to the instrument, whereby the gauge is permitted to adjust itself with the lower roller, and compensate for all the wear of the journal of the lower roller shaft. The object of the invention is to prevent the difficulty attending the wear of the journal of the lower roller from the gauge, whereby the latter is frequently rendered useless or prevented from performing its proper function.

Claim.—The arrangement and combination of the spring K, gauge I, and rollers G H, substantially as and for the purpose shown and described.

No. 21,796.—Edward Clark, of New York, N. Y., assignor to William H. Dolson, of said New York.—*Improvement in Cans for Preserving Paint.*—Patent dated October 12, 1858.—This invention consists in forming a projection all around the interior of the body of the can, near the top and bottom thereof, by forming a groove round the exterior, and dropping the heads on to those projections, and turning the edges of the body over them. In this way the heads may be tightly secured without solder, and the use of untinned sheet-iron is permitted, and a sufficiently durable can or keg is produced at a less cost than a tin can or wooden keg.

Claim.—Attaching and securing the heads to the sheet metal body of the can or keg, by forming a projection round the interior near each end of such body, in the manner described, for the heads to rest against, and turning the edges of the body over the heads after the insertion of the latter, substantially as set forth.

No. 20,635.—Samuel Falkenbury, of Susquehanna Depot, Pa.—*Improvement in Repairing Cast-iron Cylinders.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The uniting the old and new cast iron in the box of steam cylinders, which consists of drilling the broken parts for increase of expanding surface, and the application of a charcoal or other fire to

equalize the expansion previous to pouring the metal, in the manner set forth in the specification.

No. 20,022.—Robert Poole, of Baltimore, Md., assignor to Himself and German H. Hunt, of said Baltimore.—*Improvement in Casting Car Wheels.*—Patent dated April 20, 1858.—The claim and engravings describe the nature of this invention.

The inventor says: I *claim* the base A of the flask made in sections, so that the centre one may be removed without disturbing the remaining one, for the purpose set forth.

I also claim the sectional cope C, so made that either section may be removed without disturbing the other one, for the purposes set forth.

I also claim in combination with the sectional base and cope the central member B of the flask, with a lining of some non-conducting material, substantially in the manner and for the purpose described.

No. 20,151.—David Finley, of Champlain, New York.—*Improvement in Casting Car Wheels.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the heating of moulds in an oven or muffle before pouring the metal into them.

Nor do I claim the annealing of castings in their moulds, when that is effected by placing the moulds in an oven, or any receptacle that has been previously heated.

But I *claim* the heating of the knowel and cope of the flask, and parts of the mould contained therein, separately from the chill ring, then putting the whole of the flask and mould together, and either placing it in a box or its equivalent, and surrounding it with non-conducting material within the said box, and, after pouring the metal into the mould, burying the whole in a pit, or, omitting the box, surrounding the flask and mould with the non-conductor in the pit, substantially as specified.

No. 20,395.—Oliver T. Wood, of Pittsburg, Pennsylvania, assignor to Thomas R. Wood, of Philadelphia, Pennsylvania.—*Improvement in Casting Faucets.*—Patent dated May 25, 1858.—This invention consists in placing the spigot of the faucet C within a mould A, which is formed for casting the body of the tube of the faucet, so that the body of the tube of the faucet may be cast around the spigot, and the latter accurately fitted thereby in place, without any after work or finishing.

The inventor says: I do not claim as novel the faucets in themselves considered, or as new articles of manufacture.

But I *claim* constructing the faucets by placing the spigots within a mould formed for the tubes of the faucets and casting the tubes around the spigots, substantially as shown and described.

No. 20,948.—Conrad M. Lane, of Cincinnati, Ohio.—*Improvement in Casting Hinges.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim forming the joint of the hinge by casting teats at the ends of the knuckles of one leaf into corresponding recesses in the ends of the knuckles of the other leaf, for this has been previously done.

But I *claim* casting, substantially as shown, the knuckles *a g*, of the respective leaves B D, so that the inner parts or sides of the knuckles will form parts of cylinders of smaller diameter than the outer parts, to admit of the easy moving of the joint without additional labor or finishing, as described.

No. 20,951.—Cornelius McGinnis, of Pittsburg, Pa.—*Improvement in Cast-iron Kettles.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Constructing the metallic core, as described, of three or more pieces *a a' b*, united by bolts *c c c*, so as to be readily detachable; one of which pieces is a narrow central strip, which may be removed after the kettle is cast, and before it is sufficiently cool to remove the entire core, for the purpose of allowing the contraction of the casting without danger of bursting.

No. 19,258.—F. Nishwitz, of Brooklyn, N. Y.—*Improvement in Flasks for Casting Wheels.*—Patent dated February 2, 1858.—This invention consists in providing the flask A B with guides or sockets C D of metal or wood, of a proper size to receive the shaft F snugly within them, and properly arranged to hold the shaft in its proper place within the mould, independently of the sand, thereby enabling the mould to be made more expeditiously, and the wheel to be cast more truly upon the shaft.

Claim.—The employment of guides or sockets C D, of metal or wood, attached to the flasks to receive and hold the shaft or axle within the sand mould, independently of the sand, substantially as and for the purpose set forth.

No. 20,955.—Edwin H. Perry, of Providence, R. I.—*Machine for Making Chain.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the combination of a carrier on which the blank link is transported, a die or perforated plate by which the arms of the links are bent inward, and a forming guide or tube in which the chain is held and transmitted; as such combination is covered by the patent granted heretofore to Lauriston Towne, October 20, 1857.

But I *claim*, First. The perforated plate F, or its equivalent, in combination with a former for striking up the body of the link, the two so combined performing the function of enabling the link, after it is struck up in the die, to be lifted out of the same for the purpose of being deposited in the next position necessary in the formation of the chain, substantially as described.

Second. I claim the arrangement of the slides *p p p*, for bending over the arms of each link after it has been struck up in the die.

Third. I claim constructing the end of the tube wherein the chain is formed in the manner substantially as described, so that it shall be enabled to perform the function of grasping the link when deposited in it, and retaining it at the same time, holding it firmly in place while the arms of the under link are being bent over it, as set forth.

Fourth. In combination with said tube, I claim the adjustable contracting collar, for the purpose of regulating the degree of resistance which must be overcome in forming the chain, by means of which the chain can be at pleasure woven more or less compactly, as set forth.

No. 21,362.—Edwin H. Perry, of Providence, R. I.—*Improvement in Machine for Making Chain.*—Patent dated August 31, 1858.—This invention has reference to an improved means of removing the link from the die after it has been struck up, for depositing it in the next position necessary in the formation of the chain.

Claim.—The combination of a separating die F F with the tube wherein the chain is formed, for the purpose of permitting each link of the chain after it has been struck into form to be transmitted to the tube, substantially as described.

No. 19,094.—William J. Lewis, of Pittsburgh, Pa.—*Improved Chain Making Machine.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the fork *m* with its groove *n* and springs *o o*, the levers *j j* with their notched dies *t t*, and the forked spring lever *x*, when operating in relation to each other and to the mandrel E substantially as described, whereby the bar composing the link is presented in an inclined position to the mandrel E, and closed or bent around the same spirally, and then discharged.

No. 19,955.—Joseph Snelling, of East Boston, Mass.—*Improved Chain Shackle.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a shackle or chain link made in four separate parts, arranged at right angles to each other, and held together by rivets, screws, and nuts.

But I *claim* the improved connecting shackle or link as made in two parts, A B, and with one of them formed in one piece as a double hook, and with a space *c* between its extremities, and with tenons *d d*, as described, and its other part constructed so as to extend into and fill the said space and lap over the hooks and receive these tenons, substantially as specified.

No. 21,088.—Daniel N. Smith, of Boston, Mass.—*Improvement in Chucks for Centring, &c.*—Patent dated August 3, 1858.—The object of this invention is to produce a machine by which a shaft or other similar article may be centred, or have a hole drilled in its end in the axis of the shaft, and at the same operation have its end turned off square, or in a plane at right angles to the axis of the shaft, or in any other form that may be desired.

Claim.—The described centring tool, consisting of the chuck C D, constructed and operating as set forth, in combination with the shafts G and I, arranged and operating as described.

No. 19,918.—James Eaton, of Townsend Harbor, Mass.—*Improvement in Cop Tubes.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As a new article of manufacture a metallic cop tube, having corrugations or grooves *a a* upon its surface, formed by corresponding knife edges, or their equivalents, upon the face of the die in which the table is made, as set forth.

No. 19,188.—E. L. Evans, of Providence, Rhode Island.—*Improvement in Curry Combs.*—Patent dated January 26, 1858.—This invention consists in forming the teeth of the curry comb, which are connected to India rubber backs, entirely of India rubber or other similar substance; so that the back is not only rendered flexible, but the teeth also.

The inventor says: I do not claim separately the flexible back A.

But I *claim* constructing the curry comb with a flexible back A, formed of India rubber, and flexible teeth *a*, formed of the same material as the back, or other pliable or flexible substance which may be moulded with the India rubber, substantially as shown and described.

No. 19,937.—George W. McGill, of Buffalo, New York.—*Improved Door Fastener.*—Patent dated April 13, 1858.—The teeth *a a* on the crooked blade B are pushed into the door Z. The thumb-screw C is then drawn into the socket *d*, and the door is pulled to. Blade B, being shaped to the jamb of the door, allows it to shut. The gimblet-pointed screw C is then screwed into the jamb, and the door is secured.

The inventor says: I *claim*, first, the formation of the blade B, with its peculiar connexion with blade I.

Second. The use of the blade B, constructed as described, and operating in connexion with screw L, and blade I, and screw C, for the purpose specified.

No. 22,469.—Gilbert Yates, of West Dresden, New York.—*Improved Door Fastener.*—Patent dated December 28, 1858.—The nature of this invention consists in having the bolt (when turned at a right angle) pass through a slot in the face plate, which operation is accomplished by the hinge joint in said face plate.

Claim.—A door fastener constructed of the pieces A A^1 A^2, bolt B, keeper C, and slot D, operating as set forth.

No. 22,234.—Henry Hackman, jr., of Paque, Pa.—*Improved Door Latch.*—Patent dated December 7, 1858.—The frame or latch box D D C, made as usual, having a partition piece B, dividing the interior into a lesser and a greater chamber. The pivot N of the bolt E enters the side A of the frame, supported in the partition B, and projects, with its notched end H, to the spring catch *o* on the door frame plate

S, through the front side C of the latch frame; on the bolt E are two upright levers G G, the external one having a peg I, resting on the end of the coiled spring K, fastened by a screw N, or otherwise, in the upper inside corner of the end piece A of the latch frame.

Claim.—The revolving bolt E, the lever arms G G, peg I, coiled spring K, the shouldered shank I, and spring catch O, when combined and used substantially as described.

No. 20,570.—George H. Lindner, of Hoboken, New Jersey.—*Improved Fastening for Double Doors.*—Patent dated June 15, 1858.—By this invention the hand bolts or fastenings which have hitherto been employed are dispensed with, and an automatic catch D D, which secures a door by merely closing it, is substituted, the security or fastening being complete when the door to which the catch or lock is attached is closed, and secured to the other door.

Claim.—The catches D D, having cams *b* attached to their inner ends, and arranged with the slides E, having springs *c* placed on them, in connexion with the plate *f* and springs *e*; the whole being applied to the door B, so as to be used in connexion with the fellow door C, substantially as and for the purpose set forth.

No. 20,381.—A. W. Webster, of Waterbury, Conn.—*Improved Attachment for Opening and Closing Doors, &c.*—Patent dated May 25, 1858.—To the inner side of a blind or shutter a projection is attached, to which a pin is secured; this pin is fitted on the outer end of a slotted lever, the inner end of which is of a semi-circular form, provided with teeth which gear into a corresponding lever and pin on another blind or shutter, so that by moving one blind or shutter the other will be operated simultaneously in the same direction.

Claim.—The levers D D, pivoted to the lintel *d* of the casing or sill thereof, the inner ends of the levers gearing into each other, and the outer ends connected by the arms C to the doors or shutters A A, the whole being arranged substantially as and for the purpose set forth.

No. 20,469.—William Daggett, of Troy, N. Y., assignor to A. B. Davis, of New Lebanon, N. Y., and W. H. Tolhurst, of said Troy. *Improved Drill for Gas Pipe.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the light and heavy springs D C and adjustable follower E with the drill spindle B and stock or frame A, substantially as described, for the purpose of controlling and regulating the endwise movements of the drill-spindle, as specified.

And I also claim the clamp F, composed of the adjustable jaws *d d* and foot E, as described, when combined with the drill-stock for securing the latter to gas and water pipes, as set forth.

No. 20,728.—Henry H. Packer, of Boston, Mass.—*Improvement in Hand-Drill.*—Patent dated June 29, 1858.—The mechanism is caused to partially rotate at every forward stroke or vibration of the handle F, while at every backward stroke the pall *g* rides over the

ratchet-wheel *c*, leaving the mechanism stationary. By the peculiar construction of the drill with shells A^1 and *m*, the screw-barrel C, with its internal screw-thread, and the male screw B are protected from dust, &c.

Claim.—The combination of the cylindrical shells A^1 and *m* with the feed screw and screw-handle, substantially as and for the purpose specified.

No. 22,085.—Frederick McNair, of Fultonham, Ohio.—*Improved Hand-Drill.*—Patent dated November 16, 1858.—The object of this invention is to obtain a portable hand-drill, one that may be readily manipulated and capable of being more generally adapted to various kinds of work than those previously used. It consists in attaching the frame of the drill, on or in which frame the sliding gate works, to a movable or adjustable bed which is hinged or jointed to a permanent or stationary bed, so that the drill may be used either in a vertical or horizontal position, as the nature of the work may require.

Claim.—The arrangement of the feed-screw F and sliding gate D and frame C in combination with the adjustable bed B, as and for the purposes shown and described.

No. 20,385.—Horace Woodman, of Biddeford, Me.—*Improvement in Power and Hand Drills.*—Patent dated May 25, 1858.—The nature of this invention consists in so constructing a drilling machine that the spindle can be placed on any desired angle and firmly held in place during the process of drilling; and also combining with the hand-drilling machine the pulley and platen, so that it can be used as a power drilling machine.

The inventor says: I *claim*, first, constructing an eye or box in the upper end of the post A, in combination with the hollow shaft B and spindle frame D, arranged substantially as described, whereby the spindle carried by the frame D may be set and operated at any required distance from an angle to the said post A, as set forth.

Second. The combined arrangement of the hollow shaft B, frame D, gears F F^1, and spindles C and G, with their projecting ends, substantially as described, whereby the drill spindle may be driven either directly or through the medium of shaft C and bevel gears, as and for the purposes set forth.

Third. The arrangement of the movable platen or face-plate U with the sliding clamp-jaws W, collar V, and set-screw X, as specified.

No. 22,323.—Robert Wilson, of Milton, Penn.—*Improved Machine for Drilling Metals.*—Patent dated December 14, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the adjustable inclined plane, for the purpose of increasing and decreasing the feed of a hand or power drilling machine for all kinds of metal.

Second. I claim the peculiar construction of the self-acting feed-escapement combined with the adjustable inclined plane, for the purpose of throwing off and on the feed to suit any depth of hole within its entire descent, and then return again only to the height required within its ascent.

Third. I claim the adjustable bearing against which the lower end of the feed-hand rests, in combination with the involute or scroll and the feed hand which works upon it, for the purpose of producing a safety adjustable self-acting pressure escapement, all substantially in the manner and for the purpose set forth.

No 22,446.—John Murphy, of Boston, Mass.—*Improved Blind Fastener.*—Patent dated December 28, 1858.—A A denote a pair of blinds, and B a window frame to which they are applied; each blind bearing two metallic pintles *a b*, fastened to its outer edge, and extending from it. The head *c* of the lower pintle is furnished with a notch or recess *d* arranged in it, as shown in the engravings; the pintle or that part of it extending below it being made to enter a round bearing or step *x*, formed in a metallic shank C, which projects and is driven into the window frame. The upper pintle works in and is supported by another stepped shank carrier C^1, each of the said shanks being supported by a strut *e*.

The inventor says: I *claim* the arrangement of the spring catch on the pintle step shank, and with respect to the notched pintle, as described.

I also claim combining with the catch and its case a movable projection or cover, applied so as to be capable of being moved on and off the pintle head, and to carry the thumb projection or stud of the catch, substantially in manner and for the purpose as specified.

No. 19,501.—William H. Forbes, of New York, N. Y.—*Improvement in Sash Fasteners.*—Patent dated March 2, 1858.—The device A is composed of two pieces of metal, these pieces are secured together by means of a hinge, or themselves form the hinge. The lower portion of this device is made perfectly straight and plain, with holes in it for the purpose of securing it to the sash. The upper portion of the device is bent at a right angle at its upper extremity, and is rendered solid and firm by the triangular support X.

Claim.—The described device, marked A, secured to the sash, operated, constructed, and arranged, substantially for the purpose and in the manner set forth and described.

No. 20,238.—Frederick W. Brocksieper and Joseph B. Sargent, of New Britain, Conn., assignors to Joseph B. Sargent, of said New Britain.—*Improved Sash Fastener.*—Patent dated May 11, 1858.—In figure 1, C is the striking plate or catch, which is fastened to the top of the lower sash in front of the main sash A; B is the bar which turns on the pivot P, and is made with a hook at the outer end to hook over the turned up edge of the striking plate C; D is a bolt which by its own weight or by the force of the spring E is forced down, and catches into the hole F; G is the front of the case.

Claim.—The bolt D as an attachment to a sash fastener, operating substantially in the manner as described.

No. 20,405.—Oliver Charter, of Bristol, Conn.—*Improved Sash Fastener.*—Patent dated June 1, 1858.—The nature of this improvement consists in uniting the lift with the fastener in such a manner as to operate at or near the centre of the window.

The inventor says: It is well understood that lifts have been used for the purpose of raising windows, and also that spring fasteners have been used to hold and fasten the window sash; therefore such are not claimed.

But I *claim* the construction and arrangement of the lift A, spring B, thumb-piece F, lever D, and connexion rod E, operating substantially in the manner and for the purpose as described.

No. 20,526.—John B. Witherle, of Upton, Mass.—*Improved Sash Fastener*—Patent dated June 8, 1858—At the outer end of the lever *d* is a pall or catch g^1, which is hinged to the lever, and is pressed outward or toward the rack *b* by a spring *h* extending from the lever. A retractor K is fastened to the edge of the sash.

Claim.—The combination and arrangement of the retractor K, the pall or catch g^1, the spring *h*, and the lever *d*, applied in the window-sash, and in relation to the rack *b* of the sash-frame, as specified.

No. 20,759.—Solomon Carhart and William Moore, of Brooklyn, New York, assignors to themselves and James H. McWilliams of New York, N. Y.—*Improved Sash Fastener.*—Patent dated June 29, 1858.—*a* is the meeting rail of the lower sash and *b* that of the upper sash; *c c* are the vertical central bars of the sash. *d* is one-half of a hinged drop screwed on to the upper side of the meeting rail *a*, and *e* is the drop united by the hinge to the part *d*; *f* is a plate screwed on to the bar *c* of the upper sash, beneath the lower edge of which the drop *e* is turned up when the windows are to be fastened, so that the said drop *e* forms a strut between the two sashes to prevent either from being moved, and is very strong and durable in its character.

Claim.—The hinged drop *e* and plate *d* attached to the lower sash, in combination with the plate *f* attached to the upper sash, when the said drop *e* is kept beneath the edge of the plate *f* by means of the bolt Q, or its equivalent, substantially as and for the purposes specified.

No. 21,328.—Ralph J. Falconer, of Washington, D. C.—*Improved Sash Fastener.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Extending the cap portion m^1 of the catch *m* over and along the front edge of plate *n*, to form a catch opening *x*, flush with the edge of plate *n*, so that the window cannot be unfastened without having the point of the hook *a* withdrawn entirely clear from the meeting rail of the upper sash, and out of the way of the bars when the lower sash is raised.

No. 21,968.—Edward M. Judd, of New Britain, Connecticut.—*Improved Sash Fastener.*—Patent dated November 2, 1858.—This invention relates to an improvement in that class of sash fastenings in

which a pintle is attached to a flat spring; the spring being secured to the end of the sash at one side, and the pintle fitting in holes in the styles of the frame or case. The object of the invention is to facilitate the application of the fastening to the sash, and render the same more efficient in its operation than usual.

Claim.—Attaching the rod D to the spring B, by means of the grooves a^1 in said rod, the button a^2 at its end, and the hole *b* and slot *c* in the spring B, substantially as and for the purpose set forth.

No. 22,105.—John Bestwick, jr., of Dedham, Massachusetts.—*Improved Sash Fastener.*—Patent dated November 23, 1858.—In the box C of the lower sash B, and just below its eccentric D, a slide bolt *f* is placed. This bolt has a spiral spring *g* bearing against it, the spring having a tendency to keep the bolt pressed against the side of the style *d*. On the upper surface of the bolt *f* there is a vertical projection *h*, the upper end of which intersects the path of the movement of the eccentric above it.

Claim.—A sash fastener, having an independent eccentric D and an independent bolt *f*, combined and arranged as shown and described.

No. 22,421.—Porter A. Gladwin, of Pawtucket, Mass.—*Improved Sash Fastener.*—Patent dated December 28, 1858.—The nature of this invention consists in constructing a spring catch or fastener secured to the meeting rail of the window sashes, so that the pressure of the finger against the thumb-piece of the spring catch, at the same time the sash is lifted, will free the sash, and when the sash is lowered down, it will be fastened by the action of the spring catch.

Claim.—The employment of the perforated plate D with the notched spring F for fastening window sash.

No. 22,187.—John McGerrah, of Philadelphia, Pa.—*Improved Shutter Fastener.*—Patent dated November 30, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The application of the brace to the under leaf of an ordinary hinge, and the nut as a continuation of the axis of the segment on which revolves the upper leaf of the hinge, which is secured by the brace and the pin securing the embrace of the brace and nut.

No. 19,588.—Eliphalet S. Scripture, of New Haven, Connecticut.—*Improvement in Window Fastener.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that bolts with spiral grooves formed in them have been used before for various purposes; I therefore do not claim such.

But I *claim* the vibrating tracer B *b* (or, in other words, small section of a screw nut allowed to be vibratory in its operation) in combination with the elastic pillow block C, the regulating block D, the bolt E, and the catch stud G, with their flanges and inclined planes, all being secured in a two-part tube, and all being arranged substantially in the manner and for the purposes set forth.

No. 21,370.—Irving Root, of Austin, Texas.—*Improved Window Fastener.*—Patent dated August 31, 1858.—*a* represents the plate to be screwed upon the lower side rail, 1 represents the fulcrum with a lever and a bolt attached to the fulcrum, which is a round cylinder to fit the holes or tubes in the upper rail, which holes are only bored half through the corresponding side rail of the upper sash ; *a* and *b* in perspective represent these tubes.

Claim.—The plate and thimbles, the groove, the spring plate and cylinder, constructed and operating in the manner specified.

No. 19,143.—Joseph U. Houston, of West Meriden, Connecticut.—*Improved File.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim making a file of separate plates of steel, held together on a rod or bar by means of a screw or its equivalent.

Nor do I claim making the cutter-plates of the file either round or with an angular periphery.

But I *claim* an improved file, or an improvement on a file so made, my improvement consisting in making each of the plates with a concavo-convex bend or angle, as described, and so that one plate shall extend into another, and be supported by it, and the whole be arranged to better advantage for being sharpened than is the case when the plates are plane or unbent pieces of metal.

No. 22,329.—George W. Fogg, of South Dedham, Massachusetts, assignor to Himself and D. S. Fogg, of said South Dedham, Massachusetts.—*Improved File-Cutting Machine.*—Patent dated December 14, 1858.—The claim and engraving explain the nature of th s invention.

The inventor says: I *claim*, first, controlling the opening of the regulating valve of an atmospheric trip hammer employed in a file-cutting machine, for the purpose of regulating the blow thereof, and producing a uniform depth of cut from end to end of the file by means of a pattern whose form corresponds with or has a proper relation to the longitudinal profile of the file blank, applied and operating upon the said valve substantially as described.

Second, in combination with the arrangement of the cutter guide block K, at a greater inclination from a vertical plane than the hammer stem, and with the fitting of the cutter or cutter stock loosely in said guide block, I claim the employment of a clamping piece Z, or its equivalent, applied to the said guide relatively to a proper bearing on the opposite side of the cutter, and operated substantially as described, to produce the peculiar action of the cutter specified.

No. 20,286.—F M. Mattice, of Buffalo, New York.—*Improvement in Tile Machines.*—Patent dated May 18, 1858.—The nature of this invention consists in such a construction of the machine and the arrangement of its several parts that it may be self operating, that is, when it is properly supplied with moistened clay and put in motion, that the clay may be wrought into mortar of the proper consistence and formed into tile, delivered upon a handling board and ready to be set away to dry previous to being set in the kiln for burning.

Claim.—The cut-off valve O, the lever Q, cam S, plunger H, chest F, and cams I and K, when arranged and operating in conjunction, for the purpose of opening and closing the passage P, while filling the chest and discharging the contents of the same by the openings G G, in the manner and for the purpose specified.

No. 19,854.—J. Nelson Jacobs, of Worcester, Massachusetts.—*Improved Machine for Cutting Files.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the wedge I, at the top of the toggle by which the cutter is operated, combined with a foot piece *r*, with its shoe r^1 resting upon the file blank or file, by means of mechanism substantially such as described, and with a loaded lever O or its equivalent to operate as set forth, for the purpose of controlling the depth of cut throughout the whole length of the file.

Second, supporting the file blank or file upon a rolling bed fitted to a carriage with rollers interposed in the manner substantially as set forth, for the purpose of insuring an uniform depth of cut all across the file.

Third, the combination of the rocking shoe r^1 of the foot piece *r* with the rolling bed E, substantially as and for the purpose set forth.

Fourth, the cam W, combined with the wedge I, foot piece *r*, and shoe r^1, by mechanism substantially as herein described; for the purpose of raising the cutter and shoe r^1 of the foot piece *r* from the file or blank, to prevent injury during its return.

No. 22,034.—E. K. Root, of Hartford, Connecticut.—*Improved Drop for Forging Metals.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the method of elevating the drop or hammer by means of a lifting strap having a vertical reciprocating motion, in combination with the retaining notches and pawls and the spring bolt, or their equivalents, substantially as described.

I also claim the method of disengaging the drop or hammer from the elevating strap by means of a wedge-shaped shoe on the strap, which strikes the end of the bolt, or its equivalents, and forces it clear of the strap, and into engagement with the retaining latch, substantially as specified.

I also claim the employment of an adjustable disengaging shoe, in combination with the series of retaining notches and pawls, essentially as described, whereby the hammer may be readily disengaged from the lifting straps, and retained at any desired height from the base block.

I also claim the sliding ratchet bar, in combination with the retaining notches in the posts and retaining pawls on the hammer, when arranged and operating substantially as described, for the purposes set forth.

And finally, I claim, in combination with the bolt which forms the connexion with the elevating strap, and with the retaining latch

which holds the slide when disengaged from the elevating strap, or their equivalents, the employment of the angular lever, or its equivalent, by which the hammer may be readily disengaged from the elevating strap by the operator at any required point in the ascent of the hammer.

No. 19,930.—Solomon Johnson, of New York, N. Y.—*Improved Machine for Excavating and Washing Gold.*—Patent dated April 13, 1858.—The object of this invention is to obtain from the beds of streams the auriferous sands, &c , which contain gold, and to wash and separate the same by an incidental and instantaneous process.

Upon the frame *a* the chain-wheel *b*, with a suitable shaft, is placed; the wheel is grooved on its outer edge, and otherwise adapted for receiving a chain and buckets in some respects like an ordinary chain pump. Over and upon this wheel an endless chain is made to pass constituted of an ordinary iron chain with at suitable intervals the buckets *c c c*.

Claim.—The chain and buckets in their peculiar form of construction and method of operation, in combination with the pump *d*, all substantially as set forth.

No. 19,337.—Henry Barnard, of Morristown, N. Y.—*Improved Ore Washer.*—Patent dated February 16, 1858.—This machine consists of a series of pans C C attached, one below another, to an upright shaft B, which has a rotary, vibratory, and longitudinal motion imparted to it by suitable motion The pans gradually increase in size from the top to the bottom of the series; and the substances to be washed being introduced with a stream of water into the top one, the overflow of the water from one pan to another from the top to the bottom of the series, combined with the movement of the pans with the shaft, and the action of a series of stationary or movable agitators, effect the washing operation in a very perfect manner.

Claim.—The series of pans C C, of sizes graduated as described, attached to the upright shaft B which receives a combined rotary, reciprocating, and vibratory motion, by which varying degrees of agitation are given to the pans, substantially as and for the purpose described.

No. 21,820.—Josiah P. Clark, of Portland, Maine.—*Improvement in Hammers.*—Patent dated October 19, 1858.—This invention consists in the novel means employed for holding the nail to be driven, so that, without being fixed or held by the hand of the carpenter or other person in the place where it is to be driven, the nail is by one blow of the hammer firmly fixed into the place where it is to be driven by means of an apparatus attached to the side of the hammer.

Claim.—The combination with an ordinary hammer of the metallic plate *d d d* with an opening *a* and slide *b*, constructed and operating substantially as set forth and described.

No. 21,691.—David A. Morris, of Pittsburg, Pa.—*Improved Trip-Hammer and Anvil.*—Patent dated October 5, 1858.—The nature of

this invention consists in arranging one or more trip or tilt-hammers on a suitable foundation to strike either at the same time or alternately on iron held upon one anvil, which should be movable on rollers beneath it on which the anvil can be moved with facility.

Claim.—The arrangement of a gang of trip or tilt hammers, substantially as described, in connexion with the movable anvil, constructed in the manner and for the purpose specified.

No. 22,092.—Benjamin Shiverick, of Pittsburg, Pa.—*Improved Forge Hammer.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the cam F, so constructed as to act on the collar K, opposite the spindle, or nearly opposite the spindle, during the whole time of its action in raising the hammer, except when the extreme end of the cam is passing out from under the collar to let the hammer drop, as described.

I claim a wedge, or its equivalent, so constructed and arranged as to be moved by the workman or attendant while the hammer is in motion, to graduate the action of the springs upon the hammer, to make it strike light or heavy blows, as desired.

No. 22,073.—Alfred Gregory, of Washington, D. C.—*Improvement in Hand-Hammers.*—Patent dated November 16, 1858.—A is a hollow handle made of metal, bamboo, or other material, among which are reeds of a large bore. The one end of this hollow handle has secured on it the hammer-head B. The other end, as far as grasped by the hand, may be covered so as to secure a good hold. Within this handle is a stick, one part *a* of which is of a light structure, and the other part *a*¹ of lead or other heavy material. This stick is made reversible on, in, or along the handle, and adjusted by one or more set screws *b*, or in any other way.

Claim.—The heft-regulating "hammer-shaft" or helve, substantially as specified, and operating to secure to the implement of which it forms the handle an enlarged and variable capacity to deal light or heavy blows, as required, essentially as set forth.

No. 21,823.—Rufus Dawes, of Washington, District of Columbia.—*Improvement in Hammer-Heads.*—Patent dated October 19, 1858.—This invention consists in giving to the face of a hammer-head such an inclination to the longitudinal axis of the head, that the workman shall be enabled to strike a succession of parallel blows when driving a nail, or at other work, without raising the whole arm at each blow.

Claim —As a new article of manufacture, a hammer-head with its face inclined to the longitudinal axis of the head in the manner set forth.

No. 19,997.—James W. Kerr, of Rochester, New York.—*Improvement in Operating Blacksmith's Hammer.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the various parts of my automatic blacksmith separately considered.

But I *claim* the combination and arrangement of the eccentric H

with the slotted reciprocating gate I and bellows K, whereby the required motions for successfully operating the bellows are obtained by the revolutions of the balance-wheel G, in the manner and for the purpose herein set forth.

I also claim the combined operation of the wheel G with cam or cams *o*, lever-bar M, hammer-lever *f*, hammer L, and spring *d*, whereby the power may be reciprocatingly employed between the actions of the bellows and trip-hammer, so that the power released from one is expended on the other, and *vice versa*, substantially in the manner and for the purpose described.

No. 21,981.—JOSEPH B. SARGENT, of New Britain, Connecticut.—*Improvement in Lifting-Handles.*—Patent dated November 2, 1858.—By casting the plate (fig. 1) in any malleable metal, and the handle (fig. 2) in any metal, and placing them together, and bending the top of the plate downward around the handle, so that the projections A A will rest on the shoulders C C, the handle is secured to the plate; and on being used, the projections D D will strike upon the projections A A, holding them firmly in the proper place, and, prevent the handle from being raised above its proper position.

Claim.—A "lifting handle" with the plate cast in any metal that can be bent, having the socket formed in the manner described, and operating in connexion with the handle as specified, the whole being an improved article of manufacture.

No. 20,052.—N. F. ENGLISH, of Hartland, Vermont.—*Improved Hatchet* —Patent dated April 27, 1858.—This invention consists in forming the claw on the upper part of the hatchet, adjoining the eye, so that the face of the hammer and claw will have nearly the same relative position as in an ordinary hammer, thereby rendering the implement very efficacious.

Claim.—Forming the claw *b* at the outer edge of the hatchet, and over the eye or end of the handle C, substantially as and for the purpose set forth.

No. 19,374.—JOHN C. MASON, of New Hartford Centre, Connecticut.—*Improved Hinge.*—Patent dated February 16, 1858.—The nature of this improvement will be understood by reference to the claim and engraving.

Claim.—The construction of a loose joint butt hinge, which becomes a tight joint as soon as turned from the position in which it is put together in the manner set forth, or in any other manner substantially the same, whereby I am enabled, by putting hinges on each edge of a door, to open it right or left, or by reversing the butt to make a solid hinge, as described.

No. 21,124.—W. H. ELLIOT, of Plattsburgh, New York.—*Improvement in Hinges.*—Patent dated August 10, 1858.—The nature of this invention consists in combining with a table hinge *b* a portion of the joint of rule-joint tables.

Claim.—Combining with the table hinge a portion of the rule-joint, as specified.

No. 21,735.—MATHIAS BETTINGER and AUGUST BOOS, of Cincinnati, Ohio.—*Improved Hinge.*—Patent dated October 12, 1858.—This invention relates to that class of hinges in which a door or shutter is held open or closed by gravity, by means of the upper section of the hinge settling down on to inclined surfaces on the lower, and consists in combining with the above arrangement a device by which the door or shutter is prevented from being unshipped by wind or otherwise, while swinging to and fro.

Claim.—The described arrangement and combination of the lugs F F and horns C C, for the purposes set forth.

No. 21,925.—R. HART, of Washington county, Ohio, assignor to THEODORE F. HALL, of Marietta, Ohio.—*Improvement in Hinges.*—Patent dated October 26, 1858.—The hinge is constructed of some suitable metal. H H^1 show the wings or portion of the lower and upper hinges to be attached to the post of the gate. T T represent the wings or portions of the lower and upper hinges to be attached to the gate.

The inventor says: I *claim* the employment of the shifting yoke *y*, and in combination therewith of the spring *s*, constructed, arranged, and operating substantially in the manner and for the purpose set forth.

I claim also the combination of the hook or part K, having a salient angle *a*, constructed and arranged substantially as set forth, with the inclined plane closing and opening gates and doors.

No. 19,076.—JOHN B. CORNELL, of New York, N. Y.—*Improved Hinge-Eye for Shutters* —Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that hinge pivots have been cast into the winged portions of shutter hinges; and I am also aware that the said pivots frequently work loose and drop out of their places, when it is very difficult, if not impossible, to replace them.

I do not claim to be the inventor of the skeleton wing which forms a portion of my improved eye. Nor do I abstractly claim the chill-hardening of any portion of said hinge eye.

But I *claim* as a new manufacture the described improved hinge-eye, the said hinge-eye consisting of a chill-hardened eye-hole projection, cast in one piece with a wing of suitable shape for its being built into a wall, as set forth.

No. 21,347.—JOHN LOUDON and HANS IVERSEN, of New York, N. Y.—*Improvement in Hinges for Window Blinds.*—Patent dated August 31, 1858.—The nature of this invention consists in the combination of a latch lever moving with the blind hinge, with a notched plate on the fixed half of the hinge, whereby the blind can be retained in a partially or entirely open or shut position, and also in the manner of fitting these parts, so that they can be applied to blinds already in use.

The inventors say: We do not claim a hinge formed with a latch to retain the blind.

But we *claim* the combination of the lever *h* on one part of the

hinge with the plate *f* on the other part, for the purposes and as specified.

We also claim the plates *f* and *g* connected with the respective parts of the hinge by the countersinks, and holding said hinge in the desired position by the cam lever *h* and notches in the plate *f*, as set forth.

No. 22,214.—Thomas E. Williams, of Washington, D. C.—*Improved Hinge for Window Blinds.*—Patent dated November 30, 1858.—The nature of this invention consists in arranging a catch-bar upon the face of the hinge in such manner that when the blind (hinge) is thrown open or back, it will be retained firmly in that position, and by applying the finger to the handle of the catch-bar it disengages itself, so that the blind or hinge can be shut or closed, and the bar remain in the same position without strain, locking the wings of the hinge together, so that to break the connexion the plates of the hinge would have to be broken, or the screws of the hinge drawn.

Claim.—The catch-bar *i* and catch *m*, in combination with the cavities *c*, *d*, and *f*, and hinge, substantially in the manner and for the purpose set forth and described.

No. 21,496.—A. T. Hendrick, of Clyde, N. Y.—*Improved Gate Hinge.*—Patent dated September 14, 1858.—This invention consists in the employment of an angle plate having an oblong slot cut vertically through its horizontal angle, in combination with a plate which has the pintle or axle pin of the hinge on its lower edge, and a shifting projection on each of its side edges. By this combination a hinge is provided which will cost but little more than the ordinary hook and eye hinge, and will be capable, when used in connexion with an ordinary hook and eye or other hinge, of allowing the gate to open both ways, or inward and outward, and will cause the gate to close automatically, or not allow it to remain stationary in any other but a closed condition, unless held so by a cord or hook.

Claim.—The employment of an angle plate having an oblong slot cut vertically through its horizontal angle, in combination with a plate which has the pintle or axial pin of the hinge on its lower edge and a shifting projection on each of its side edges, substantially as and for the purposes set forth.

No. 21,939.—C. E. Burnham, of Binghamton, N. Y.—*Improved Gate Hinge.*—Patent dated November 2, 1858.—This invention consists in having pintles fitted in sockets and attached to each end of the gate, and having plates with double inclined planes and steps attached secured to the gate posts, the pintles being acted upon by springs connected to levers, and the whole arranged so that the gate may be made to swing at either end, the pintles serving in the capacity of both hinges and catches, either as may be desired.

Claim.—The pintles *e*, placed within the sockets *a* a^1 that are attached to the ends of the gate A, in connexion with inclined planes *d* and steps e^1 attached to the posts B B^1, the spring *d* acting or bearing on the pintles *e* and the levers *j* j^1 or their equivalents, connected to

the pintles through the medium of the rods *h* and arms *g*, the whole being arranged to operate substantially as shown and described.

No. 19,526.—Elbridge Wheeler, of Marlborough, Mass.—*Improvement in Horse-shoes.*—Patent dated March 2, 1858.—The blank is drawn down to the proper width and to a thickness equal to the thickness of the shoe and the height of the calk, the proper level being given to it to form a sharp calk. It is then passed through the machine, where certain indentations are made in the rolls to correspond to the toe-calk C and the heel-calks D, when the portion of the blank between these parts is rolled down E to the thickness required for the shoe, and the projections C and D are left forming the calk.

Claim.—The described horse shoe, the calks and shoe being of one piece of metal, formed by drawing down the shoe, and without welding or turning up.

No. 20,713.—William E. Hubbard, of Randolph, N. Y.—*Improvement in Horse-shoes.*—Patent dated June 29, 1858.—The hook B has a shank of sufficient length to pass through the thick heel part of the shoe A, and receive a nut *c* on the end, and with sufficient length of screw to admit of the necessary expansion of the hoof.

Claim.—The combination of the hooks B—the screw nut *c* being condensed as a part thereof—with the stiff unyielding shoe A, for the purposes as set forth.

No. 21,571.—John Maddock, of Bloomington, Illinois.—*Improved Horse-shoe.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A nailless horse shoe, provided with lugs *a*, or their equivalents, formed on the upper side of the sole A, when used in connexion with corresponding projections *b*, formed on the inner side of the upper flange B, the former being made to fit cavities formed in the horse's hoof, and the latter into grooves *c* formed for their reception in the sole A; the whole being constructed and secured together in the manner and for the purposes substantially as set forth.

No. 19,528.—Harry A. Wills, of Keeseville, N. Y.—*Improved Horse-shoe Machine.*—Patent dated March 2, 1858.—Power is applied to the rollers B C. A bar is placed between the shears M N, after having been heated. The blank is first cut off from the bars by the shears, the pin *h* actuating the bar L, to which the cutter M is attached. As soon as the blank is cut off, the lever O is moved by the cam on the roller C, and the bar P is moved towards the rollers, carrying the blank forwards to the rollers, and retaining it until it is caught by the front end of the mould E; the blank, as the roller B rotates the rollers *c* on the bars H, serving as supports, and keeping the blank to the mould. Just previous to the entering of the mould E and blank F into the die G, the bar *j* is moved forward by the bar Q, which is operated by the tappet or pin *n* on the roller C, and the bar *j* shoves the front end of the blank F a little off from the mould

E, so as to allow the blank to be expanded laterally while being compressed by the die G.

The inventor says: The rollers B C, mould E, guide rollers *c*, and segment T, have been previously used, and were employed in the machine of Young & Titus, previously alluded to; I therefore do not claim such parts.

But I *claim*, first, the peculiar arrangement of the shears M N in relation to the upper roller B *h* and the feeding bar P, so that the cutter shall be brought into action, and the cutting off of the blank effected in the revolution of the upper roller B by means of the projection *h* on the same, and the blank, when cut off, left in a position to be certainly fed between the rollers, substantially as set forth.

I further claim, in combination with the guide rollers *c*, attached to the bars H H, the auxiliary spring guides *e*, attached to the bars J J, and arranged to operate conjointly with the guide rollers *c*, as shown and described.

I also claim loosening or shoving back the blank F on the mould E, just previous to its entering the female die G, by means of the vibrating or loosening bar *j*, for the purpose set forth.

No. 19,957.—GEORGE STILES and STRICKLAND KNEASS, of Philadelphia, Pa.—*Improved Horse-shoe Machine.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We are aware that an arrangement of a revolving "former" has been heretofore patented in combination with two stationary bending levers; we do not therefore claim any such arrangement.

But we *claim*, 1st. The employment of the stationary former $e\ e^1\ e^2$, in connexion with the reciprocating levers K K^1 K^2 K^3, and with the fixed cam S, arranged and operating as set forth.

2d. The employment of the moving swager $d\ d^1\ d^2$ and fixed swager $f\ f^1\ f^2$ for forming and swaging the shoe while on the former $e\ e^1\ e^2$, and enclosed at the side in a hollow moving die box H H^1, arranged and operating as set forth.

3d. The employment of the hollow box plunger H H^1, in connexion with the former C C^1, for creasing and punching the shoe at the same time that the outer edge is finished by the hollow die box; the whole arranged and operating substantially as above described.

No. 20,023.—ELWIN SHAW, of Providence, R. I., and CALVIN CARPENTER, jr., of Pawtucket, Mass., assignors to Themselves and G. B. JUSTRAM, of said Providence.—*Improved Horse-shoe Machine.*—Patent dated April 20, 1858.—By varying the position of the patterns I with reference to a vertical plane passing longitudinally through the centre of mould K, the amount of pressure given to the edge of the shoe may be regulated and the thickness and width of the heel be varied.

Claim.—Varying the point at which the pressure for narrowing and thickening the heel commences, by moving the mould K in or out in the manner substantially as described.

No. 20,646.—WILLIAM W. LEWIS, of Cincinnati, Ohio.—*Improved Horse-shoe Machine.*—Patent dated June 22, 1858.—A full description of this machine would require too much space to be given here. To the frame A are secured two brackets A^1 A^1, which contain the bearings for a horizontal shaft D, which carries a cam D^1 for operating through a toggle E E on the die *e*, which forms the top of the shoe; also two cams D^2 D^2 operating through levers F F, rods F^1 F^1, and wedges F^2 F^2 on the two dies *b b*, which form the sides of the shoe, and a cam D^3 which operates on the feed rollers *f f*, which feed the bars of iron.

The inventor says: I *claim*, first, the combination with the stationary table B of the mandrel C P P, the stationary front die *a*, sliding side dies *b b*, and top die *e*, all applied to operate together, substantially as described.

Second. Operating the dies *b b*, which form the sides of the shoe, by means of the upright sliding rods F^1 F^1 with their wedge-shaped ends, the levers F F, and the cams D^1 D^1 on the shaft D, the whole combined and applied as described.

No. 21,779.—T. H. RUSSELL, of Northfield, Vt., and AMOS MORRILL, of Strafford, Vt.—*Improved Horse-shoe Machine.*—Patent dated October 12, 1858.—This invention consists in the use of two lateral forming rollers, a vertical pressure roller, and an adjustable or movable former and die; the whole being arranged and operated whereby the desired work, namely, the making of horse shoes, is performed at one operation, the shoes being made directly from the bar without any manipulation on the part of the operator or attendant, except the feeding of the bar to the machine.

The inventors say: We *claim* the movable former K, lateral forming rollers Q Q, arranged with the guide rollers O R and grooves *l l n n*, the vertical pressure roller I, and the female die L, when combined and arranged for joint operation, substantially as and for the purpose set forth.

We further claim the particular arrangement of the roller bar G, to wit, having said bar provided with the rollers i^1 i^1, which bear against blocks *j j*, attached to the uprights H H, and having the pin *k* pass through an oblong slot *g* in the upper part of the bar, substantially as and for the purpose set forth.

No. 20,079.—JOHN MCCARTY, of Philadelphia, Pa.—*Improvement in Machines for making Horse-shoes.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Without claiming separately the various parts described, I *claim*, first, the combination of the mandrel with the rollers 8 8, when the said mandrel is of the same form as that presented by the inner edge of the shoe to be manufactured, when it is so operated as to convey the bent bar to the dies, there retain it while it is submitted to the action of said dies, and subsequently withdraw the formed shoe from the same, and when the rollers are caused to approach each other as the mandrel advances.

Second. I do not claim exclusively the employment of opening, closing, and reciprocating dies.

But I claim the jaws Z and Z¹, the reciprocating mandrel X with its projection underneath, the lower die P with its recess for receiving the projection of the mandrel, and with its projecting lip *p* and the upper die *k*, when the said dies, mandrel, and jaws are arranged to close and lap over each other, in the manner set forth, and when they are otherwise arranged and actuated substantially as and for the purpose specified.

Third. Piercing the requisite nail holes in the shoes by means of the punches *q* when the same are attached to the plates R and R¹, when the latter are hinged to the guide blocks T and T¹, when the upward movement of the latter is regulated by the adjustable wedges V, and when the whole is arranged and operated substantially in the manner set forth and for the purpose specified.

No. 20,441.—Charles H. Perkins, of Putnam, Conn.—*Improved Machine for making Horse-shoes.*—Patent dated June 1, 1858.—This invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the combination and arrangement of the hammer K and the creaser L with one rotary tripping shaft I, so as to be operated thereby substantially in the manner and for the purpose specified.

Second. I also claim the mode of constructing and operating the former B—that is, making said former with the vertical edge *g* and bevelled top surface *x*, and causing the said former to take two separate positions with respect to the benders and hammer, in manner and for the purpose set forth.

Third. I also claim constructing the bed or anvil A with the projection or die *w*, for hollowing the shoe or making it concave in rear of the toe, as specified.

Fourth. I also claim the combination of the straight toe die *b* with the benders C C and the former B.

Fifth. I also claim the combination of a set of notches, or their equivalent, with the rear end or toe or other proper part of the former, and for the purpose of maintaining the shoe blank in its proper place or position with respect to the former during the process of bending the shoe thereon.

Sixth. I also claim, in combination with mechanism for giving to the hammer shaft its tilting or vertical motions, mechanism for rotating the shaft at the proper times, in order to bring the hammer and creaser to operate alternately on the shoe, as specified.

Seventh. And in combination with the mechanism for tilting and turning the hammer and creaser shaft, I claim the mechanism for arresting the operations of the tilting mechanism, and for preventing the fall of the hammer shaft long enough to allow of a semi-rotation of the hammer shaft, and the withdrawal of the made shoe from its place about the former, and the substitution of a shoe blank therefor.

No. 19,836.—George James Farmer, of Birmingham, England.—*Improvement in Hardening Iron and Steel.*—Patent dated April 6, 1858.—The claim explains the nature of this invention.

The inventor says: I wish it to be understood that I do not confine

myself to these precise details, nor to the exact proportions of the several chemical compounds stated, as I have merely specified those details and proportions which I have hitherto found the best suited to effect the intended purpose, and they may probably admit of some slight variation when operating upon different qualities of metal.

I *claim* the hardening of articles formed of iron or steel, by plunging them into a solution of prussiate of potash, sal ammoniac, and saltpetre, after they have been heated red-hot and rolled in a powdered mixture of the same materials, as set forth.

No. 21,863.—George S. Bosworth, of Troy, N. Y., assignor to Anson Atwood, of said Troy.—*Improvement in Manufacturing Car Wheels of Cast-Iron.*—Patent dated October 19, 1858.—This improvement is for the purpose of more perfectly chilling or hardening the wheel, making at the same time a more complete casting, without the flaws of "cold sheets," naves, or other defects, making also a more smooth, even surface and perfect form, undistorted by unequal shrinkage, than has been done by other processes.

Claim.—The employment of highly heated "chills" when combined with sand moulds, in the manner and for the purposes set forth.

No. 22,476.—Moses Wrangle, of New York, N. Y., assignor to Hunter, Keller, & Co., of said New York.—*Improved Cast-Iron Mercury Bottle.*—Patent dated December 28, 1858.—The inventor says: I form the pattern, figure 2, conforming to the shape of the article, and parted, as usual, in the middle longitudinally. I then cut the pattern off at right angles at *a*, the lower portion *b* that forms the concave being connected with the upper part by the dovetail, or other convenient fastening. In the same way I form the cone box, fig. 2, by cutting off the lower section *e;* so that when the mould or cone is formed, the upper part can be lifted off, and then the lower part, forming the concave bottom, can be removed laterally and the concavity thus secured.

Claim.—Moulding iron mercury bottles with concave bottoms by means of the patterns substantially as described.

No. 20,009.—Adam V. Van Hoevenbergh, of Southside, N. Y.—*Improvement in Hollow Cast-Iron Cooking Utensils.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As a new and improved article of manufacture, to wit, hollow cast-iron cooking utensils, kettles, griddles, &c., having the interior surface which comes in contact with the cooking material polished by any of the usual processes for polishing metals.

No. 21,844.—James Noble, of Monongahela Borough, Pennsylvania.—*Improved Rolls for Planishing Iron.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The use of rolls having a straight groove, depression, or recess, extending parallel to its axis for the entire length of the roll,

or at least for the length of the other roll of the pair, into which the other roll is placed before they are pressed together, for the purpose of securing a degree of pressure adequate to the planishing of single sheets of metal, in the manner described.

No. 19,799.—Webster A. Stephens and Richard Jenkins, of Covington, Kentucky.—*Improvement in the Manufacture of Tubular Wrought Iron Shafts.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The manufacture of wrought iron bars for the tubular axles, shafting, or other purposes, by rolling from a solid pile in a system of grooves, substantially like that described, by which the pile is first flattened, then grooved longitudinally, and afterwards has the sides of its groove closed together and welded, as set forth.

No. 21,772.—David A. Morris, of Pittsburg, Pennsylvania.—*Improvement in the Manufacture of Sheet-Iron.*—Patent dated October 12, 1858.—By this invention the process of manufacturing sheet-iron, to possess most of the qualifications of "polished Russia sheet-iron," consists in procuring well carburetted pig-iron, charcoal cool-blast, having silicium, aluminum, and manganese only alloyed with the iron, being free from sulphur, arsenic, phosphorus, copper, &c., which are difficult to extract and always injurious to the iron. A flux or compound of reagents is prepared, so constituted and proportioned as to take up the excess of aluminum, silicium, and manganese, only permitting a minimum of each to remain. This flux may be used either in the refinery or puddling furnace. After this the usual process of reducing iron to thin plates is resorted to.

Claim.—The manufacturing of enameled anti-corrosive sheet-iron, by the process specified.

No. 21,817.—Josephus Chandler, of Attica, Ohio.—*Improvement in the Manufacture of Sheet-Iron.*—Patent dated October 19, 1858.—The nature of this invention consists in treating iron, during the manufacturing process, with certain mineral matter, either alone or in addition to that already used, for the purpose of chemically regulating or altering the character of the surface-scale on the iron, and also facilitating its manufacture; which mineral matter acts upon the iron during the processes of heating and rolling the iron into plates, sheets, &c

Claim.—Coating or covering bars, plates, or sheets of iron, or either of them, before, at, or during the manufacturing process of heating and rolling, with clay, iron-ore, or other mineral matter, salts, and also with the chlorides or other compounds of zinc, tin, &c., or of their mixtures with other mineral matter, for the purpose substantially as set forth.

No. 21,692.—David A. Morris, of Pittsburg, Pennsylvania.—*Improvement in Rolls for Making Sheet-Iron.*—Patent dated October 5, 1858.—The inventor says: In making this roll, I first have the rolls, of chilled iron, turned off and finished very smoothly; then I dot or spot them all over with melted wax; the spots of wax may be large or small, and can be arranged to suit the fancy of the maker. After the roll has been properly waxed, I immerse it in diluted sulphuric acid, (about one part acid and twelve or f urteen parts of water,) where it should remain about eight or ten hours, or long enough to etch or eat in the depth required; then I place the roll in a lathe and finish it off with emery and oil, which takes off the sharp edges, and gives the projections a rounded form.

Claim.—The employment of mottled chilled iron rolls for rolling sheet-iron, when constructed substantially as described.

No. 21,616.—John Moulson, of Philadelphia, Pa.—*Improved Key-hole Stop.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of a key-hole stop consisting of two pieces of metal, one to slide into the other, which, when introduced into a key-hole, first the female then the male piece, in conjunction with a lug on one piece and a padlock or its equivalent through both pieces, all combined as described, or their equivalents, will fill the key hole and effectually prevent depredations on locks by preventing the introduction of any unwelcome key or other instrument therein.

No. 20,280.—Rufus K. Lee, of Brooklyn, N. Y.—*Improved Safety Drop for Keys.*—Patent dated May 18, 1858.—The nature of this invention consists in the use of a notch drop *b*, and a key having a flattened shank or groove over which said drop passes, in combination with a peculiar eccentric or cam piece *f*, to prevent said drop from being moved from the outside by a piece of wire inserted through the key hole, and also a revolving disk 6 attached to the inner side of the drop that will revolve by any pick or similar instrument inserted through the key hole, and prevent strain being applied to move said drop.

Claim.—The revolving disk 6 on the rear side of the notched drop *b*, for the purposes and as specified.

I also claim the employment of the notched drop *b*, the eccentric *f*, and disk 6, arranged, constructed, and operating as specified.

No. 19,017.—Orestes Cleveland, of New York, N. Y.—*Improved Bolster for Plated Table-Knives.*—Patent dated January 5, 1858.—The bolster D is made separate from the knife blade, and out of some solid metal which is not liable to change its appearance or corrode. The form of the bolster D is represented in the engravings, it being flat and having a hole in the centre. The bolster is passed over the shank C, fitted snugly against the shoulder A of the blade, and then confined to the handle, which is passed over the shank and its end made to bear up closely against the bolster, as represented.

Claim.—A table knife made substantially as described.

No. 19,641.—Lyman Jennings, of Ewing, Mass.—*Improved Holder for Planing Knives while grinding.*—Patent dated March 16, 1858.—There is a clamp *h h* secured in a frame A, provided with rollers E E,

one or more, and with handles C C, so that the cutter or tool to be ground may be firmly secured in the clamp, and by applying the frame to the stone, the tools are ground in a perfect manner.

Claim.—The frame A, provided with the rollers E E, one or more, and the plate C, clamps *h h*, and adjusting screws *m m*, or their equivalents, for securing and adjusting the knife or cutter D in the frame, substantially as and for the purpose set forth.

No. 19,614.—Thomas C. Ball, of Keene, New Hampshire, assignor to A. S. Davis and H. C. Henderson, of said Keene.—*Improved Latch for Doors.*—Patent dated March 16, 1858.—The nature of this invention consists in a certain arrangement of the handle D and latch A, by which sliding doors may be closed and latched, or *vice versa*, by a single effort of the hand exerted upon the handle, and by which, with the aid of a padlock, the latch may be fixed firmly in place and the door securely fastened.

Claim.—The combination of the latch A, the handle D, the lever E, the spring B, the lock seat *f*, or their equivalents, for the purposes stated and fully described.

No. 19,786.—John L. Mason, of New York, New York.—*Improved Lathe Chuck.*—Patent dated March 30, 1858.—The screw part is made separate from the flange, with a short stem at its rear; the flange and screw are either screwed together by a screw on the stem of the screw part and a corresponding screw in the flange part, or else the flange part is heated and the two are shrunk together, the flange coming so far on that the thread and groove of the screw shall gradually terminate at the flange.

Claim.—The chuck described for spinning screw caps, &c., having a flange or rounded thread and a rounded groove, the groove and thread vanishing gradually at the flange, substantially as described.

No. 19,533.—John M. Perkins, of New York, New York, assignor to Robert M. Patrick, of said New York.—*Improvement in Locks.*—Patent dated March 2, 1858.—The object of this improvement is to give increased security by a more simple construction, to increase the durability, and to reduce the liability to get out of order. The locking is effected by the yoke *o*, from one end of which a pin passes out through the front and near the key hole; and it is by pulling this outward that the yoke will draw all the tumblers together, so that each one will be directly over the other; in which position the slots *e* no longer coincide, and consequently the bolt *f* is kept from entering.

The inventor says: I *claim*, in combination with a set of tumblers arranged and operating in the manner described, a set of stationary bars at one end, and a set of washers at the other end of and interposed between said tumblers, for the purposes specified.

I also claim the yoke embracing the whole set of tumblers, in combination with a pin, or its equivalent projecting out and through the case, for the purpose of enabling the tumblers to be shoved together so as to cover each other, whereby the slots of the tumblers are caused not to coincide, thus preventing the bolt from being withdrawn.

No. 19,564.—Abraham Hoagland, of Jersey City, New Jersey.—*Improved Lock.*—Patent dated March 9, 1858.—A in the engravings is the bolt; B the quadrant tumbler; C part of the key-hole case; D the ward; E the stem; F India rubber spring; G shaft of the knob; H cam of the lock; I springs to hold the quadrant tumbler firm; J small stems to hold the quadrant tumblers when thrown back in unlocking; K quadrant tumblers in separate parts used when it is required to complicate the lock; L the key. The act of locking is performed by turning the quadrant tumblers to the position in fig. 1, where they are held by the steel spring I.

The inventor says: I do not claim as original any one of the parts of this lock. But I *claim* the combination of the several parts to form a catch lock, with a separate key hole on each side, having the bolt A operated by the segments B and the spring F, constructed and arranged substantially as described.

No. 19,628.—William Denney, of Philadelphia, Pennsylvania.—*Improved Lock.*—Patent dated March 16, 1858.—The lever I works on a pin N, and bears on the inside of front plate A of the casing. Its longest arm is provided with a grooved extension *l*, which plays in peculiarly shaped openings in the tumblers *h* h^1 h^2 h^3, and which, while at rest in the position shown at fig. 1, prevents the taking of measurements for the proper length of square projections *m m* on the key. The V-shaped end of the spring R bears against an angular face *r* on the detector P, and serves to hold it in its place.

The inventor says: I wish it to be distinctly understood that I do not desire to confine myself to the shape of the tumblers in every minutia, nor to any particular number of the same.

I also do not claim the use of the detector P exclusively, as similar contrivances have been made use of before.

But I *claim*, first, the employment of the lever I, in combination with the tumblers, the whole being constructed and operating substantially as set forth.

Second, the combination of the detector P with one of the tumblers in the manner shown.

Third, the described employment of the supplementary key for the purpose of releasing the bolt plate from the detector.

No. 19,879.—Erasmus M. Shaw, of Baltimore, Maryland.—*Improved Lock.*—Patent dated April 6, 1858.—In this improved lock the cover or box plate is moved upwards or downwards by the key when the key is moved. The bolts cannot be separated until the plate *r* is moved downward so as to cover a narrower portion of the bolts than it does when it is up as far as it can be moved, for in that position it fits close to the bolts and prevents their separation. B is the hole in the plate A for the stem S to pass through.

Claim.—The plate *r*, spring plates *p p*, pins *x*, and hollow stem *q*, combined as described.

No. 20,027.—Ludwig Baier, of Cincinnati, Ohio.—*Improved Lock.*—Patent dated April 27, 1858.—The nature of this improvement con-

sists in the combined arrangement of the bolt and tumblers of the lock, together with the means employed for operating the tumblers when attached to the bolt, which arrangement of the parts dispenses with the use of springs, levers, and gearing, which are more or less used in all locks for bank vaults and similar purposes.

Claim.—The combined arrangement of the tumblers *c c c c c c* and *d*, guard plate J, T-piece *i*, with the bolt B, all for the purposes mentioned and represented in the specification.

No. 20,476.—Joseph A. Braden, of La Grange, Georgia.—*Improved Lock.*—Patent dated June 8, 1858.—This invention consists in the employment of a series of slides G, provided with teeth or racks *h* h^1, and arranged relatively with a bifurcated bolt B B, into the parts of which the ends of the slides work, these parts being used in connexion with a series of bits H attached to separate arbors *j k l m*, placed one within the other, and operated by means of keys or knobs.

Claim.—The slides G placed relatively with the bars B B, as shown, and provided with the stationary teeth *h* and yielding teeth h^1, in combination with the bits H, placed on separate arbors, and arranged to operate as and for the purpose set forth.

No. 20,850.—John Philip Lipps, of Newark, N. J., assignor to George D. Baldwin, of New York, N. Y.—*Improved Lock.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The independent bit M, constructed as shown and held anteriorly or above the bolt by the horizontal spring *z*, (and independent of the spiral springs,) thereby securing against the introduction of any instrument to pick the lock.

No. 21,193.—Fayette Gould, of Huntington, N. Y.—*Improved Lock.*—Patent dated August 17, 1858.—This invention consists in the use of two sets of sliding tumblers in connexion with a rotating plate or boss provided with a key chamber and slide, the desired object being attained by a simple arrangement of means.

The inventor says: I am aware that sliding slotted tumblers have been used and arranged in various ways in locks, and also used in connexion with guards and other devices for rendering locks unpickable or burglar proof. I therefore do not claim, broadly and separately, series of sliding tumblers provided with notches or recesses at varying points.

But I *claim*, first, the rotating plate or boss C, placed within the annular ledge *a*, and provided with a key chamber or recess *b*, slide D, and yielding or elastic pin E, in combination with the sliding tumblers *k* notched or recessed as shown, the above parts being arranged substantially as and for the purpose set forth.

Second. The rotating plate or boss C, arranged with the sliding plate D, and tumblers *k* k^1, in combination with the check or guard tumblers n^1, substantially as and for the purpose specified.

No. 21,293.—Hjalmar Wynblad, of West Hoboken, N. J.—*Improved Lock.*—Patent dated August 24, 1858.—The nature of this

invention comprises that kind of plate locks which have recesses in the periphery of the revolving wheel plates to receive the end of a pendular lever, and consists principally in an improvement on the shape and position of the plates, and in simplifying the action of the same by making them to operate upon the belt directly dispensing with the lever, &c.

Claim.—The arrangement of tumblers *c d e*, provided with cogs *g* and notches *i*, in connexion with a projection on the bolt, and operating in the manner and for the purpose set forth.

No. 21,346.—John P. Lord, of Manchester, N. H.—*Improvement in Locks*—Patent dated August 31, 1858.—The nature of this invention consists in the various ways of adjusting the movable driving pins *h*, so that the location of the rotary wards G may be known only to the person adjusting them, the movable driving pins being fitted to any desirable number of holes, or drills, tapped in each and all the wards G at particular distances from each other, thus allowing a great number of changes or variations to be made.

The inventor says: I *claim*, first, the application of the guides *a a a a*, or their equivalents; also the groove B and spring C, or their equivalent, substantially as specified.

Second. The application of the tongue D and guards E E E E E, or their equivalent, combined with the bolt *n*, substantially as specified.

Third. The application of the slotted stud, substantially as specified.

Fourth. The application of the slotted rotary wards G G G G G, or their equivalent, in combination with the driving pins *h h h h h h h h h h h h* and indicator I, or their equivalent, constructed substantially as specified.

Fifth. The application of the driving ward gear J and driving bolt gear O, or their equivalent, constructed substantially as specified.

Sixth. The application of the key L, in combination with the ward and bolt gears, substantially as specified.

No. 21,543.—Christian Ackerman, of Newark, N. J.—*Improved Lock*—Patent dated September 21, 1858.—The nature of this invention consists in such a construction and arrangement of parts as to give a peculiar rolling motion to the bolt, and so to secure the same that it cannot be driven back without the entire destruction of the lock.

Claim.—The use of the fall *b* and lever *c*, in their combination with the eccentric moving bolt *a*, when constructed and operated as herein set forth.

No. 21,636.—Thomas L. Pye, of New York, N. Y.—*Improvement in Locks.*—Patent dated September 28, 1858.—This invention consists in the use of a series of sliding slotted tumblers, arranged with a shackle and spring bar, whereby a very simple and efficient lock is obtained, and one that cannot be opened without the proper key. The invention is more especially designed for padlocks, but still is applicable to other forms of locks which have a bolt that enters the casing.

Claim.—The tumblers C, slotted as shown, provided with projections *d*, and used in connexion with a shackle B, or its equivalent, in combination with the bar D and spring *e;* the above parts being arranged to operate as and for the purpose set forth.

No. 21,994.—O. B. Thompson, of Hudson, Ohio.—*Improved Lock.*—Patent dated November 2, 1858.—This invention consists in the use of a series of slotted tumblers and guards peculiarly arranged, and placed in such relation with a bolt tumbler and adjustable lever that a very simple burglar and powder proof lock is obtained.

The inventor says: I *claim* the tumblers *f* and guards *g*, constructed and arranged substantially as shown, and placed in such relation with the plate *b* of the bolt tumbler C and slides *j* as to operate as and for the purpose set forth.

I also claim, in combination with the above parts, the bar H, arranged substantially as shown, so as to be acted upon by the arbor bit *s*, to adjust the tumblers *f*, as the bolt B is shoved out from the case.

I further claim the plate *l* and buffer *m*, placed at the back part of the slide-chamber E, substantially as and for the purpose set forth.

No. 22,048.—Linus Yale, jr., of Philadelphia, Pa.—*Improvement in Locks.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I make no claim to the particular form of tumblers or other parts of the lock, as my improvement can be adapted and applied to any of the old forms of locks, however simple or however complex and costly.

But I *claim* providing a main bolt or bolts with two or more systems or sets of stops or tumblers, or their equivalents, whether alike in form and construction or dissimilar, commanded by or obedient to one and the same key or its equivalent, or by separate and distinct keys or their equivalents, so placed and arranged, whether near or distant, that when the key is applied to either one set, that set shall release the bolt, irrespective and independent of either of the other sets, substantially as and for the purpose described.

No. 22,146.—William Moore, of Brooklyn, N. Y., assignor to George L. Cameron, of Chester C. H., S. C.—*Improvement in Locks.*—Patent dated November, 23, 1858.—This improvement relates to a peculiar check tumbler that acts when the door is locked from the inside, and is turned out of the way while the lock is operated from the outside of the door; it thereby takes the place of the revolving check tumbler.

The inventor says: I *claim*, as an improvement on my said patent of September 14, 1852, the check tumbler *l* and spring *m*, in combination with the tumbler *f*, that is acted on from both key-holes *h* and *i*, substantially as and for the purposes specified.

No. 22,319.—Charles S. Westcott, of New York, N. Y.—*Improved Lock.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: I am aware that revolving slotted wheels have been heretofore used, and therefore distinctly disclaim the invention of the same.

I also disclaim the invention of the direct entering of a shoulder or attachment to the bolt into the slotted wheels.

But I *claim* the ungearing of two sets of wheels, when a lock is unlocked, in such a manner as to allow the slotted wheels which receive the tongue of the bolt to remain stationary while the remaining wheels can be turned to any desired position, so that the combination can be changed through the key-hole from the front of the lock; said ungearing being effected by means of a bar K, or its equivalent, acting upon a movable piece of metal which supports the shaft upon which one set of wheels revolve, said bar being moved by the action of throwing the bolt, so as to throw one set of wheels out of gear with the slotted wheels when the lock is unlocked, and bring them into gear again when it is locked.

No. 22,425.—Spencer Hiatt, of Indianapolis, Ind.—*Improved Lock.*—Patent dated December 28, 1858.—Upon the lever A is the catch-plate B, designed to operate in the notches of the tumblers 1, 2, 3, 4, 5, 6, 7, and 8. M is a comb spring designed to operate upon each tumbler separately. The tumblers 1, 2, 3, 4, 5, 6, 7, and 8 are designed to hold the lever A up to the bolt N, and the stop or catch S into the notch U or Z, when the catch-plate B is withdrawn from the notches in the tumblers, and rests upon the top of the same. E is a follower, upon which are the levers or arms V and K, designed to force back the catch-bolt P and lock-bolt N, by operating the yoke Q and lever F. L is a rest firmly attached to the lever A, and extending to the lever F, holding it up, and preventing the catch G from falling into the notch X, while the bolt N is held by the catch S.

The inventor says: I *claim*, first, the combination and arrangement of the tumblers 1, 2, 3, 4, 5, 6, 7, and 8, and key bits 9, 10, 11, 12, 13, 14, 15, and 16, with the lever A, sliding yoke Q, and lever arms V and K, when constructed and arranged substantially as set forth.

Second. The combination of the comb spring M and slide R with the tumblers 1, 2, 3, 4, 5, 6, 7, and 8, when constructed, arranged, and operated substantially as and for the purposes set forth.

No. 21,962.—Joseph Hoffacker, of New York, N. Y.—*Improved Lock and Key.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, constructing a lock which is closed or locked by the bolt shooting forward and upward, and which is opened or unlocked by a screw key urging the bolt downward and backward, substantially as described.

Second. The construction of the bolt, in combination with the barrel and the three springs, substantially as described.

Third. The combination of the door handles with the lever, substantially as described.

Fourth. The construction and operation of the screw key, substantially as described.

No. 21,689.—L. H. Miller, of Providence, R. I.—*Improvement in Bank Locks.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention

The inventor says: I am aware that slotted sliding tumblers have been used in various forms of locks, and arranged relatively with bolts and bolt latches in various ways; and I therefore do not claim, broadly, the slotted tumblers.

But I *claim*, first, a series of slotted sliding tumblers M within a sliding box L, arranged in such relation with the bolt or a bolt latch C that each tumbler will require to be adjusted separately, in order to allow the bolt to be shoved back and the lock unlocked

Second The arrangement of the hollow arbor E, rod *g*, lever G, and tube *l*, with projection *n* attached, in connexion with the notched disk H and click H^1 and a key O, constructed as shown, or in an equivalent way, whereby the tumbler box L is moved the correct distance for the several tumblers to be brought in line with the projection *n*, and the several tumblers adjusted at each movement of the box, as described, and for the purpose set forth.

Third. Operating the sliding tumbler box L from the arbor E by means of the part pinion I and the rack *p* of the plate J, arranged in such relation with the dogs *d e*, slide D, and bolt B, that, by the time the tumblers M are all properly adjusted, the dogs *d e* will respectively raise the latch C and throw back the bolt B.

No. 21,862.—Stephen S. Burlingame, of Warwick, R. I., assignor to Himself and William Taylor, of said Warwick.—*Improvement in Bank Locks.*—Patent dated October 19, 1858.—This invention consists in one or more pairs of spring slides arranged to close the key-hole when the key is withdrawn and lock the working key, the slides being so constructed as to be pushed open by the point and bits of the key when it is inserted; also, in providing the working key with spring pawls to lock it when the key is withdrawn, the pawls being so constructed and arranged as to be pushed out by bits of the key when it is inserted; and in locking the second working key and stopping the key-hole, and in fastening the working key to the back plate of the lock.

The inventor says: I *claim* one or more pairs of spring slides *q q* to close the key-hole Z^2, provided with pins to enter the notches *n n*, and lock the collar or working key W, the slides being so constructed as to be pushed open by the point and bits of the key Z when it is inserted as described.

I claim the collar or working key W, in combination with the pawls *p p*, so constructed and arranged as to be pushed out by the bits V V of the key Z, when it is inserted as described.

I claim closing the key-hole and locking the working key T by the sliding tube or collar S^1, pushed out by a spring and locked in the key-hole by the bolt V, as described.

I claim fastening the working key T to the back plate of the lock by means of a flange and plate, substantially in the manner described.

No. 21,947.—Lyman Derby, of New York, New York.—*Improvement in Bank Locks.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First. I *claim* the use of the bars or cross-bars secured on an axis eccentric to its true centre, for the purpose of obtaining gravity to unlatch them, in combination with the inside of the door of a safe or other place, substantially as set forth.

Second. I also claim the use of a pendulous latch lever, secured to the inside of a safe, in combination with the bars or cross-bars operating as set forth, on the inside of the door of a safe, and for the purposes described.

Third. I also claim the use of the application of a clock-work movement, in combination with an inverted Y-shaped pendulous latch lever and bars or cross-bars, on the inside of the door of a safe, for the purposes set forth.

No. 20,716.—William Johnson, of Milwaukie, Wisconsin.—*Improvement in Bank and other Locks.*—Patent dated June 29, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, interposing between the key-hole of the lock and the racking stump or thrust plate of the bolt B centrally pivoted horizontal tumblers, which, by the act of the key alone, are brought into proper position to allow the unlocking movement of the bolt when the key is withdrawn; the whole being constructed and capable of being operated as set forth.

Second. So connecting the sliding bridge-plate E to the sliding guard-plate G that the latter shall move to bring its slot in line with the slot in the socket by the motions of the bridge-plate, and allowing the bridge-plate motion only when the key shall be withdrawn from the socket, as described.

Third. Interposing between the horizontal tumblers T and the pin or stud of the bridge-plate an angular lever L, constructed as and operated by the means described.

Fourth. The arrangement of the bolt-plate with the bridge-plate and the guard-plate in their relation to each other and the moving parts of the lock, so that, while being operated by the same means, they have different periods of motion, as set forth.

No. 19,927.—Amos Holbrook, of Milford, Massachusetts.—*Improved Chronometric Lock.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the use, in the construction of automatic and chronometric locks, of jointed release levers, so arranged that their action, when released, shall be from the time-work, and so that the releasing of either lever from its rest on the time-work shall release one end of the crescent I, or its equivalent.

Second. The retaining of release levers while the lock remains locked upon fixed or adjustable rests, which shall receive all pressure necessary to insure the action of the levers when released by the time-work.

Third. The use of a crescent I, or its equivalent, so arranged that

the releasing of either end of it shall also release the unlocking spring or springs, and unlock the lock, as set forth.

Fourth. The use of a spiral grooved cylinder (operated by time-work) with the base or bottom of the spiral grooves full and entire, without notch or cavity, as set forth.

Fifth. The use of a hollow cylinder locking bolt revolving loosely in its bed when locked, as set forth.

Sixth. The adjusting springs J J K, or their equivalents, for the purposes set forth.

Seventh. The arrangement of a T guide, or its equivalent, with its guides and unlocking springs between the unlocking bolts, as set forth.

Eighth. The spiral spring bolt, operated from the outside of the lock plate, for the purpose of retaining the locking spring compressed till closing the door, as set forth.

No 20,658.—STUART PERRY, of Newport, New York.—*Improvement in Combination Locks.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, a key of such construction, in combination with a lock without a key-hole or other opening from the outside to the working parts inside, that the said key may be applied to the lock without the aid of an index, figures, letters, or other marks that require a light to be seen, and which key shall govern with precision all the necessary movements of the shaft by which the slides and tumblers of the lock must be adjusted, substantially in the manner and for the purpose described.

Second. I claim, in the construction of locks without key-holes, the employment of two movable shafts, one of which adjusts the slide tumblers, both being accessible from the outside, and one within the other, substantially in the manner and for the purpose set forth.

Third. I claim the method described of adjusting the slides by means of the two movable shafts, which, when operated, are guided in their movements by the key above described, substantially in the manner and for the purpose set forth.

Fourth. I claim the restorer Q, in combination with cam R, shaft E, and bit F, by which all the movable parts in the lock are moved by the force of the hand only, and in the locked and unlocked position are held fast, substantially in the manner described.

Fifth. I claim so constructing the ring cam L, that it shall move the slide carriage N at the proper moment, and that it shall hold said carriage fast at all other times, substantially in the manner and for the purpose described.

Sixth. I claim the steel arm D^1, or its equivalent, and the peculiarly shaped slide y^4, substantially in the manner and for the purpose set forth.

Seventh. I claim the piston b^1 for coupling the slide carriage cam L with the wheel G of the shaft D, for the purpose described.

No. 20,524.—LIVONIA WHITNEY, of Toledo, Ohio.—*Improvement in Door Locks.*—Patent dated June 8, 1858.—This invention is designed

for an inside lock or bolt, and is intended to supersede the usual slide bolts and catches hitherto employed for such purposes. The invention consists in the peculiar manner of securing the arbor of the knob F^1 in the lock, said knob F^1 having a bit *a* attached to its inner end and operating the bolt as the arbor is turned.

The inventor says: I do not claim the sliding bolt C and tumbler D operated upon by a bit *a*, for this is a well known and common device used in the majority of locks.

Neither do I claim attaching a knob F^1 to an arbor having a bit *a* at its inner end, for this or its equivalent is used in cases where the arbor passes entirely through the lock and door.

But I *claim* the combination of the slotted plate H, arbor E, and washer G, as shown and described.

No. 20,571.—JOHN R. MARSTON, of New York, N. Y.—*Improvement in Door Locks.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim separately any of the parts, as they are well known.

I am aware of the patent of William Moore, September 14, 1852; and I therefore make no claim to any device patented to him.

But I *claim* the sliding key-hole cover I, constructed and operating substantially as described, and acting in combination with the bolt C, for the purpose of making a door-lock proof against any outside communication when locked from the inside without requiring any adjustment, substantially as set forth and specified.

No. 21,504.—JACOB KINZER, of Pittsburg, Pa.—*Improved Door Lock.*—Patent dated September 14, 1858.—The nature of this invention consists, first, in the use of a plate on the inside of the lock which, by the insertion of the key, is moved to the other side of the lock and closes the opposite key-hole.

And, secondly, in the use of said plate upon which to raise or form circles or segments, wards or pins, or their equivalents, corresponding to the formation and changes of the key.

The inventor says: I *claim* the use of a plate on the inside of a lock, which, by the insertion of the key, is moved to the other side of the lock and closes the opposite key-hole, substantially as described.

I also claim the use of said plate upon which to raise or form circles or segments, wards or pins, or their equivalents, which correspond to the formation or changes of the key, thereby facilitating and cheapening the manufacture of the lock, substantially as described.

No. 20,063.—JAMES J. HAMILTON, of New Castle, Ind.—*Improved Lock for Doors.*—Patent dated April 27, 1858.—The nature of this invention consists in providing a lock with two sliding plates, one of which, when the bolt is thrown out, will close the key-hole on the side opposite to that on which the key is inserted; and further in providing a straddling lift, or catch, which holds the bolt and sides in the position given them by the key. These improvements are applicable to locks of any form, either mortise or box locks.

The inventor says: I *claim*, first, the slides G G, constructed, arranged, and operating substantially as described.

Second. The double lift E, constructed and operating as described.

No. 19,208.—JOHN SCHNEIDER, of Chicago, Ill.—*Improved Padlock.*—Patent dated January 26, 1858.—This invention consists in the peculiar construction and arrangement of padlock mechanism, whereby a bolt or bolts are shot through a staple or staples in the shackle by the action of the shackle itself, but which is not capable of being moved except by the key or its duplicate applied to it from without.

The inventor says: In padlocks wherein the bolt is shot through the staple of the shackle by the direct action of the shackle itself, I *claim* the peculiar mechanism described, consisting of a bolt and tumbler rotating upon a common stationary spindle, in combination with an auxiliary trigger; the said parts being constructed, arranged, and operating in connexion with each other, in the manner substantially as specified.

No. 22,000.—E M. MIX and J. E. MIX, of Ithaca, N. Y., assignors to Themselves and C. D. JOHNSON, of said Ithaca.—*Improvement in Padlocks.*—Patent dated November 2, 1858.—This invention consists in the use of a dog and a series of curved tumblers, constructed and arranged so as to render the lock extremely difficult to pick or open by any other instrument than the proper key.

Claim.—The combination of the curved or bent tumblers *a* and dog D, provided respectively with springs C *k*, and arranged relatively with the bolt or shackle B, to operate as and for the purpose set forth.

No. 19,815.—JOHN H. MORSE, of Peoria, Ill., assignor to Himself and LESTER PATEE, of said Peoria.—*Improved Permutation Lock.*—Patent dated March 30, 1858.—In operating the lock, the nicks in the indicator plates M M M must be turned to figures 1 1 1 on the dial plate. Turning the indicator plate to this position brings the slots G G G in plates B B B directly over the projections E E E on bar A; then by turning the arbor J the short arm *t* lifts the bar A, raising its lugs K K out of the slots N N in the bolt, thus releasing it. In the act of throwing the bolt, the short arm *t* is released from its bearing on the bar A, which allows the springs *f f* to take effect and force the bar back, so that the lugs K K enter the slots N^1 N^1 in the bolt and secure it.

The inventor says: I do not claim the arrangement by which a change of combination or mental key is produced.

Neither do I claim the arrangement for finding the combination in case it should be lost in making a change.

But I *claim* the "blind" or shallow slots *i i i*, or their equivalents, in the circular plates B B B, made and arranged so as to receive the points of projections E E E on the bar A, acting in the manner and for the purpose specified.

No. 19,529.—NATHANIEL WILTON, of Boston, Mass.—*Improved Piano Lock.*—Patent dated March 2, 1858.—This lock is composed of a bolt, which is made to enter a recess or mortise in the edge of the lid, which requires the bolt to have two motions—one upward or vertical to enter the slot, and one forward or horizontal to secure the lid, by hooking over a plate set in the edge of the lid.

Claim.—The construction of the bolt plate B, with the slots 1 and 2, of the form shown, whereby said plate is guided in its two positive motions, as described, and actuating said bolt directly by the key in its motions, as set forth.

No. 22,057.—OBADIAH BAYLY, jr., of Dearborn county, Ind.—*Improved Safe Lock.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the action of niche-wheel N N, in preventing the bolt B B from being passed back so as to unlock. The application of a movable pinion on the shaft-wheel W W, in connexion with a steel plate and hand, by means of which the lock is set to unlock at any given hour by the niche passing in front of the bolt B B, and permitting it to pass within the niche, and not until then.

Also, the application of security spring H, security lever F F, and security catch I, in allowing bolt B B to pass back and over the rim of niche-wheel N N, and again securing it opposite the rim of niche wheel N N, when the door is shut.

Also, the application of stop-levers S S and Q Q, in stopping the clock when the niche is opposite bolt B B, by lever S S coming in contact with the cogs of wheel U U of the clock.

Also, the application of spring L, in pressing bolt B B against the plate of the works.

No. 22,068.—LEGER DISS, of Utica, N. Y.—*Improved Safe Lock.*—Patent dated November 16, 1858.—The nature of this improvement consists in so constructing the lock as to render it impracticable to pick it, and also to render it impracticable to explode the lock or destroy it by powder introduced at the key-hole.

Claim.—The combination of the reciprocating stop-holder with the levers *h*, stops *a*, and the compound slotted tumbler D, the construction and operation being as described.

No. 21,655.—HENRY W. COVERT, of Rochester, N. Y.—*Improved Cam for Throwing Bolts in Locks.*—Patent dated October 5, 1858.—The nature of this invention consists in constructing the cam for throwing the bolt to locks, with a movable cone or wedged-shaped centre, and the rim or socket to be reamed out to fit, the centre being fastened and forming a part of the spindle to which the knob is attached. The knob can be turned or wrenched and no damage done the lock; and at the same time when the cone or centre is pulled forward into the socket or rim, there is friction enough to throw the bolt forward and backward.

Claim.—The combination of the cone or wedge-shaped centre with the socket or outer rim, to form a cam for throwing the bolt to the lock, substantially as described and represented.

No. 21,567.—Daniel R. Knowles, of Centre Groton, Connecticut.—*Improved Machine for Cutting Metal Bars.*—Patent dated September 21, 1858.—The object of this invention is to obtain a portable machine, and one that may be operated by a small expenditure of power, for cutting metal bars transversely with a clean, smooth cut. The invention is designed for the use of blacksmiths, repairers of rails, and others who cannot employ large machinery for such purpose; and consists in attaching a proper cutting tool to a reciprocating slide, which is connected with a lever and fitted in a rest, which has an automatic feed motion given it by the movement of the lever.

Claim.—The bed-piece A, provided with the clamp B, block or rest C, slide D, having the cutting tool E attached and connected with the lever G in combination with the automatic feed movement formed of the adjustable lever H, pawls I, ratchet J, and screw-shaft K, connected with the block or rest C; the whole being arranged to operate conjointly as and for the purpose set forth.

No. 19,945.—Samuel Nowlan, of New York, N. Y.—*Improvement in Connecting rigidly the Ends of Metal Beams.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that gas and water pipes are jointed together by pouring in molten metal to confine the ends of the pipes together, and that molten metal has been used to confine bolts and other fastenings in stone and other material; and I do not, therefore, claim broadly the use of molten metal poured into a joint to confine and retain it in place.

But I *claim* forming a rigid joint of two metal beams by pouring molten metal between the tongue of one beam and the mortise of the other, constructed respectively and arranged in the manner described; *i. e.*, when the sides of the tongue, which have a latch projection, fit on to the sides of a similar shaped mortise and socket, and when the opposite sides of both the tongue and the mortise are corrugated, and leave a space between themselves into which the molten metal is to be poured, substantially in the manner and for the purposes specified.

No. 19,517.—E. A. Smead, of Tioga, Pennsylvania.—*Improved Machine for Forming Sheet Metal Pans.*—Patent dated March 2, 1858.—This invention consists in the employment or use of two dies or formers F G, one of which is attached to a plunger, and the other is provided with jointed sides *e f*, and works within guides which actuate said sides, all so arranged and operating that the body of the pan or vessel will be formed or swaged at a single operation from a plate of sheet metal.

The inventor says: I am aware that dies have been used for swaging or forming dishes, cups, boxes, and similar articles; and I do not claim broadly the employment of dies without reference to the peculiar arrangement and construction of the same.

But I *claim* the combination of the two dies F G, when arranged as shown, viz: the lower die G being provided with the movable side-pieces or strips *e*, actuated by the guides *i* as the die descends, the upper die being attached to the frame C, actuated by the cam D or its equivalent, for the purpose specified.

No. 22,044.—Peter L. Weimer, of Lebanon, Pennsylvania.—*Improved Machine for Coiling Metal Pipe.*—Patent dated November 9, 1858.—The nature of this invention consists in providing a movable groove or die for the purpose of bending either hot or cold metal pipe into coils, which obviates the grooved cone or cylinder, and enables the coil to be removed from the cone or cylinder without hindrance, as said cylinder is a plain surface and made solid.

The inventor says: I do not claim any movable or springing arrangement for the purpose of keeping the movable die or groove in contact with the coiling mandrel during the operation of coiling the pipe.

But I *claim*, first, the coiling of hot or cold metal pipe on a plain cone or cylinder, by means of a movable groove or die, as described and specified.

Second. I also claim feeding the movable groove or die forward, so as to form the coil by means of a pattern-coil, or its equivalent, as described and specified.

No. 19,090.—David Howell, of Louisville, Kentucky —*Improved Machine for Bending Metal Plates.*—Patent dated January 12, 1858.—This invention is particularly applicable to boiler heads, and such like work. It consists in the employment of a series of rollers, operating in combination with a circular rotating bed or anvil.

Claim.—The use of a pair or series of rollers R R^1, fitted to swinging frames of lever-like character, which are attached in an adjustable manner to a beam K or its equivalent, and operated by a double screw S or its equivalent, substantially as described, in combination with a rotating circular or annular bed or anvil, for the purpose set forth.

No. 19,866.—Edmund Morewood and George Rogers, of Enfield, England.—*Improvement in Coated Metal Plates.*—Patent dated April 6, 1858.—A description of this improvement is too long for a place in this volume. The reader will have an idea of it by examining the claim of the inventors.

The inventors say: We *claim* the new article of manufacture herein described, termed coated metal plates, consisting of sheet metal prepared and coated with a mixture of repellant and preservative coating, substantially as herein set forth; the said coated sheet metal being intended as a substitute, for many purposes, for tin plates, galvanized iron, or other articles of that description, produced by dipping sheets of metal into melted metals.

No. 20,846.—W. I. Granger, of Chicago, Ill., assignor to D. I. Lake and C. B. Brown, of Chicago, aforesaid.—*Improved Punch for Perforating Metal.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the employment of springs for the purpose of elevating the punch and retaining it in place.

But I *claim* the arrangement of a punch with a series of slides *j* accurately fitting both punch and tube, and retained in their places by springs K or their equivalents, substantially as set forth, for affording a lateral support to enable the punch to withstand strain while operating.

No. 20,446.—William Sellers, of Philadelphia, Pa.—*Improved Lathe for Turning Metal Shafting.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of his invention.

Claim.—In combination with rotating cutters, substantially as described, the employment of a guide bar and sliding chucks, or their equivalents, for the purpose of keeping the rough bar in the line it is intended to have when finished, and preventing it from turning or vibrating during the operation, substantially as described and for the purpose specified.

No. 21,749.—Lucian Fay, of Cincinnati, Ohio.—*Improved Machine for Cross-seaming Sheet Metal.*—Patent dated October 12, 1858.—This invention relates to an arrangement of presenting seaming and reeling mechanism, chiefly designed to facilitate the "cross-seaming" of sheet metal for roofing purposes.

The inventor says: I *claim*, first, in the described connexion, with a cross-seaming tool, the gauge bar Q *q*, constructed and operating substantially as and for the purpose set forth.

Second. The grooved roller or reel D *d*, constructed substantially as explained, and employed in the described connexion with a cross-seaming tool to roll up the metal as joined, and afterward discharge the roll without unwinding, as set forth.

Third. The adjustable guides U U, in the described combination, with a seaming tool for the purpose of insuring accuracy of work.

No. 19,677.—Timothy Brown, of Georgetown, N. Y.—*Improvement in Casting Metallic Cheese Hoops.*—Patent dated March 23, 1858.—The object of this improvement is so to construct the mould that the halves, although precisely alike, shall fit together properly to compose a suitable hinge at one joint, and a suitable firm connexion to be opened and closed at pleasure at the other joint.

Claim.—The combination of the cylindrical guiding and supporting mould-piece A, provided with the flange bottom *a* and side projections *b b*, the semi-cylindrical mould-piece B, and the guide top C, all arranged in relation to each other as described, and united by the rods *c* and *d*, substantially in the manner and for the purpose specified.

No. 20,118.—S. W. Wood, of Washington, D. C.—*Improvement in Making Metallic Nuts.*—Patent dated April 27, 1858.—The nature of this invention consists in a solid female die, in which the nuts are formed with a sliding hook, or its equivalent, for discharging the finished nut from said dye, and in a receding punch, which forms part of the solid female die, which recedes on the approach of the corresponding punch, allowing said advancing punch to pass entirely through the metal to complete the orifice with but slight loss of material.

Claim.—A solid female die, with a sliding hook for discharging the finished nuts, substantially as set forth.

No. 20,165.—Benjamin Mackerley, of New Petersburg, Ohio.—*Improvement in Punching Metallic Tubes.*—Patent dated May 4, 1858.—A gouge-shaped wedge *k*, whose length corresponds with that of the tube to be punched, is inserted into the mouth of the tube, and is pressed between the under side thereof and the under side of the mandrel *a*, for the purpose of keeping the upper side of the mandrel firmly pressed against the upper side of the tube during the operation of punching apertures therein.

The inventor says: I *claim* the combination of the mandrel *a*, the punch d^1, and the detent *j*, substantially in the manner and for the purpose set forth.

I also claim the use of the gouge-shaped wedge *k*, in combination with the mandrel *a* and the punch d^1, substantially in the manner and for the purpose as set forth.

No. 20,794 —George Henderson and Jacob Steetle, of Allegheny, Pa.—*Improved Lathe for Turning in Metals.*—Patent dated July 6, 1858.—This invention relates to a new centring lathe for doing the kind of centring practiced by machinists in metal, and consists in a novel combination and arrangement of mechanism for boring centres in line with the geometrical centre of any desired part either of regular or multiform objects. A represents the shear of the lathe provided with a head B, in which a spindle C, holding a boring tool D, revolves and slides by means of the cone pulley E and handle wheel and screw F and G. H H represent two chucks made to slide freely on the shear and be concentric with a geometrical line parallel with the shear, extending through the centre of the boring tool and spindle C. K L represent the cover and driving wheel of the chuck H.

Claim.—The combination of the two chucks H H with a lathe, the whole being constructed and operated in the manner specified. This invention is designed to operate in metal.

No. 19,498.—Julius C. Dickey, of Saratoga Springs, N. Y.—*Improvement in Shaping and Punching Metals.*—Patent dated March 2, 1858.—When a bar of iron is properly heated, it is forced through the conical die *a* into the die *b* until it comes in contact with the punch; and as the shafts revolve the dies are closed upon the bar, and the metal which separates the die *a* from the die *b* is forced into the recess formed in the bar by the projections in the conical die, and the surplus metal is forced out of the conical die on to the bar; after which the punch is forced through the nut, by the cam on the main shaft B passing through the opening in the metal which separates the die *a* from the die *b*, into the die *a*.

Claim.—The conical die *a*, in combination with the finishing die *b*

and punch D, when constructed and operating in the manner and for the purposes set forth.

No. 22,211.—William H. Van Gieson, of Newark, N. J.—*Improved Machine for Plating Nail Heads.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, combining the stop pawl f^1 of the intermittently rotating die table J with the dog *c*, which give motion to the said table by means of a link f^3 applied to produce the operation of the dog, in combination with the pawl and the two series of ratchet teeth on the said table to lock the table, substantially as described.

Second. The pair of receiving jaws N N, with their cavity *l*, to receive and retain the nail while they are closed, applied and operating, in combination with the nail feeder and the intermittently rotating die table, substantially as described.

Third. The combination of a shaking apparatus for bringing the shells rim upward, and a curved conductor U for overturning them in their passage through it, applied substantially as described, to permit and insure the deposit of the shells crown upward in the dies.

Fourth. The combination of the pincers *r r* and the plunger *u*, operating as described, in relation with the conductor U, to take the shells therefrom and deposit them in the dies.

Fifth. The combination of the discharging plunger *x* and the stationary hood *y*, having a descending spout Y^1, with the intermittently rotating die table J, substantially as and for the purposes set forth.

Sixth. The stop motion, consisting of a feeding rod 27 suspended from a spring-catch 24 attached to the bar, which throws the machine in and out of gear, and operated substantially as described, by means of a cam H on the main shaft, acting on a spring 33, connected with the said rod, in combination with a stationary stop 26, or its equivalent, substantially as described.

Seventh. The arrangement of the nail-feeding apparatus, the shell-feeding apparatus, the shell-closing punch, the discharging apparatus, and the stop motion relatively to the intermittently rotating table, substantially as described.

No. 20,126.—Henry Green and William J. Gordon, of Philadelphia, Pa., assignor to Henry Green, aforesaid.—*Improved Nail Machine.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the combination of the carrying chains H H and the rack chain J with the nail-rod holder, in the manner substantially as described, to move the rods laterally along the anvil and turn them simultaneously.

Second. The arrangement of the front edge *r r* of the anvil obliquely to the direction of the movement of the carrying chains, substantially as described, for the purpose of causing the nails to be drawn from head to point in the foregoing process.

No. 20,312.—John L. Krauser, of Reading, Pa., assignor to Himself and James Harper, of Philadelphia, Pa.—*Improved Nail Machine.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, forming a groove or grooves in the anvil cutter to receive the flange or flanges on the nail plates, as set forth.

I also claim, in combination with a vibrating anvil or anvil cutter, the placing of the cutting edge of said cutter at or near the centre of motion of said vibration, in the manner and for the purpose set forth.

I also claim the rims or adjustable sections B, on the perimeter of the rotating cutter wheel C, for regulating the size of the nail to be cut, as set forth.

I also claim, in combination with a rotating cutter wheel and a vibrating anvil, the inclination given to said anvil and its cutter, for the purposes stated.

No. 20,829.—Hiram W. Taylor, of Birmingham, Pa.—*Improved Nail Machine.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the use of a rocking journal box for the sleeve of the feeding rod, to permit of the elevation of the lower end of the feeding rod when the nail plate is turned, or when a full nail plate is to be inserted

Second. The combination of the pivoted lever *z* with the lugs c^1 on the cog wheel, and the inclined projection on the segmental cog wheel, for the purpose of securing their gearing together in the correct relative situation, as described.

Third. The use of a crab $f\,f^1$, for connecting shafts, having one lug nearer the centre than the other, so that the inner lug of one half of the crab will pass the outer lug on the other half without locking, for the purpose of causing them to gear always at the same relative point in their revolution.

Fourth. The use of a bottom or stop at the head of the feed rod in combination with a lever, through the extremity of which the feed rod slides freely until the button or stop touches or presses forward the lever, for the purpose of disconnecting the feed apparatus from the nail machine automatically so soon as the nail plate is worked up.

Fifth. I claim the use of the gripping jaws, constructed as described, in combination with the rest K^1 and the spring S^3, for the purpose of producing the requisite feed motion of the feed rod.

No. 19,631.—G. C. Grodhaus, of Jamestown, Ohio.—*Improvement in Cut Nail Machine.*—Patent dated March 16, 1858.—The nail-plate, either hot or cold, is put in at the upper end of the sheath *b*, and immediately finds its way to the bottom thereof, and comes in contact with the guide-plate H, which is also a gauge-plate. The vibratory motion of the sheath C and fork *i* in one direction brings the extremity of the nail-plate between the cutters D L, and the cutter D descending at the proper time cuts off a nail; after which the sheath C and fork *i* immediately commence moving the nail rod towards the cutters D^1

L^1 : and as soon as the end of the rod is clear of the cutters D L, it descends the sheath C by gravitation till stopped by the gauge-plate H, which conducts it to the cutters D^1 L^1 in a proper manner for a nail to be cut off by those cutters.

The inventor says: I *claim* the arrangement of the sheath C, the circular guide H, and the fork-bar I, as described; the said sheath C having its upper end pivoted at *e*, and its lower end travelling upon a track *f*, the circular guide H extending from one set of cutters to the other, and the curve of its arc corresponding to the sweep of the lower end of sheath C, and the fork-bar I being attached to and carried by the same bar F which actuates the sheath C.

No. 21,198.—John W. Hoard and Thomas A. Searle, of Providence, Rhode Island.—*Improved Nail-Plate Feeder.*—Patent dated August 17, 1858.—This invention consists in a certain contrivance for varying the distance of the feeding movement to cut nails of different widths or thicknesses. It also consists in a certain arrangement of parts for stopping both the forward and rotary motion of and causing the running back of the plate-holder, when the plate is all cut up.

The inventors say: We *claim*, first, the polygonal concave-sided and oblique-grooved feed-bar K, applied in combination with the pins *e e* on the feeding-shaft, substantially as set forth, to produce the feed movement of said shaft by its own revolution, and to provide for variation in the feed.

Second. The arrangement of the feed-bar K, the driving-shaft R, and driving-gear I, and the plate *t*, for throwing out the stop pawl of the running back mechanism in the same movable frame, which is liberated by a latch lever actuated by the feeding-shaft, and thus permitted to be operated upon by a spring L or its equivalent; the whole operating substantially as set forth.

No. 21,222.—James H. Swett, of Pittsburg, Pennsylvania.—*Improved Nail-Plate Feeder.*—Patent dated August 17, 1858.—The nature of this invention relates to a nail-plate feeder which performs its several functions of turning the nail-plate; advancing it to the gauge partly by a positive motion, and partly by its own momentum, after it is released from its positive motion; and opening the jaws to gripe the nail-plate to release the end of the plate and be ready to receive another plate, automatically, and by an arrangement or combination of devices.

The inventor says: What I *claim* is, first, in combination with sleeve E and rod F, the cam slots *a a* and pivoted switch *b* for automatically turning said rod first in one direction, and then in the opposite one, for the purpose set forth.

I also claim giving the rod and nail plate a positive movement during the first of its forward motion by means of the crank Q, pitman R, arms S, crosshead U, levers V, and their projecting portions *u*, which are then forced apart by the cam wedge W^2; and then releasing them by the action of the springs *v*, whilst in motion, so that

their momentum will carry the nail plate up to the gauge, substantially as described.

I also claim, in combination with the nail plate gripers, the spring dogs for automatically opening said gripers to drop the end of the nail plate and be ready to receive another one, as set forth.

I also claim, in combination with the rod F and swinging plate M, with its stud *j*, the ledge N, with its openings, for automatically throwing the feed within out of gear when the nail plate is used up, and into gear again when a fresh plate is supplied, substantially as set forth.

I also claim, in combination with the plate M, the traversing projection Z for catching and drawing back said plate when the nail plate is used up, substantially as set forth.

No. 22,238.—Adrian V. B. Orr and Gideon Bantz, of Frederick, Maryland.—*Improved Wrought-Nail Machine.*—Patent dated December 7, 1858.—The nature of this invention consists in forging spikes, nails, and rivets with the grain of the iron, and at a welding heat, by means of excavated faced dies or swages; and heading the spike, nail, or rivet before the forging dies shall open; thus finishing at a single operation, and obviating the necessity of removing the unfinished nail from the forging dies to be headed by another operation.

The inventors say: We *claim*, first, the dies E and F, constructed in the manner described, and when acting simultaneously, in combination with the heading swage upon the heated bar, as specified.

Second, we claim, with the said header and dies, the use of the elongated tweer, opening in the manner and for the purpose set forth.

No. 19,993.—James Houck, of Green Castle, Indiana.—*Improvement in Clenching Horse-shoe Nails.*—Patent dated April 20, 1858.—A is a post two feet in height, two inches in diameter at the bulge in the centre, and tapering towards the top to about three-fourths of an inch in diameter; B is a band around the top; C an iron or steel cap or plate about two inches in diameter, secured to the top of the post; D is a wooden or metal plate into which the post may be inserted, and be secured by bolts or screws; and E E E are braces which may be used to steady the post.

Claim.—The use of the post A, when constructed with the cap C and band B in the manner and for the purposes described in my specification.

No. 20,141.—Tisdale Carpenter, of Providence, Rhode Island.—*Improved Machine for Making Horse-shoe Nails.*—Patent dated May 4, 1858.—The operation is as follows: The workman feeds the plate to the shear *m*, turning it over at each cut, so that the heads of the blanks are all in one direction when they fall into the box R. The spring *o* prevents them from falling out, when the descent of the shear *m* as it forces in a blank at the top forces out one at the bottom, which drops into the die *e;* as the table I revolves a portion of a turn, at each revolution of the shaft D a fresh die is brought under the box R. When the die containing the nail has come round beneath the

cleaver U, the pin *x* on the wheel H strikes the dog *v* and revolves the shaft V; this slides the piece U in its slots, and the point of the claw *s* strikes under the point of the finished nail and drives it out of the die *e*.

The inventor says: I *claim* the described machine for making horse-shoe nails, consisting essentially of the revolving die-table I, arm P carrying the swage *l* and shear *m*, the carriage S with its swage *b*, constructed and operating in the manner substantially as set forth.

Second. I claim the receiving box R with its retaining spring *o*, substantially as described.

Third. I claim, in combination with the table I, the guide *h*, arranged and operating as set forth.

No. 21,213 —S. S. PUTNAM, of Boston, Massachusetts.—*Improved Machine for Forging Nails.*—Patent dated August 17, 1858.—This improved machine is designed for the manufacture of horse-shoe nails, there being suitable dies in the face of the hammers for the purpose. The claim and engravings explain the nature of the improvements.

The inventor says: I do not wish to limit myself to interrupting the motion of the horizontal hammers while the nail is being cut off, as under certain circumstances the vertical pair may be held stationary, or even all four of the hammers may be caught while the nail or other article is being cut off.

Thus far I have spoken of my improvements as particularly applicable to machines for making horse-shoe nails, but it is evident that they are equally applicable to machinery for forging a great vari ty of other articles. I do not, therefore, limit my claims to machinery for any particular class of forging, but intend to apply them to forging-machinery wherever they may be applicable.

First. I *claim* hanging the springs which actuate the hammers at points independent of the pivots upon which the helves vibrate, and so far removed therefrom that they shall bear upon the helves nearer to the hammer faces when the hammers are raised, than at the instant when the blow is given as set forth, for the purpose specified.

Second. I claim the spring E for actuating the hammers, in combination with the set plates F and screws *v* for regulating the tension of the same, as set forth.

Third. In combination with the hammers A and side-pieces H, I claim the adjusting checks I, operating in the manner described, for the purpose specified.

Fourth. And in combination with a mechanical cut-off, I claim holding the hammers out of action and without the reach of the cutters whilst the nail is being cut off, as set forth.

Fifth. I claim pivoting the lever M^2 to any adjustable block O^2, for the purpose of regulating the motion of the nail-rod, as set forth.

No. 21,005.—JOHN L. KRAUSER, of Reading, Pa.—*Improvement in Manufacturing Nails.*—Patent dated July 27, 1858.—The object of this invention is the production of an improved point upon that description of cut nails whose two rolled sides are parallel, and whose cut

faces are tapering from head to point. Its nature consists in so bevelling the edges of nail plate that the blanks cut therefrom will be tapering or V-shaped at both ends, the head being formed by driving the heading tool against the widest of the tapering extremities *c c*.

The inventor says: I do not claim rolling nail plate to an edge one side by inclining its faces, as is practiced in making horse-shoe nail blanks.

Nor do I claim sharpening a single edge, as in the strips of wood from which shoe pegs are split, as my invention is altogether distinct from these cases.

But I *claim* the process, as set forth, of making cut nails with improved points, that is to say, bevelling both edges of the nail plate, so that the blanks shall be wedge-shaped at both ends, as shown in fig. 2; and forming the head by the action of the heading tool against the widest end of the blank, as set forth.

No. 19,364.—DARIUS J. HENDRICKSON, of Otego, N. Y.—*Improvement in Tools for Clenching Nails.*—Patent dated February 16, 1858.—The nature of this invention consists of an instrument similar in some respects to common pincers or pliers used by blacksmiths or farmers in pulling shoes from horses' and cattle's feet; but the jaws of this instrument are so arranged that by applying one of the jaws to the bottom of the foot, on the head of the nail, the other jaw clasps or hitches on to the point of the nail on the outside of the hoof, and then, by shutting the instrument together, it draws down the point of the nail and firmly clenches the nail.

Claim.—The construction of the lips or jaws of pliers, as described, for the purpose of clenching the nails with which the shoes are fastened to the feet of horses and cattle, the clenching being done without a hammer or pounding as heretofore, as set forth and described.

No. 19,123.—JAMES P. BLAKE, of Waterbury, Conn.—*Improved Machine for Covering the Heads of Trunk Nails.*—Patent dated January 19, 1858.—This invention consists in the use of dies so made and arranged that the several parts comprising the filling of the head and the shell or cover of the same may be first snugly compressed together, and the shell then closed firmly around said parts, the device working automatically.

The inventor says: I would here remark that I distinctly disclaim the invention of a rotating bed for carrying the dies, as this is seen and claimed in J. G. Davy's patent rivet machine of July 3, 1849.

Nor do I claim any of the parts shown in Daniel Dodge's nail machine, patented June 22, 1852.

But I *claim* the sockets *e*, provided with the arbors *f*, in combination with the dies or plungers F G, constructed and arranged so as to operate conjointly, as and for the purpose set forth.

No. 21,812 —OTIS BREDEN, of St. Louis, Mo.—*Improvement in Manufacture of Wrought Nails.*—Patent dated October 19, 1858.—The nature of this invention consists in the employment and attachment of the furnace M over the machine, together with the several die faces;

movable and stationary, forming the die by which the nail is made, and the machinery attached thereto for operating the same; also the chisel *q* for cutting the bar W, and the heading apparatus under the bed plate A.

Claim.—First. The die faces *a b c* and *d*, constructed and fitted as described, operated in connexion with the slides *k l* and J, the crank *m*, and the cams C D C D.

Second. The use of the bar *n* for moving out the arm *o*, and the spring P for forcing in the chisel *q*, which is attached to the arm *o*, to cut off the nail.

Third. The attachment of the rod *i* to the crank *s*, working the feed gearing *g g*, causing the rollers *e e* to revolve and feed the iron from the furnace M into the die faces *a b c* and *d*.

Fourth. The employment of the header wheel *a a*, and the operation of the rods *f f*, attached to the crank *s s*, for moving the same around, in order to bring the nail opposite the header die *c c*.

Fifth. The employment of the header die *c c* with the slide *d d*, for the purpose of forming the head, together with the pawl *y* for holding up the slide *d d*, and the motion of the cam X in lifting the trigger of the pawl *y*, leaving the slide *d d* free to be forced in to head the nail by the spring *e e*.

No. 21,599.—Richard H. Cole, of St. Louis, Mo.—*Improvement in making Nut Blanks.*—Patent dated September 28, 1858.—This invention consists in preparing metallic nut blanks by partly pressing the hole or eye into them against a blank surface with a round or square pointed punch, while the said blank is confined in a die, whereby the centre of the blank will be pressed into the body of the nut, which will thus be made thicker than the bar from which it was taken.

Claim.—Preparing the nut blank by driving a punch into it, while it is confined against a blank surface, by means of the mechanism constructed and arranged substantially in the manner set forth.

No. 20,145.—Richard H. Cole, of St. Louis, Mo.—*Improved Nut Machine.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The use of a traversing die, whereby the nut blank is first passed and prepared on the blank surface of the said die, and afterwards punched and finished over a hole in the same die, substantially in the manner described.

No. 21,551.—Richard H. Cole, of St. Louis, Mo.—*Improved Nut Machine.*—Patent dated September 21, 1858.—This invention consists in cutting the nut blank entirely off from the bar with two knives, one of which is to act from each side of said bar so as to deposit the said blank between a pair of vibrating jaws or formers; and in so arranging the said jaws as to cause them to press the sides of the nut blank to the required form, while carrying it from the place where it is cut from the bar to where it is to be punched; and also in causing the jaws to be opened by a yielding force; and also in a peculiar construction of the punches and die upon which the nut is punched.

The inventor says: I *claim*, first, the arrangement of two knives G G, whereby they are made to act simultaneously on each side of the bar, so as to cut the nut blank entirely off and deposit it between the vibrating jaws or formers K K, substantially as described.

Second. And I also claim the arrangement of the vibrating dies or formers K K, whereby they are made to press the sides of the nut to the required form while carrying it from where it is cut off to where it is to be punched on the die O, substantially in the manner set forth.

Third. And I also claim the spring N, as arranged with the aforesaid jaws or formers, whereby they are opened by a yielding force, as described.

Fourth. I do not claim facing the dies or punches with steel, as they are both made entirely of that metal; but I claim making them in three separate pieces or parts substantially as described, so that I can renew one part and retain the other so as to economize material.

No. 21,860.—Samuel H. Whitaker, of Cincinnati, Ohio.—*Improvement in Nut Machines.*—Patent dated October 19, 1858.—This invention relates to a provision for making metallic nuts with the least practicable waste, most of the "core" or punching being incorporated in the substance of the bar or nut.

The inventor says: Being aware that nuts have long been forged with very little waste by a skilful and laborious process on the anvil, I disclaim effecting such results apart from automatic means.

But I *claim*, first, the die-box N *e f g* and punch D, or their equivalents, operating as set forth, so as to embody the greater portion of the wad or core in the nut or bar, while confined on all sides save one, in the act of punching.

Second. The arrangement of the punches D G and I, dies E and H, and perforated bridge N, or equivalent devices operating together substantially in the manner described, for the automatic and economical manufacture of hot pressed nuts.

No. 22,310.—Julius B. Savage, of Southington, Connecticut.—*Improvement in Nut Machines.*—Patent dated December 14, 1858.—This invention consists in the use of a cutting device, dies, punch, and a series of adjusters and conveyors, arranged so that the blanks are cut off from the bar, properly compressed, or formed and punched ready for the tap, the several parts working automatically.

Claim.—The employment or use of the cutter E, dies L M F, and punch G, in connexion with the conveyors, adjusters, *j k l m n*, and the jaws P Q, or their equivalents, the whole being arranged and combined to operate as and for the purpose set forth.

No. 21,574.—Samuel Noblet, of Halifax, Pennsylvania.—*Improved mode of preventing Nuts from unscrewing.*—Patent dated September 21, 1858.—The nature of this invention consists in preventing nuts or bolt-heads from turning, by inserting below them a flexible metallic washer, one end of which is turned up against the head or nut, and the other held immovably in place, either by being sunk into the body

of the timber through which the bolt passes, or by being turned down over some rigid portion of the same, or by being held by another bolt.

Claim.—Preventing bolt-heads or nuts from turning, by inserting below them a flexible metallic washer, one end of which is turned against the head or nut, and the other held immovable in place, substantially as described and represented.

No. 19,670.—Nathaniel Conkling, of Brooklyn, New York.—*Improvement in Machine for Crushing Ore.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim for crushing or mixing any substance or substances, wheels, or one or more spheres or heavy balls, made to roll around in a stationary, circular, endless trough; nor do I claim arranging the axis of the trough at an inclination from a vertical line when spheres or balls are placed in said trough and it is put in rotation; nor do I claim the application of a grinding wheel to a vibrating shaft, supported by a post, as in the machine of Davis and Miner, before mentioned.

But I *claim* the machine constructed in manner and so to operate substantially as described; that is to say, with its circular trough arranged and made to revolve horizontally or thereabouts, and each of the wheels applied thereto, in such manner that it may be stationary with respect to said trough, except in being capable of revolving on its axis, and of rising up and down to accommodate itself to the ore in the trough during the revolution of said trough in supporting each wheel G, by means of a rocker frame and guides applied to it and the main frame, or arranged therewith, substantially in the manner before specified.

And I also claim the arrangement of a deflecting scraper with respect to the inner surfaces of each wheel and the trough, and so as to operate substantially in manner and for the purpose as before specified.

No. 20,666.—Horace P. Russ, of Russville, California.—*Improved Ore Separator.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The series of inclined circular plates *a a*, in which the water passes from one plate on to the next, while the metallic particles are retained in cavities in the surfaces of said plates, substantially as and for the purposes specified.

No. 20,756.—Hezekiah Bradford, of New York, New York, assignor to Horatio Bogert, of said New York.—*Improved Ore Separator.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: What I *claim* is making the sieve box *a*, which has an up and down motion, with apertures above the sieve, or the equivalent thereof, when acting in and in combination with water or a surrounding tank or trough, substantially as and for the purpose specified.

And I also claim, in combination therewith, the partition, or its equivalent, in the water tank *i*, substantially as specified, to keep the matter which is washed over separate from the substances which pass through the meshes of the sieve, as set forth.

I also claim covering the surface of the sieve with particles of matter of larger size than the meshes of the sieve, that they may lie on and not enter or pass through such meshes, but act as valves to such meshes as described, when such mode of operation is to be employed for separating substances of different specific gravity which have been prepared and assorted so as to be of less size than the meshes of the sieve that they may pass through such meshes freely, substantially and for the purpose specified.

No. 22,138.—L Stadtmuller, of Bristol, Conn.—*Improved Ore Separator.*—Patent dated November 23, 1858.—This invention so operates as to separate the lighter from the heavier portions of crushed ore by projecting said ore with an upward current sufficiently strong to bear upward the lighter portions of the ore, while the heavier are allowed to subside downward through the ascending current, and pass off below, the operation being continuous.

Claim.—The apparatus described for sizing ores, constructed and arranged substantially as specified.

No. 19,338.—Henry Barnard, of Morristown, N. Y.—*Improved Gold Washer.*—Patent dated February 16, 1858.—This machine consists of a series of concave and convex pans C C' furnished with rims *k k* projecting from their upper side. The pans are fastened on an upright shaft B, which rotates horizontally, and vibrates laterally and vertically by means of machinery. The substances to be washed are put into the top pan with a stream of water; the finer particles of gold, owing to their lightness, are carried through the central openings of the first pan to the second, which is convex, and the greater part of the precious substances is deposited behind the annular rims, while the lighter ones are carried over the outer periphery of the second pan to the third concave pan, and so on through the whole series of pans.

Claim.—The employment of a series of pans C C' furnished with a series of annular retention rims *k* projecting from their upper side, and arranged one below another, fast on a horizontal revolving and vibrating shaft, and being alternately larger or smaller in size than one another from the top to the bottom of the series, and alternately inclined inward and outward, or made concave and convex, substantially as and for the purposes set forth.

No. 19,556.—Thaddeus Fowler, of Waterbury, Conn.—*Improved Pin-Sticking Machine.*—Patent dated March 9, 1858.—This improvement consists in the manner of receiving the pin from the lower end of the conductor, and carrying it away and inserting it into the crimped paper; and in the manner of feeding the paper, both laterally and longitudinally, so as to stick one pin at a time; and in giving all the motions of receiving, conveying, and inserting the pins, as well

as crimping, clamping, and giving both feeding motions to the paper by the operation of one cam wheel.

The inventor says: I *claim* the combination of the lateral feeding motion of the paper with the longitudinal feeding motion of the paper, when the two motions are effected substantially as described.

Second. I also claim the method of taking the pins from the conductor in combination with the method of inserting them one at a time into the crimped paper, when this is effected substantially as described.

No. 21,541.—Cornelius Van Vliet, of Winsted, Conn., assignor to the New England Pin Company of said Winsted.—*Improved Pin-Sticking Machine.*—Patent dated September 14, 1858.—This improvement consists in the manner of separating and guiding the pins, so that they will fall with their points directly on the crimped and clamped paper in vertical positions, ready to be inserted by the descending motion of the series of punches or drivers.

The inventor says: I distinctly disclaim the punches or drivers as such, as they have been well known for half a century.

I also distinctly disclaim the crimping bar as such, they having been patented in England to Miles Berry in the year 1839, and in the United States to J. J. Howe, of Derby, in Connecticut, in the year 1843

I also distinctly disclaim the sliding separator as such, as that was patented to J. B. Terry, assignee of Thomas W. Harvey, January 3, 1854.

I also distinctly disclaim the channel ways as such, they having long been known and used for arranging screws, pins, &c.

I *claim* the combination of the series of channel ways with the sliding separator, when constructed and made to operate substantially as described.

Second. I claim the combination of the punches with the sliding separator, when constructed and arranged substantially as set forth.

Third. I claim the combination of the crimping bars with the punches, sliding separator, and channel ways, when constructed and arranged and made to produce the result substantially as described.

No. 20,171.—Clifford Pomroy, of Pottsville, Pennsylvania.—*Improved Cast-Iron Pipe.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A cast-iron pipe chilled inside, as a new article of manufacture, for the purpose of conveying fluids impregnated with or containing substances which soon destroy iron pipes which are not so chilled.

No. 19,852.—W. Hudgin, of Washington, District of Columbia.—*Improvement in Coupling Pipes.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Effecting the combination of the main and branch pipes A B by means of an open coupling B^1, which is furnished with an enlarged passage *a* to receive the main pipe A, a passage to receive or

communicate with the branch pipe B, and a set screw *c* or wedge and key, and suitable packing to make a tight joint and always maintain the same, substantially as and for the purposes set forth.

No. 20,717.—David Kahnweiler, of Wilmington, North Carolina.—*Improvement in Pipe Coupling.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Combining with the male section *a* of the joint an axial stem or rod *b*, which passes into and through the female section *e*, said stem having upon its projection end a screw thread to receive a tightening nut *d*, and the joints *w* and *x* being provided with suitable washers, all as set forth.

No. 19,944.—Charles Monson, of New Haven, Connecticut.—*Improved Conduit Joint for Gas Pipe.*—Patent dated April 13, 1858.—A B exhibit the two leading tubes connected by a universal joint C formed of a ring *a* or its equivalent, and two branches or arms *b b* or *c c* projecting from each leading tube and jointed to the ring. Extended from one leading tube A to the other is a flexible tube D, made of caoutchouc or other suitable material.

Claim.—The described new mode of connecting two leading tubes A B, viz: by a flexible tube D and a joint, which will not only allow one tube to be moved into one or more angular positions with respect to the other tube, but so connect the two leading tubes as to relieve the flexible tube from injurious longitudinal or tensible strain, as specified.

No. 19,313.—Charles E. Rockwell, of New York, New York.—*Improved Lead Pipe Machine.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim broadly the making of the die-plate of greater diameter than the bore of the cylinder, for I am aware that this is seen in Kehr & Kreuznach's plan, Voigt's Technological Journals; but in this device the die-plate, although larger than the bore of the cylinder, is not adjustable in a lateral manner, or by set screws.

But I *claim* having the space between the adjustable die-plate *e* and the base-plate *m* covered or protected by the end of the lead cylinder, the whole constructed as and for the purposes set forth.

No. 20,387.—Michael Bowes, of Charlotte, North Carolina, assignor to Himself and George B. Waterhouse, of said Charlotte.—*Improved Machine for Cutting Pipe.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with the cutter, the two revolving disks D E, with the series of holes 1 2 3 4 5, the holes of one disk being furnished with loose sleeves *c* or rings, for the purpose of adapting the machine to the cutting off of pipes of various sizes, as set forth.

No. 20,407.—Aury G. Coes, of Worcester, Mass.—*Improved Pipe Tongs.*—Patent dated June 1, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim making the movable claw or jaw of a wrench adjustable with respect to the stationary claw or jaw, by means of a screw on the shank of the latter, and a screw nut working on such screw, and so connected with the slide carrying the movable jaw as when rotated to cause the movable jaw to change position relatively to the stationary claw.

Nor do I claim pincers as ordinarily constructed, that is to say, in which each jaw or nipper forms part of one of two levers which cross one another and turn on a common pin or fulcrum, whether the said fulcrum be movable in a slot in one of the levers or not.

But I *claim* my improved pipe tongs or wrench, as made not only with its movable jaw D, connected with a slider C, embracing the shank A of the stationary jaw B, and made adjustable thereon by a nut E and screw *a*, as described, but with a lever F, separate from the movable jaw D, and applied thereto and to the slider C, substantially in manner as specified.

No. 22,157.—James R. Brown, of Boston, Mass.—*Improved Pipe Tongs.*—Patent dated November 30, 1858.—A is the hooked jaw lever; B is the toothed lever, both being crossed on one another and connected together by a fulcrum pin C, which passes through both and particularly through a slot *a* formed in the jaw lever.

The screw D is arranged in line with the slot *a*, and screws in and through the lever A, and enters the slot, as shown in the engravings.

The inventor says: What I *claim* in the crossed lever jaw pipe tongs is, the described arrangement and application of the adjusting screw with reference to the fulcrum pin, the slot, and the hooked jaw lever, the same being for the purpose as specified.

No. 21,525.—Chester W. Sykes, of New York, N. Y.—*Improvement in Making Pliers.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Connecting the jaws C of the pliers or pincers to the portions of the handles A, above and below the centre pin or fulcrum B, upon which they move by pins D D^1, at points diagonal with each other, and at equal distances therefrom, the lower set of the said pins D^1 being inserted and allowed to traverse (with the opening and closing of the handles and jaws) in longitudinal slots E, in the lower parts of the said jaws C, substantially in the manner and for the purpose described.

No. 20,460.—Henry Wilkinson, of Collinsville, Conn.—*Improvement in the Manufacture of Pliers.*—Patent dated June 1, 1858.—The two patterns of half parts of pliers for casting are first prepared, figs. 2 and 3. The half A is then moulded and cast into the nippers *c c*, which, when cast and cold, is prepared and placed in the sand or mould, where the impression is already made for the other half, fig. 2 B, to be placed as shown by the dotted lines, fig. 3. The metal is then poured in and runs all over the tenon and the nipples, and forms the half B.

The inventor says: I do not claim the nipple joint or its adoption.

But I *claim* the mode of constructing malleable iron pliers by casting one half over the other in the manner described.

No. 19,843.—John P. Grove and John Grove, of Montour county, Pennsylvania.—*Improvement in Puddling Furnaces.*—Patent dated April 6, 1858.—On the under side of the plate M M^1 a circular plate P P^1 is cast. Around the circumference of this plate is a flange of about eight or ten inches vertical projection. Immediately under plate P P^1 is a circular groove or trough Q Q^1, into which the flange on the plate fits. The flange revolves in the trough or groove. The trough is filled and kept full of water for maintaining an air-tight joint at the intersection of the plate and trough. A bevel wheel R R is placed on the lower part of the vertical shaft, and another bevel wheel gears into it. This second wheel is connected with the main driving power by any convenient gearing. By this construction the bottom can be made to revolve constantly while the puddling is going on.

The inventors say: We do not claim the invention of revolving bottoms for puddling furnaces.

But we do *claim*, first, the employment of a revolving bottom for a puddling furnace, arranged with water tubes for cooling it, and with the peculiar air-tight joint described, the whole arranged and operating substantially as described.

Second. The employment in a puddling furnace of a revolving tool, arranged and operating in the manner and for the purpose substantially as described.

No. 20,743.—John Thorndike, of North Weare, New Hampshire.—*Improved Brad Punch.*—Patent dated June 29, 1858.—The object of this invention is to facilitate the driving of brads and consequently expedite the labor of "sticking," or attaching moulding or beading to various articles of joinery, cabinet, and similar work.

Claim.—The cylinder A C, provided with the rod B, punch A, and rod F, the rod B having a spiral spring D placed around it; the above parts being used in connexion with the reserve box E, placed relatively with the cylinder C, and the whole arranged to operate as and for the purpose set forth.

No. 20,516.—David S. Sherman, of Lowell, Massachusetts.—*Improved Punching Machine.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the device shown in the patent of R. H. Cole, dated June 3, 1856.

But I *claim* the manner of punching a nut, washer, or other article from plate or bars, by forcing it half way out (or more or less) in one direction into a die, and then forcing it entirely out in the opposite direction into another die, for the purpose of making the outside edges of the nut perfectly square and free from a sharp or burr edge, substantially as described.

No. 20,157.—William H. Howland, of Sacramento, California.—*Improvement in Quartz Crushers.*—Patent dated May 4, 1858.—This machine is designed for crushing auriferous quartz, and consists of a series of pestles J placed within an annular mortar A and around a feeding spout, the pestles being operated by a horizontal double inclined cam G, which acts against circular disks *e* attached to the pestle rods, so that the pestles will be rotated as they are raised by the cam. It also consists in a screen and pulp trough N, for the purpose of better separating the crushed materials.

The inventor says: I do not claim broadly the raising of a pestle or weight by having a horizontal cam acting upon a pulley or circular disk on its end or shaft, for this is a device that has been previously used for analogous purposes, for operating rock drills, &c.

But I *claim*, first, the arrangement and combination of the annular mortar A and pestles J, substantially as and for the purposes set forth.

Second. Having an annular feeding chamber between the upright C and the inner surface of the cylinder L, arranged substantially as and for the purposes set forth.

No. 21,248.—A. J. Doolittle, of Nevada township, California.—*Improvement in Quartz Crushers.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging the stampers E of a quartz crusher in such a manner that they are guided in their up and down motion by two springs D D, which at the same time serve to increase the force of the blow, in combination with pans G, which are placed loosely under the stampers, so that they are free to rotate under the action of the blows, and which have openings in their sides, the size of which is different for different pans and depends upon the relative coarseness of the quartz, so that the finer parts of the quartz escape and the coarser ones are continually exposed to the full force of the blows, the whole being arranged substantially as set forth.

No. 20,685.—Philos B. Tyler and William Jones, of Springfield, Massachusetts, and Benjamin Lathrop, of Sandusky, Ohio, assignors to Philos B. Tyler, aforesaid.—*Improved Riveting Machine.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The employment of a pean as described, shaped to the configuration of the head of the rivet, and operated in the manner and for the purpose set forth, by which a rivet-head is formed by a succession of light blows around the circle.

No. 19,963.—John A. Bailey, of Boston, Massachusetts, assignor to James Horner and James Ludlum, of New York, New York.—*Improvement in Rolling-Mills.*—Patent dated April 13, 1858.—This invention relates to the application of eccentrics to the journals of one roller of the pair or set employed in the rolling-mill, in such a manner as to effect the rolling of articles of a more or less taper form, as file-blanks or articles of parallel form, as may be desired.

The inventor says: I do not claim broadly the alternate raising or lowering of one or more of the rollers in rolling-mills, for the purpose of producing wedge-shape work; for I am aware that it is common to place the ends of rollers in sliding frames, and to depress or elevate the latter by separate cams.

But I *claim* the application of eccentrics C D to the journals *a* of rolling-mill rollers, in the manner and for the purposes substantially as shown and described.

No. 20,702.—Giles Edwards, of Johnstown, Pennsylvania.—*Improvement in Rolling Railway Bars.*—Patent dated June 29, 1858.—The nature of this invention consists in forming the "pile" A by arranging one series of rails in a line with their heads up; another series between the first series, with their heads down; and a third series with their bases down and resting upon the second series, and topping off the third series with a single rail, which is inverted.

Claim.—The manner shown and described of arranging or disposing old rails, in forming a "pile" for the purpose set forth.

No. 20,901.—John H. Snyder, of Troy, New York.—*Improvement in Rolling Railway Chairs.*—Patent dated July 13, 1858.—In each chair the lip and flange, or the two lips, extend the whole length of the chair, and the bottom of each chair projects out on both sides, as at *c c*, beyond the bases of the lip and flange, or the two lips, throughout the whole length.

Claim.—Forming or turning the lip or lips A of the chairs upon the collar or collars O of a roller E, by means of another roller D, substantially as set forth.

No. 21,666.—John Fritz, of Johnstown, Pennsylvania.—*Improvement in Rolling Railway Iron.*—Patent dated October 5, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: What I *claim* is the so arranging of "three high" rolls for railroad rails, bars, or beams, as that said rails, bars, or beams may be rolled or reduced as they pass both forward and back, and so that each succeeding pass shall roll down the fire formed at the preceding pass, and avoid any necessity of turning the bar as heretofore done, substantially as described.

I also claim, in combination with the top roll of the series, or with any roll of a series which performs its duty, the yielding clearer or guide, or its equivalent, for preventing the bar, rail, or beam from winding on said roll.

No. 20,736.—Theodore Sharts, of Albany, New York.—*Improvement in Fire and Burglar Proof Safes.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A fire and burglar proof sectional cast-iron safe, which has the junction between its sections accomplished by means of tongues and grooves *g h i j f e*, and maintained by means of screw-rods E E, which have their ends entirely hid from sight and inaccessible to

burglars when the safe is finished, by flowing melted metal $p\ p^1$ over and around the same, as set forth.

No. 21,427.—Lewis Lillie, of Troy, New York.—*Improved Iron Safe.*—Patent dated September 7, 1858.—The nature of this invention consists in making chilled cast iron safes with a wrought iron jamb cast therein, for the purpose of receiving and sloping the door to the same, and rendering it stronger against burglars. It also consists in making a frame work of wrought iron bars perforated with holes for the door, which wrought iron bars cross each other at right angles and extend to the entire edge of the said door and shut against the wrought iron jamb, for the purpose of preventing burglars from breaking away the immediate edge of said door, thereby effecting an entrance to the inner part of the safe.

Claim.—The mode of forming the corners of a safe with anchors *h h h h;* also the jamb E, as and for the purposes described and set forth.

No. 20,544.—Stephen R. Brown, of East Kingston, New Hampshire.—*Improved Sash Holder.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim a lever bearer and a spring for holding a sash in its frame, or to operate as a sash holder.

But I *claim* applying the spring D so as to be capable of being slid or adjusted lengthwise on its abutment, and so as to bear against the lever bearer in whatever position the spring may be set, the same being for the object or purposes as specified.

No. 20,822.—Eliphalet S. Scripture, of New Haven, Connecticut.—*Improved Sash H lder.*—Patent dated July 6, 1858.—This invention consists in novel means employed—a harmless yet powerful elastic pressure against a window sash or other sliding implement, whereby it may be stopped or retained at any definite place or position in a manner that will insure its remaining there under a great amount of jar or vibration, which effect is produced by a very slight application of power applied.

The inventor says: I do not claim in the combination of my improvement, as described, either a spiral grooved shaft or a two-part tube or shell, the same having been described by me in my window fastener or lock, patent of March the 9th, the present year.

Neither do I claim the tracer G.

But I *claim* the oscillating swivel cup D, in combination with an elastic buffer, all being arranged and operated substantially in the manner and for the purposes set forth.

No. 21,483.—A. H. Burdine, of Chulahoma, Mississippi.—*Improved Saw Filer.*—Patent dated September 14, 1858.—The nature of this invention consists, first, in a file constructed spirally on a revolving axis so that a space exists between the two ends of the spiral or screw thread constituting the file; this construction of file serving the

double office of filing and feeding the saw at one and the same time, in a very regular and perfect manner, thus rendering saw filing machines quite simple.

It consists, second, in the combination of one or two of the above specified files with two conical rotating files in a machine of the character specified for the special purpose of filing old cotton-gin saws:

The inventor says: I *claim*, first, a file F, constructed spirally on a revolving axis D, so that a space *i* exists between the two ends of the spiral or screw thread constituting the file, substantially as and for the purposes set forth.

Second, the combination of one or two of the above specified files F with two conical rotating files G G in a machine of the character specified, substantially as and for the purposes set forth.

No. 20,945.—Heman How, of Georgetown, Massachusetts.—*Improved Saw-Filing Machine.*—Patent dated July 20, 1858.—This machine operates as follows: The operator first draws the slides C C^1 entirely out of the table A A, and fastens the saw between them by means of the screws alluded to above. He then replaces the slides so that the first tooth of the saw shall be under the file. Having done this he turns the crank shaft P by means of the handle Q, which will obviously cause the file to reciprocate over the saw, bearing down as it files and rising up as it passes back. When one cut is finished the operator, by means of the handle *f*, moves the saw along the width of a tooth, and so on until all are filed.

Claim.—The crank shaft P, operating as set forth, in combination with the slotted upright or moving frame J, the flat spring S, and the round metallic springs L L, substantially as described and for the objects specified.

No. 19,265.—Nathaniel F. Stone and Wiley C. Ward, of Menard county, Illinois.—*Improved Saw Gummer.*—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

The inventors say: We *claim* so combining the levers, screw clamp, burr, and clamping disks in one machine, that the operator may keep the burr up to the saw plate whilst the apparatus is clamped thereto, as set forth and explained.

No. 19,835.—M. Ernsberger, of Bremen, Ohio.—*Improved Saw Gummer.*—Patent dated April 6, 1858.—This invention consists in the employment of a stock provided with set screws for clamping it to the saw, in connexion with a burr cutter applied to the stock in such a way that the same may be properly guided or held in proper position while in operation, and also fed to its work with the greatest facility; the whole forming a simple and efficient instrument well adapted and more especially designed for gumming circular saws.

The inventor says: I do not claim separately the burr or cutter *e*, for that has been previously used for analogous purposes.

But I *claim* the stock A, provided with the screws *d*, or their equivalents, and also provided with the tube B, collar C, pin *g*, and shaft D,

with cutter *e* formed on it, the whole being combined and arranged substantially as and for the purpose set forth.

No. 21,729.—Harvey R. Wolfe, of Consolation, N Y., assignor to Himself and David Staples and W. H. Watson, of said Consolation. *Improved Saw Gummer* —Patent dated October 5, 1858.—This invention consists in the use of an adjustable rotating grindstone and saw carriage, whereby circular saws may be gummed with great facility by any person of ordinary ability, but little skill being required to manipulate or manage the device.

Claim.—The arrangement and combination of the stone B, adjustable beams D, screws *b*, slots *c*, and carriage D, as and for the purpose set forth and shown.

No. 21,935.—Nelson Barlow, of New York, New York.—*Improved Saw Gummer.*—Patent dated November 2, 1858.—The tool being placed on the saw and adjusted in the required position, the eccentric arm D is turned upward, standing in line with lever C, and the clamp is thus fastened; the levers are then grasped or enclosed by the left hand. As the arm D is fixed relatively to the other, it follows that, as the crank is put in motion (by the right hand) and the left hand is closed, compressing them towards each other, the cutter G is fed up against the saw under the perfect control of the operator.

In all changes of position the rests E F *b* perform an important part: in the first place, in preventing the tool from shifting by any accident, and, secondly, that each tooth may be gauged and conform exactly throughout the series.

Claim.—The described arrangement of levers C and D, rests E and F, in combination with the milling cutter and clamp, all substantially as set forth

No. 22,260.—J. P. Van Vleck, of Cooksville, Wisconsin.—*Improvement in Saw-Sets.*—Patent dated December 7, 1858.—This invention consists in the employment or use of a spring-hammer operated by a treadle and used in connexion with an anvil or bed and gauges; the whole being arranged so that saws may be set rapidly and in a perfect manner.

Claim.—The hammer head E, operated from the treadle H through the medium of the bar I, springs D L, and arm J, in connexion with the anvil F and gauge G *d*, the whole being arranged substantially as and for the purpose set forth.

No. 22,256.—Edward Marshall, of New York, New York.—*Improved Saw-Set.*—Patent dated December 7, 1858.—The nature of this invention consists in the employment of two or more claws, one of which at least shall hold the saw, while the other shall bend or set the teeth.

Claim.—The described method of setting saws, whereby the saw is firmly clamped and held in the slot *i* by means of claws *a a*, while the tooth is being bent or set, the saw being alternately clamped and released as the teeth are successively set, as is fully described.

No. 20,933.—A. H. Burdine, of Chulahoma, Mississippi.—*Improved Machine for Sharpening Gin-Saws.*—Patent dated July 20, 1858.—This machine is designed for sharpening old cotton-gin saws without the necessity of removing them from the frame. The machine is placed upon the saw and feeds it by its own teeth. The saw teeth are sharpened with a bevel on each side towards the point, and a whole gin of saws can be sharpened in a few hours.

The inventor says: I *claim*, 1st, the arrangement of the adjustable feeding pawl L L, spring-file frames *i j*, and slotted or jointed adjustable frame C D *b a*, substantially as and for the purpose set forth.

2d. The particular arrangement specified of the self-clamping and self-sustaining frame C *a b*, in combination with the pawl L, for the particular purpose of feeding old circular gin-saws while on the shaft and in the grain frame, substantially as set forth.

3d. The particular manner shown of arranging the clamping part C of the frame on the upper part D of the frame, for the purpose set forth.

No. 19,244.—Hosea O. Elmer, of Mexico, New York.—*Improvement in Gumming and Jointing Saws.*—Patent dated February 2, 1858.—This improvement consists in so constructing the bed or frame of the machine, and providing it with clamps, that it may be readily attached to the saw and adjusted in the proper positions, and applied with equal facility to either reciprocating or circular saws.

The inventor says: I do not claim the rotary bar cutter G placed on a rectilinearly moving frame or carriage, for such device has been previously used.

But I *claim* constructing the bed or frame A of two parallel bars *a* a^1, connected at their outer or front ends by a bolt *b*, and having a suitable space allowed between them, when said bed thus constructed is used in connexion with the guard or guide M attached to its inner ends, and arranged as shown, for the purpose of preventing the teeth of the saw being injured by coming in contact with the plates I I, as the bed is adjusted upon or to the saw, as described.

No. 22,040.—Calvin Tabor and Byron D. Tabor, of Ischua, New York.—*Improved Machine for Filing Saws.*—Patent dated November 9, 1858.—A is a horizontal frame of wood, upon which are erected the posts V V, and also the cast iron frame I. B is a circular platform, filling the space between the posts, and fastened to the frame; 7 is a block turning on a pivot 6 and inside of the circular platform, and carrying with it the lower carriage D. The upper carriage H is composed of a block, in which are inserted the upright standards I I, which support the jaws J J. The carriage H runs in grooves in the sides of the carriage D D, and is moved backward and forward by the screw F working in the nut.

Claim.—The use of the file carrier and pressure frame, as set forth, in connexion with the carriage, clamping jaws, and revolving platform, when constructed and operated as specified.

No. 20,330.—William Clemson, of East Woburn, Massachusetts.—*Improvement in Machine for Grinding Saws.*—Patent dated May 25, 1858.—A is the main frame of the machine; B is the grind stone; C the roll which holds the saw to the stone; *a* is the flat pivot on which the saw *b* revolves; D D are ways attached to the main framing; E is the sliding plate which carries the pivot *a* on which the saw revolves.

Claim.—The employment of a revolving friction clamp, applied to the saw in the manner substantially as described, to receive rotary motion from the saw, and to control the revolution of the saw by the momentum it acquires by such rotary motion, as fully explained.

No. 22,367.—Henry Havell, of Newark, N. J.—*Improvement in the Manufacture of Scissors.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, generally, the soldering of a steel plate on to malleable iron by means of brass or other metal.

But I *claim* the forming of the blades of scissors or shears by means of the use of the intermediate plate *b*, or by soldering or brazing the malleable cast iron and steel together, substantially in the manner and for the purpose described.

I also claim in the manufacturing of scissors or shears the use of the die, as before mentioned, and the striking together and into the required line and shape the component parts of the blades, substantially in the manner and for the purpose described.

No. 21,531.—Thomas Whitaker, of Cincinnati, Ohio.—*Improved Screw Cutter.*—Patent dated September 14, 1858.—This improvement relates to that class of screw cutting machines in which the bolt revolves and the die head is drawn on by the action of the threads of the die upon the bolt, while provision is made for the instantaneous separation of the dies while the machine is in motion, and the closing of them again on the bolt at the will of the operator; and it consists in a simple and compact arrangement of parts, whereby the dies are completely under the control of the operator, and may be promptly replaced by others when it is desired to do so.

The inventor says: I am aware that the slot *h*, the adjusting pin I, the hook I, and the lever G, have been previously used in a similar connexion for regulating and adjusting the cutters of a die head, and I therefore do not claim them as my invention.

But I *claim* the combination of the shaft E, the sheaves F F^1, the yokes K K^1, and the guides C C, with the dies D D, when arranged substantially as described, for the purposes set forth.

20,168.—Richard Nuttall and John Kirkpatrick, of Alleghany, Pennsylvania.—*Improved Chuck for Screw Cutting.*—Patent dated May 4, 1858.—The nature of this invention consists in an arrangement for moving the cutting dies backward and forward in their chambers by means of a troll plate, having three scroll-formed grooves and die seats with segments fitted to said grooves; and also in an arrangement for holding the cutting dies in their chambers, and in the manner of relieving them from the upward or outward pressure of troll plate and die seats.

The inventors say: We *claim*, first, the projection *j* on the movable die seats, and the transverse slot or notch *k* in the removable cutting dies, the one being adapted to the other as described and for the purpose set forth.

Second. The use of the troll plate when constructed as specified, and operating in connexion with the die seat and die as set forth.

No. 19,752.—Richard H. Cole, of St. Louis, Missouri.—*Improved Screw Cutting Machine.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* arranging a set of vibrating chasers *a a a* in a revolving chuck, in such a manner that the said chasers may be opened and shut while the chuck is in motion; and so constructing and adjusting the said chasers, that they shall turn the bolt blank to a given size, and chase the thread on it in one and the same operation, substantially as shown on the drawing, and as described in this instrument.

And I also claim the combination of the two plates N N and the cam P with the cross head O, substantially as shown and described, for the purpose specified.

And I also claim combining the turning lathe with the screw-cutting machine, whereby the heads of the bolts are turned at the same time the chasers cut the thread on their points, in the manner set forth.

And I also claim combining a universal chuck in the opposite end of the same shaft on which the chasing chuck is fixed, whereby the nut can be tapped at the same time the thread is cut on the bolt, and with the same power and motion, substantially as specified.

No. 20,619.—Oliver Bond, of Buffalo, New York.—*Improved Handle for Screw Drivers.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to ratchet wheels or cog gearing or spring, when used in connexion with tool handles.

But I *claim* the ratchet ferrules C and D when attached to the handles A and B, and used in combination, the same being protected by the surrounding band ferrule E, as set forth.

No. 19,162.—G. H. Talbot, of Boston, Massachusetts.—*Improved Ratchet Movement for Screw Drivers.*—Patent dated January 19, 1858.—This invention is a combination of two pairs of rag wheels *c* c^1 or flat circular ratchets, with reversing gear to engage either pair and disengage the other, so that a rotary motion can be given to the tool by turning the handle B back and forth in opposite directions.

Claim.—The combination with sliding rag wheels *c* c^1 of a sliding piece *i*, having claws *h h*, substantially as and for the purposes described.

No. 19,805.—James M. Whiting, of New Bedford, Massachusetts, and George F. Wilson, of Providence, Rhode Island.—*Improvement*

in Wood Screws.—Patent dated March 30, 1858.—The nature of this invention consists in making the upper side of the threads of wood screws deeper than the under side, by taking out more stock from the core or body of the screw on the upper than on the under side of the thread, which greatly increases the hold of the screw on the wood into which it is driven.

Claim.—The making of wood screws with the upper side of the thread of greater depth than the under side of the thread, substantially as described.

No. 21,864.—GEORGE W. DANIELS, of Waltham, Massachusetts, assignor to Himself and ABRAHAM FULLER, of said Waltham.—*Improved Lathe for Cutting Screws from Wire.*—Patent dated October 19, 1858.—The lathe arbor A is to be made tubular throughout its entire length, the bore of the tube at its front end being enlarged in a tapering or conical form, as shown at *a a*. This bore is to contain a hollow spindle or tube B, whose front end terminates in expanding jaws *b*, formed by a conic frustum sawed axially in two directions, as shown at *c d*. This frustum extends to the conical mouth *a a* of the arbor. On that part of the spindle B which extends beyond the rear end of the arbor a male screw c^1 is to be cut, the screw being made to extend a short distance within the bore of the arbor. On this screw a hand nut or wheel d^1 is screwed and against the rear end of the arbor.

Claim.—The inventor says: I am aware that handles for tool-holders have been made with a holding and centring apparatus of the kind substantially like that described as applied to the arbor of a lathe, with the exception that the bore of their spindle did not extend through such; therefore I do not claim the said holding and centering apparatus either alone or in connexion with a tool handle. I am also aware that a lathe arbor has had a passage extended through it longitudinally and axially, and that such passage has opened into a hollow hub or "boss" containing two metallic bearings, one of which was forced towards the other by a screw arranged transversely on the arbor, the whole being simply for clamping a round shaft on a lathe in order that a concavity might be turned in one end of it. But such devices could only centre, or bring into one straight line on the axis of the arbor, a shaft of but one diameter; therefore I do not claim this latter contrivance, it being shown in Henry A. Case's rejected application. My improved lathe, with reference to a round rod extending through the arbor, can perform a function not incident to the lathe of the said case.

I claim combining with a lathe-arbor devices made and applied to it substantially as described, so as to enable rods varying in diameter to be securely clamped and centred in the arbor, and to extend entirely through it in manner as specified.

No. 20,036.—PHILIP CHAPIN, of Baltimore, Maryland.—*Improved Machine for Cutting Screws.*—Patent dated April 27, 1858.—The claim nd engravings explain the nature of this invention.

The inventor says: I *claim*, first, the employment of a cutter carriage E , constructed substantially as described, with two branches, one

of which *z* is movable, and so constructed, mounted, and arranged as to embrace the prepared material and the driving screw F at the same time and by the same movement.

Second. The combination of the carriage D E, the driving screw F, and the adjustable gear K I G, for the purpose of cutting threads in wooden screws, as described.

Third. The employment of the hollow binders *d*, for the purpose of securing the cutters *s i* in proper positions for the forming of wooden screws.

No. 20,789.—IRA GRIGGS, of Utica, New York, assignor to THE UTICA SCREW MANUFACTURING COMPANY, of Utica aforesaid.—*Improved Machine for Turning the Heads and for Nicking Screws.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the arrangement of a series of rotating blank holders in bearings, at equal distances apart, in and at equal distances from the centre of a stock, which has an intermittent rotary motion, for the purpose of presenting each of the series in succession to the feed apparatus, to the cutter for turning the heads, to the saw for cutting the notches, and to a cutter for finishing the heads after the notches have been cut, substantially as described.

Second. The relative arrangement of the driving shaft D D, the blank holders and their rotating stock C, the turning cutters, and the saw for cutting the notches, substantially as described, whereby, when the blank holders severally arrive opposite the saw, the driving belt, which gives them the rotary motion on their axis to effect the turning is inoperative upon them.

Third. The series of movable rests *s t v*, applied and operating substantially as described, to support the screw blanks and hold them steady during the operation of the cutters and saw.

Fourth. Combining the holding dies *b b* with their operating levers *e e*, by making the said dies detached from their levers and fitting them to slide within guides in the holder, and applying adjusting screws to the levers at their bearing upon the dies, substantially as specified.

Fifth. Applying the discharging punches of the blank holders with springs, to retract them within the holders after the discharge of the blanks, and in such manner that the plungers, after opening the holding dies or jaws, will drive them forward to expel the blanks, substantially as set forth.

No. 21,641.—HENRY L. KENDALL and HOMER P. HUNT, of Providence, Rhode Island, assignors to THE NEW ENGLAND SCREW COMPANY, of said Providence.—*Improvement in Cutting Threads of Wood Screws.*—Patent dated September 28, 1858.—This invention consists in cutting the thread of screws by means of two edges upon the chasing tool or tools, which edges are caused by suitable mechanism to operate successively upon the screw, the one edge having a form adapted to cutting the thread upon the body of the screw between the sloping extremities of the core, and the other cutting edge having a form

adapted to cutting the thread upon the sloping extremities of the core.

Claim.—The cutting of the threads of wood screws by means of chasing tools whose cutting edges have profiles which are respectively counterparts of the body and sloping portions of the screws, and which are caused to act in succession upon the screw blank.

No. 21,438.—Samuel D. Nelson, of Pittsburg, Pennsylvania.—*Improvement in Scythe Blades.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I claim constructing grass and cradle scythes by starting the web of the scythe from one edge of the back, making the back concave on the upper and convexed on the lower side, leaving the heaviest and thickest part of back on the centre and to the outside of the convexed side of the back, thereby making the scythe stiffer and stronger, as described and represented.

No. 19,524.—Harvey Waters, of Northbridge, Massachusetts.—*Improvement in the Manufacture of Scythes.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I wish it to be distinctly understood that I do not make any claim to such mode of procedure, or to the arrangement of dies specified under the present application.

Nor do I wish to be understood as limiting my claim of invention to the said new manufacture of cutting instrument known under the term scythes, as the peculiar edge thus produced is applicable to other cutting instruments.

What I *claim* is the new manufacture of cutting instruments, substantially such as described, having the metal forming the cutting edge in the condition resulting from the previous crinkling or corrugating of the metal at right angles or nearly so with the line of the intended cutting edge, and then flattening it by a swaging, operating in such manner that the crinkles or corrugations shall not be straightened out by simply bending, as described.

No. 19,152.—Luther E. Porter, of Lake Mills, Wisconsin.—*Improved Double Seaming Machine.*—Patent dated January 19, 1858.—This invention consists in an arrangement of frames which contain the roller, so as to close the seam or joints by which a double seam or locked joint is closed, the work being speedily done.

The inventor says: I do not claim broadly the employment or use of adjustable rollers for seaming or closing the joints of sheet metal ware, for rollers variously arranged are in common use for such purpose.

But I *claim* the frames I K O, provided respectively with the rollers J N Q, in connexion with the segment C, the whole being arranged as shown, so that the rollers may be readily adjusted, and the manipulation of the machine generally rendered comparatively easy.

No. 21,546.—Joseph A. Braden, of La Grange, Ohio.—*Improvement in Shears.*—Patent dated September 21, 1858.—This invention consists in making the blades of scissors or shears with their transverse sections of the form of equilateral triangles, so that each presents three cutting edges; and fitting them to the handles in such a manner that they are capable of being turned therein when desired to bring a new pair of cutting edges into an operative position, when one pair has been worn out or blunted

Claim.—Making blades of triangular form in their transverse sections, and fitting them to the handles so as to be capable of being turned therein to present three different pairs of edges in an operative position, substantially as described.

No. 22,028.—Daniel Newton, of Southington, Connecticut.—*Improved Shears for Cutting Sheet Metal.*—Patent dated November 9, 1858.—The nature of this invention consists in the application of one or more of the following improvements to shears for the circular cutting of sheet metal: 1st, cutters with holes through them revolving on a rod or axle; 2d, a spring to hold said cutters together; 3d, a screw to hold the metal; 4th, a spring gauge on which the metal rests when placed in the machine.

Claim.—The application to circular shears of two rods with a revolving cutter on each rod sliding either way to adjust the size of the circle.

No. 21,319.—William S. Butler, of Rocky Hill, Connecticut.—*Improvement in Manufacturing Shears.*—Patent dated August 31, 1858.—The process of producing the temper in this invention is as follows: After the pattern is drawn from the mould, particular pains are taken to wet well the sand on the surface and near the cutting edge, as shown at A^3, about one-eighth or one-quarter inch wide, so that when the molten iron is poured into the mould it will chill that portion thereof so much as to give it a sufficient hardness.

Claim.—As a new article of manufacture, a pair of shears made of cast-iron, with their cutting edges A^3 hardened or tempered in the manner described.

No. 21,368.—Isaac Rogers, of Owego, New York.—*Improvement in Shutter Operators.*—Patent dated August 31, 1858.—This invention relates to a peculiar contrivance for effecting the opening and closing of the blinds from the inside of a house.

Claim.—The described apparatus for opening and closing window blinds, viz: the lever *f*, rod *d*, crank *c*, and slide *o*, the whole being arranged on the shutter and window frame as set forth, combined and operating substantially in the manner described.

No. 20,975.—Henry I. Behrens, of New York, New York, assignor to Charles S. Pomeroy, of New York aforesaid.—*Improved Soldering-Iron.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the use of a hollow soldering-iron, so made for the purpose of receiving a red-hot piece of metal to

increase or continue the heat of the surface for a longer space of time, for such contrivance is not new.

But I *claim* the use of a hollow soldering-iron containing solder, with or without a valve to regulate the flow thereof, as substantially set forth.

I also claim the combination of a hollow soldering-iron containing solder, with an opening *c* through which the solder may pass as required in the process of soldering, its delivery being automatic to its use.

No. 21,972.—E. MANLEY, of Marion, New York.—*Improved Machine for Soldering.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging within, and in the described relation to the furnace A, mounted on wheels G, and constructed as set forth, an inclined copper bar or soldering tool I, having notches on its lower surface and a wedge or key J above, for retaining it with its lower curved and bent end at the desired distance from the furnace A, as to give it the required degree of heat, in combination with the inclined conducting tube L and hinged box M, and its attachments divided into two compartments for the solder scraps and rosin, the whole being constructed and operating substantially as described.

No. 19,452.—LEANDER SHEARER, of Duncannon, Pennsylvania.—*Improved Spike Machine.*—Patent dated February 23, 1858.—L is the main lever, one end of which is pivoted at M to the post M^1, the other end being forked to receive the cam K. Upon the lever L is a die-stock E, in which is arranged the upper die S^1, adjustable by means of set screws 3^1 3^1. G is the header-lever, which is moved forward towards the dies by the cam H and brought back by the spring J. D is the knife or cutter, which operates against the edge *a* of the feed-rest D^1, and is attached to the frame R.

The inventor says: I am aware that machines for making spikes have been so constructed as to cut and point the spike simultaneously by the compression of the dies, and also that machines have been so made as to point the spike by the compression of dies while the bar was cut by a knife at the heading end, and do not wish to be understood as claiming any such devices

But I *claim* the application of the cutter D, acting against the cutting edge *a* of the feed-rest D^1, and the dies S and S^1, operating as set forth, in combination with the reciprocating carriage C, vibrating lever L, and header-lever G with its header F, the whole constructed and operating substantially as described.

No. 20,076.—MICHAEL LOUGHRAN, of Pittsburg, Pennsylvania.—*Improved Spike Machine.*—Patent dated April 27, 1858.—This invention consists in the use of dies, working as eccentric cams, so combined and arranged as to form a spike at one operation at every single revolution of the dies.

Claim.—The employment of dies *i k* and *l*, constructed, arranged, and operated as specified, working on separate shafts, and forming spikes at a single revolution.

No. 22,060.—JOHN P. BRINKERHOFF, of Brooklyn, N. Y.—*Improved Machine for Making Spoons.*—Patent dated November 16, 1858.—A is a framing, on the upper part of which a bed plate C is placed. To the bed plate C, near one end, two upright plates *a a* are secured, the upper ends of the plates *a* being connected by a cross plate *b*. Between the upper parts of the plates *a a*, a roller or shaft D is placed, and on this shaft a projecting surface E is formed, said surface corresponding in form to the article to be manufactured, and having a circumferential position on the roller, the projection serving as a male die. The edges or corners of the die E are made as sharp or angular as may be, to form good cutting edges.

Claim.—The arrangement and combination of the rolling die E, die G, bolster F, opening *h*, and bar H, as and for the purposes shown and described.

No. 22,441.—THOMAS J. MAYALL, of Roxbury, Mass.—*Improved Door Spring.*—Patent dated December 28, 1858.—A is the door; B is the spring, which is a cylinder of India rubber, formed of successive layers of vulcanized rubber, or it may be manufactured solid and vulcanized in the form it is ultimately to have. The ends of the spring are secured to sockets C and D, one of which is secured to the jamb and the other to the door. By turning the socket D more or less, and locking it by the catch *g*, the spring may be made to close the door with more or less force, and by turning the socket in an opposite direction, the spring may be caused to hold open the door.

Claim.—The described India rubber torsion door spring, operating as described.

No. 20,338.—EDWARD DOEN, of New Britain, Conn.—*Improved Window Spring.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim any of the parts described, separately considered.

But I *claim* the combination of the independent obtuse-angled lever H and direct-acting spring bolt D, arranged for action together relatively to each other and the face-plate A of the casting, which carries both, and for connexion with the window casing as a fastener to the sash, as set forth.

No. 19,747.—BYRON BOARDMAN, of Norwich, Conn.—*Improvement in Staples for Blind-Slats.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that spikes, bolts, and staples, for various uses, have been cut with transverse furrows, and bearded diagonally and otherwise, for the purpose of holding with greater force when driven into wood, and that stems or shanks of fish-hooks have been serrated with indentations for their greater security to a line; therefore I do not claim the cutting to produce a bearded or ragged surface or edge either to spikes, bolts, or staples, except in manner and form as described.

Nor do I claim the production of serrated indentations on the shank

of fish-hooks, or any other article, except the wire staples, such as are used for the slats of window blinds and screens.

Neither do I claim the production of staples of any kind, when not pointed or serrated as described.

But I *claim* constructing wire staples (such as are used for connecting the semi-revolving slats of window blinds and screens to a rod governing their positions) by giving them a rounded edge in the direction as shown at *a c*, and an acute or sharp edge, as viewed crosswise, as at *f h*, in combination with transverse indentations across the wire; the whole being formed by compressions between dies, substantially as described.

No. 19,804.—Horace Vaughn, of Providence, R. I.—*Improvement in Tempering and Hardening Steel and Iron.*—Patent dated March 30, 1858.—The claim will explain the nature of this improvement.

The inventor says: I do not claim the use of the within named substances when the same are used in a state of aqueous solution.

But I *claim* the use of a bath of chloride of sodium, with or without ferro-cyanide or bi-chromate of potash, or either of them, or of other ingredients possessing similar chemical properties combined with animal or vegetable charcoal and ground bone, when the foregoing substances are in a state of igneous fusion, combined and operating as set forth.

No. 21,948.—Joseph Dixon, of Jersey City, New Jersey.—*Improvement in Manufacturing Steel.*—Patent dated November 2, 1858.—The claim explains the nature of this invention.

Claim.—The process of making steel by heating pig or cast iron, covered or stratified by any substance which will preserve a separation of the plates or pieces of iron through the process of heating, except so far as the use of oxide of iron as a separating material by any patent referred to.

No. 21,039.—Henry Waterman, of Brooklyn, New York.—*Improvement in Making Steel Rollers.*—Patent dated July 27, 1858.—The nature of this invention consists in constructing metal rolls of steel and iron, in two, three, or more pieces, so as to permit the journals to be hardened and reduced to any required temper without danger of cracking or warping, and the outer rim or surface to be hardened and shrunk on at the time of hardening, without subjecting the other portions of the rolls to the heating process, thus preserving the tube form and surface of the rollers.

Claim.—Improved compound rollers, consisting of the steel shaft A, the iron cylinder B, and the steel cylinder C, forming the surface when fitted together and hardened in the manner specified.

No. 19,038.—George W. Merk, of Leavenworth, Kansas Territory.—*Improved Machine for Bending Tin.*—Patent dated January 5, 185 .—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the two clamping bars F and G arranged at an angle to each other, with each leg of the angle hinged to the bed, so that the apex of the angle can be raised from the bed to insert the sheets of metal, and closed down upon them to bend them, and raised again to remove the bent sheets, as described.

And in combination with the described clamping bars F and G, I claim the folding or bending bars H and M for bending the edges of the sheets of metal, as described.

I claim the spring gauge R, so arranged that it may be raised to gauge the sheets, and spring down, so that it may be removed.

No. 20,700.—G. W. Cooper, of Morenci, Michigan.—*Improvement in Upsetting Tire.*—Patent dated June 29, 1858.—This invention consists in the novel arrangement of the jaws or clamps G, which grasp the tire or bar to be upset, and which, owing to their novel arrangement, allow the bar while being compressed or upset to be firmly pressed down upon its bed.

The inventor says: I *claim* the jaws G attached to rods *f*, which are provided with springs *g*, and have a vertical movement as well as a rotating one, and the inclined planes *h* in the plate below the jaws G, the above parts being used in connexion with the stationary jaws F, the jaws being applied to the ledges *b b* of the plates B D, and arranged as and for the purpose set forth.

No. 21,327.—E. J. Dodge, of Port Washington, Wisconsin.—*Improvement in Upsetting Carriage Tire.*—Patent dated August 31, 1858.—The nature of this invention consists in arranging the anvil blocks or supports to rock on a centre, in combination with the arranging of the jaws A A^1 of the immediate guide or support E, to be adjusted separately or both together up and down, whereby the machine is adapted to set tire and other articles of greater or less curvature and of different thicknesses.

Claim.—Arranging the anvil blocks or supports to rock on a centre in the manner specified, in combination with the arranging of the jaws of the intermediate guide or support, to be adjusted separately or both together up and down, substantially as and for the purposes set forth.

No. 20,559.—Iris Hobson, of Stout's Grove, Illinois.—*Improvement in Reducing Wheel Tires.*—Patent dated June 15, 1858.—By having the anvil constructed of a series of spring bars K L M, instead of making it solid, it is capable of conforming to any irregularities or eccentricities of the inner circle of the tire, and thus a bearing upon all parts is obtained. And by having the moving toothed jaws O O attached to the anvil the machine is simplified and the clamping of the tire facilitated.

Claim.—The sliding curved anvil, formed of one straight and two semi-elliptic spring bars K L M, and furnished with two holding jaws O O, in combination with two toothed stationary jaws o^2 o^1 and a vise screw I, substantially as and for the purposes set forth.

No. 19,842.—Henry H. Gilmore, of Boston, Massachusetts.—*Improvement in Pipe Tongs.*—Patent dated April 6, 1858.—The nature

of this invention consists in a method whereby the slotted part of the tongs is so clamped to the pivot that the strain consequent upon the use of the tongs shall not separate the jaws by slipping the pivot *a* in the slotted jaw A.

Claim.—The combination of an inclined plane or planes, or the equivalent thereof, with the slotted jaw, for the purpose described.

No. 19,416.—James Greenhalgh, jr., of Burville, Rhode Island.—*Improved Expanding Tool.*—Patent dated February 23, 1858.—D is a screw having a right-hand thread on one half its length, and a left-hand thread on the other half. One end of this screw D is made with a square to fit into a socket F; the stem *d* passes through the head of the stock A, and is formed with a square *e* to receive a wrench or key. The right and left handed screws are fitted with two nuts E and E^1, having the external form of truncated cones. The cutters B B are confined to the cones by springs *c c*. The nuts E E^1 are prevented from turning in the shell by the springs *c c*.

Claim.—The arrangement, substantially as shown and described, of the two truncated cone-sloped nuts E E^1, right and left screw D, expansion pieces B B, and springs *c c*, for the purposes set forth.

No. 22,155 —James Barton, of Cleveland, Ohio.—*Improved Tool for Cutting Key-Seats in Wheels and Pulleys.*—Patent dated November 30, 1858.—The nature of this invention consists in providing a shaft with a series of square cutters which are adjustable, and using for cutting a tapering key seat a circular wedge plate.

The inventor says: I *claim*, 1st, the employment of the shaft A, provided with a series of cutters which are adjustable; the two being so arranged that, by pressing them through the hole or bore of a wheel or pulley, a key seat is finished parallel with the bore, as is fully set forth.

2d. The employment of a tapering circular slip or wedge between the cutter shaft and the bore of the wheel or pulley on the opposite side from the cutters while the key seat is being cut, for the purpose of cutting a tapering key seat, as is fully described.

No. 22,466.—William White, of Newark, New Jersey.—*Improvement in Making Edge Tools.*—Patent dated December 28, 1858.—The nature of this invention consists in pouring from a crucible or other vessel into a mould wrought iron or steel, or both in combination, while in a melted state, and thereby forming a whole or a part of an axe, hammer, or other article, the cavity of said mould being the shape or form of the article desired.

Claim.—The use of wrought iron and steel, separately or combined, while in a melted or liquid state, for the purpose of forming into shape axes and other articles without the process of forging, welding, or swaging, by the use of a mould, the cavity of which is the shape or form of the article desired, as set forth in the specification.

No. 19,606.—John Henn, of New Britain, Connecticut, assignor to Himself, Anton Daul, and Leopold Lankan, of Hartford, Connecti-

cut.—*Improvement in Attaching Tools to Handles.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement and construction of the plate *w*, with projection D, acting against a spring in the back of a handle in such a manner that when opened it will relieve said spring to allow a knife or tool to be attached to the upper end of said handle, and when closed force the spring against the tool so as to hold the same perfectly steady in the handle, substantially as described.

No. 19,150.—Charles Monson, of New Haven, Connecticut.—*Improved Gas-Tube Joint.*—Patent dated January 19, 1858.—This invention consists of a metallic tube joint with a relief-ring C, to prevent wearing the joint, for the purpose of rendering pendent lights moveable.

Claim.—The arrangement of the semi-circular tubes *g h*, in connexion with the ring C and central chamber *i*, constructed and operated substantially as set forth.

No. 20,529.—Edmund Jordan, of Waterbury, Connecticut, assignor to the Benedict & Burnham Manufacturing Company of said Waterbury.—*Improved Machine for Finishing Soldered Tubing.*—Patent dated June 8, 1858.—This invention consists in a peculiar means employed for operating a file or cutter *c c*, for the purpose of finishing off the soldered seams of tubing. It also consists in a clamp for holding the tubing while being operated upon by the file or cutter.

The inventor says: I *claim* the files or cutters *c c*, attached to a tilting stock which is fitted to a reciprocating slide F, and operated by means of the connecting-rod D, crank C, and stops G G^1, substantially as and for the purpose specified.

I further claim the clamp formed of the two plates I I attached to the levers H H, which are connected to a treadle K, the whole being arranged to operated as and for the purpose specified.

No. 20,053.—George W. Finch, of Gibraltar, Wisconsin.—*Improved Tuyere.*—Patent dated April 27, 1858.—This improvement consists of two hollow cylinders of cast iron. The outer cylinder A is stationary and is usually cast open only at one end, and to this end a cast iron cover or head B is fitted and secured, either by bolts, turnbuckles, or any other convenient manner. A long narrow slot C is cast through the side in front of the forge fire, the ends of said slot being bevelled to a sharp angle outwardly, in opposite directions, for the purpose of producing a diverging blast, and is of a length determined by the requirements of the work to be performed.

The inventor says: I do not claim separately, or in themselves considered, any of the described parts.

But I *claim* the use of two hollow cylinders A and E, in combination with the slotted opening C, and the outlets *a b c*, or more, if necessary, of varying forms and sizes; all arranged to operate substantially as and for the purpose set forth.

No. 22,012.—Harvey S. Berry, of Rutland, Vermont.—*Improved Blacksmiths' Tuyere.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A tuyere revolving in a wind box supplied with wind in any ordinary way, with apertures through it, so arranged as to bring more or less of them at pleasure to bear upon the fire, and thereby diminish the fire and circumscribe the space affected by the blast, or enlarge the space and increase the fire.

No. 22,111.—Benjamin E. Dixon, of Marshall, Michigan.—*Improved Blacksmiths' Tuyere.*—Patent dated November 23, 1858.—This improvement consists of a device for regulating the width of the nozzle at the point of exit in tuyeres when surrounded by water.

Claim.—The mode of regulating the length of the discharging orifice in a water tuyere, by means of the oblong tapered wind chamber A (with grooves or other equivalent device in its casing) in combination with one or more of the tapered plugs P P, rods R R, and the detachable cover D, to be used for the purposes and in the manner substantially as described and set forth.

No. 19,622.—Charles B. Clark, of Oriskany Falls, New York.—*Improved Vise.*—Patent dated March 16, 1858.—This invention consists in the employment of a peculiarly constructed screw and pawl, arranged and applied to the vise, whereby the movable jaw is rendered susceptible of being quickly and also firmly adjusted to the stuff to be held or clamped. There is also a peculiar arrangement of the movable jaw, whereby irregular-shaped articles, or articles of taper form, can be grasped by the jaws and firmly held.

The inventor says: I do not claim broadly a jaw arranged so that it may adjust itself parallel with one side of the taper articles to be grasped, without reference to the particular means employed for effecting the purpose; for jaws have been previously arranged to effect this purpose.

Neither do I claim broadly the construction of the screw-rod D, irrespective of the pawl E and the particular adaptation of said parts, as shown and described.

But I *claim*, first, the arrangement and combination of the bar B, screw-rod D, (having a thread *c* of the peculiar form shown,) and pawl *e*, the latter serving the double purpose of a pawl and nut, substantially as and for the purposes described.

Second. Providing the bar B with recesses *e e*, so that the jaw F may adjust itself or turn upon its pivot *d*, substantially as and for the purposes set forth.

No. 19,861.—Sanford Mason and Edward M. Davis, of Michigan City, Indiana.—*Improved Vise-Anvil for Repairing T-Rails.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the combination of the guard *c* on the lever jaw, and the groove *a* in the bed-piece, with a raising mechanism for raising up said lever jaw, substantially as described.

We also claim in combination the projection *d* on the lever jaw and the groove *g* on the locking jaw, so that when the jaws are raised up they will open to receive the rail, and when released will catch and firmly hold themselves and the rails to the bed-piece, substantially as described.

No. 21,951.—Joseph S. Ford, of Philadelphia, Pennsylvania.—*Improvement in Gas-Fitters' Vise.*—Patent dated November 2, 1858 — This invention consists in the combination of an upper and lower die with two screws, each die having two or more semicircular recesses, the screws and recesses being peculiarly situated in respect to each other, and the whole being adapted to a suitable frame, in order that one or the other of the screws may serve as a fulcrum, and the upper die as a lever for transmitting, by turning the remaining screw, an increased pressure at that point where a gas-pipe is inserted between the two dies, and this with but little exertion on the part of the operator.

Claim.—The upper die D and lower die J, in combination with the screws H H^1, the said dies having two or more semicircular recesses, situated in respect to each other and to the screws substantially as and for the purpose set forth.

No. 20,043.—Richard H. Cole, of St. Louis, Missouri.—*Improvement in Machine for Making Washers.*—Patent dated April 27, 1858.—This invention consists in an improved construction of the die or die-box, whereby the washer, after being made, is discharged through the bottom of the die or die-box.

Claim.—The loose bottom *u* and the spring *v*, in connexion with the die *m*, the said bottom and spring to be arranged and constructed substantially in the manner set forth, for the purpose specified.

No. 21,359.—A. Pearsall, of Nashville, Tennessee.—*Improvement in Welding Bellows-Pipe.*—Patent dated August 31, 1858.—This invention consists in the use of an inclined mandrel, clamps, and welding roller, whereby the seams or joints of bellows-pipes or nozzles may be closed and welded in an expeditious and perfect manner.

Claim.—The inclined mandrel C, clamps E E, and roller I, combined and arranged for joint operation, substantially as and for the purpose set forth.

No. 21,286.—Henry Waterman, of Brooklyn, New York.—*Improvement in Tempering Wire and Steel.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The process of hardening steel wire or thin steel in long sections, being kept under a longitudinal strain by means of the wheels D D^1, while passing through the fire in the furnace C, the guide H to conduct the wire directly from the fire into the hardening bath, in combination with such hardening bath, as specified.

No. 21,866.—Sanford Adams, of Boston, Massachusetts.—*Improvement in Tools for Manufacturing Iron Riddles.*—Patent dated October 26, 1858.—C is the frame of the riddle, across which are placed tempo-

rary guides D. Within the notches *f* of these guides are laid the longitudinal wires *i*, beneath these is then laid the transverse or supporting wire *h*, the two sets being bound together by a suitable wire *g* in the customary manner. In order to secure the wires *i*, *h*, and *g* so firmly that they shall not be displaced by use, and to do this without misplacing the wires, the tool shown in figs. 2 and 4 is employed. Attached to its handle or shank F are the teeth *m*, and to the back of these the longer points or teeth S.

Claim.—The described tool for manufacturing riddles, having teeth *m* and S, operating in the manner substantially as set forth.

No. 21,635.—Charles A. Young and Solomon W. Young, of Providence, Rhode Island.—*Improved Machine for making Wire Springs for Furniture.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* a single grooved roll D in combination with the upright rod *n*, to effect the coiling of the wire.

We also claim varying the diameter of the coils to produce a bi-conical form in the spring, by causing the roll D to approach and recede from the coiling rolls in a direct or curved line horizontally, substantially as specified.

No. 19,790.—Archibald Murray, of Troy, New York.—*Improved Wrench.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Improved adjustable wrench, in which the movable jaw is fastened to the fixed one by means of a ring or collar C, which surrounds and slides upon the shanks of both jaws together, substantially as described.

No. 19,954.—Eliphalet S. Scripture, of New Haven, Connecticut.—*Improved Wrench.*—Patent dated April 13, 1858.—This invention consists in the means employed for operating the movable head or jaw D of the wrench A, whereby the said jaw may be quickly moved and firmly adjusted to the nut or other article to be turned, the implement being held and the jaw operated with one hand only.

The inventor says: I am aware that a wrench has been made having a screw thread cut upon the face of the shank, and a screw nut fitted into one side of the movable jaw, the arrangement being such that when the periphery of the screw nut is forced and held into contact with the screw thread, by means of a cam button, the movable jaw may be operated by turning the nut; I do not claim any device of this kind.

I am aware that a pawl H and a serrated bar A, in connexion with an arm E provided with a spring *b*, have been previously used, and I therefore do not claim said parts.

But I *claim* the employment within the pawl H of a screw rod G, substantially as and for the purposes set forth.

No. 20,211.—James McKenzie, of Green Island, New York.—*Improved Wrench.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Fixing the movable jaw of an adjustable wrench by a toothed wedge passing through the said jaw, fitting into the teeth or notches on the shank, in the manner specified, so as to keep the movable jaw firm to resist all pressure that may be applied to it.

No. 20,379.—George C. Taft, of Worcester, Mass.—*Improved Wrench.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a wrench having its movable jaw operated by two reversed male screws extending in opposite directions either from one another or from a rosette.

Nor do I claim a wrench in which the sliding jaw is operated by a single male screw rosette working in a rack applied to the stationary jaw.

Nor do I claim a wrench having its sliding jaw operated by a single male screw, whose milled head enters a recess or notch made in the shank, and has a pivot extending from it and working in a step made in a projection from the handle; such being the construction of the wrench of Doring Coes, as patented April 16, 1841. From this latter my improved wrench differs materially, inasmuch as it has two reversed male screws, and its rosette, instead of being stationary in other respects than being capable of being revolved, will move endwise with the screws when they revolve. Furthermore, my improved wrench has the cylindrical slider K, so made as not only to revolve with the male screws, but move endwise with them, and perform the function of maintaining the male screw rosette in connexion with its screw rack at whatever distance the rosette may be from the projection O. No such slider is found in Coes's wrench, because it is not necessary there; for in such there is no endwise movement of the screw, and no worm rosette and rack to be maintained in connexion. Coes uses a pivot, working in a cup or step, and both are so formed that no endwise motion of the pivot can take place.

But I *claim* a wrench provided with two reversed male screws for operating its movable jaw, arranging the lowermost screw G to work in a screw rack H on the shank A of the wrench, and providing the said screw with a cylindrical slider K, extending below it, and operating so as not only to turn around, but move longitudinally with the screw, and in a socket piece O connected with the handle; the whole being substantially as described.

No. 21,196.—Francis D. Haywood, of Malden, Mass.—*Improved Wrench.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The wrench constructed substantially as described; that is, combining with the head or upper jaw, when rigidly connected with its shank, a brace *c* and screw arranged respectively on opposite sides of and parallel with the said shank, for the purposes of insuring true play of the slide or lower jaw, and of keeping the slide and head constantly parallel.

No. 22,122.—Joseph Hyde, of Troy, N. Y.—*Improved Screw Wrench.*—Patent dated November 23, 1858.—This wrench is operated by moving the thumb-piece M, which will then move the jaw E towards the jaw L, or from said jaw, as the case may require. This wrench is taken in its cast form, and put together and riveted without any other finish.

The inventor says: First. I *claim* the arrangement of the thumb-piece M and the screw *c*, in the manner and place described.

Second. I claim making the sliding jaw E in two equal parts, divided on a vertical line with the bar D and the jaw L, so as to cast the nut R and the recess H at the same casting of the said sliding jaw.

No. 20,291.—Alfred Monnier, of Camden, N. J.—*Improvements in Manufacture of Metallic Zinc.*—Patent dated May 18, 1858.—This improvement consists in obtaining metallic zinc by a combination of two metallurgic operations: first, by separating the gangue from the rest of the ore, as a preliminary operation, or by applying to the ore a degree of heat such as would separate the oxide of zinc, or a large proportion of it, from the gangue, or by treating the ore with heat in connexion with lime or other flux, the more effectually to remove the gangue; and secondly, in heating the impure oxide of zinc by heat and carbon in a suitable retort or muffle, and obtaining therefrom metallic zinc.

Claim.—The process of obtaining metallic zinc from its ores by means of the combined metallurgic operations, substantially as described.

III.—FIBROUS AND TEXTILE.

No. 19,647.—Alfred E. Nichols, of Lowell, Mass.—*Improvement in Spinning-Bobbins.*—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A slotted bobbin, having a spring ring D E, or its equivalent, so applied to it as to impart increased adherence of the slotted portion of the spindle on which it is placed, essentially in the manner and for the purposes fully set forth and described.

No. 19,231.—Sewall H. Bowker, of Worcester, Mass.—*Improvement in Machines for Forming Bonnet Frames.*—Patent dated February 2, 1858.—This invention is an improvement upon the so-called French dies used for forming the crown frames of bonnets, and in the apparatus for working them. By these improvements the frame for the whole bonnet is formed of one piece of material, and at one operation.

The inventor says: I *claim* the row of pins S S S, or their equivalents, substantially as described.

No. 20,837.—Hiram E. West, of Norton, Massachusetts.—*Improvement in Machinery for Pressing Straw Bonnets and other articles of varying thickness.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* a mould, either hot or c ld, to form the article pressed, in combination with a flexible presser E operated by a fluid substance, either liquid or gaseous, substantially as described, so as to press the article or substance to be shaped or moulded into the mould, and give it the form or shape required.

I claim the use of cold water or other cold liquid to operate the flexible presser in combination with a hot mould, so that the cold flexible presser will condense the moisture evaporated or driven from the article pressed by the hot mould, and leave said article nearly or quite dry.

I also claim the process of shaping bonnets, hats, and other articles, by pressing them into or on to a mould A, either hot or cold, by means of a flexible presser, operated by some liquid or gaseous substance, substantially as described.

No. 22,100.—Andrew B. Clemons, of Derby, Connecticut, assignor to The Birmingham Iron Foundry Company, of Birmingham, Connecticut.—*Improvement in Braiding Machines.*—Patent dated November 16, 1858.—The nature of this invention consists in so forming the weight which assists in regulating the tension of the thread as to enable it to have an up and down movement beside the vertical guide-bar, and surrounding said guide-bar above the weight with a metallic block having a flanch at its side, which projects over the rachet teeth or notches formed on the top of the bobbin in such a manner as to enable the thread from the bottom to be passed through an opening or eye in the upright guide-bar, thence under the lower end of the weight, and thence through an eye at the upper end of the guide-bar to the object to be braided, whereby the diameter of the winding portion of the bobbin may be greatly reduced, and the bobbin made to hold much more thread, and be turned with less friction than if the tension weight were arranged within a box at its centre, as in the ordinary method.

Claim.—Combining and arranging the tension and pall blocks or weights H K, which have a rising and falling movement over the vertical guide-bar E, in relation to the lower eye F in the bar E and the bobbins D described, for regulating the paying out of the thread from the bobbin, and consequently its tension in the manner set forth.

No. 21,568.—A. M. Lanpher, of Gloucester, New Jersey.—*Improvement in Brush Cylinders for Spreaders, Cotton Gins, &c.*—Patent dated September 21, 1858.—This invention relates to that class of machines which are used in cotton mills for picking and spreading the cotton as it is taken from the boles and passed on to the rollers preparatory to carding, and consists in the application and use of a cylindrical brush, constructed and arranged whereby the brush, in combination with the saw cylinder, not only performs the office of the

"willow," but that of the beater and blower at the same time, without danger of setting fire to the mill.

The inventor says: I am aware that metallic fans have been used on the ends of a cylindrical brush in the cotton gin, as described in E. Carver's patent; and I am also aware that brushes have been arranged around the periphery of the end of the cylinder, and that such an arrangement was patented by B. D. Gullet, in 1858; but while I believe I can prove priority of invention over Gullet, I deem my arrangement essentially different from an improvement upon his, as it combines the advantages of the fans of Carver with the protection against fire attained by Gullet. I therefore *claim* the brushes on the ends of the cylinder when arranged substantially as above described, for the purpose of preventing the filaments of cotton or other fibrous substance from becoming entangled in the journals, and for preventing accidents by fire.

No. 21,685.—Richard Kitson, of Lowell, Massachusetts.—*Improvement in Card Clothing*.—Patent dated October 5, 1858.—This invention consists in so forming the pointed teeth for card clothing for cotton gins and wool burring machines, that when the clothing is wound upon a cylinder or fastened to an endless belt, the points will be below the thick points of the wires, and the thick parts of the wires which constitute the heels of the teeth will form smooth surfaces for the seeds or burs to roll upon, and thus prevent the latter from coming in contact with and being broken by the joints, and also prevent the damage which the teeth would receive by their points coming in contact with the seeds or burs.

Claim.—Constructing the teeth so that when in place their points are below or less prominent than and protected and guarded by their thick parts or heels, substantially as and for the purpose specified.

No. 19,585.—Charles G. Sargent and Francis A. Calvert, of Lowell, Massachusetts.—*Improvement for Clothing for Carding Cylinders.*—Patent dated March 9, 1858.—Iron, steel, or other wire of a suitable size is rolled between plain rollers, so as to produce a thin flat strip or tape. The teeth are then formed upon one side of this strip, and these teeth are afterwards turned up at right angles to the strip, or the teeth may be bent by the same punch which forms the teeth, it being so formed that as it descends to form one tooth it shall bend the one last made.

The inventors say: We are aware that clothing for carding cylinders and burring cylinders has been made by punching up teeth from short strips of sheet metal, which were secured longitudinally to the cylinder, and we therefore lay claim to no such invention.

But we *claim* the described method of making clothing for burring and carding cylinders, the teeth being formed upon flattened wire and bent at right angles to the plane of the strip of metal which sustains them, for the purpose set forth.

No. 21,364.—Charles E. Price and Joseph Haythorn, of Thompsonville, Connecticut.—*Improvement in Carding Machines.*—Patent dated August 31, 1858.—This invention consists in the employment of a revolving grooved or threaded cylinder applied below the comb, which removes the fleece from the doffer, and near to and parallel with the doffer, for the purpose of receiving the fleece as it is struck from the doffer by the comb, and conveying the same away, by means of its revolution, in a direction parallel with the axis of the doffer, through a tube arranged at one side of the machine.

Claim.—The spirally grooved or threaded cylinder E, applied in the manner substantially as described, in combination with the doffer and comb, and with a tube F, to operate as set forth.

No. 20,037.—Gilbert H. Chesbro, of Stafford, Connecticut.—*Improved Device for Turning Down the Edges of Elastic Cloth.*—Patent dated April 27, 1858.—The improvement in this machine consists in turning the edges of the faced side of the cloth over as it passes through or between the compressing cylinders, to meet and unite with the edge of the back side or lining, making perfectly finished, smooth, and firm edges on both sides of the cloth, and leaving a smooth and perfect surface on the face side and back side of said cloth.

Claim.—The plate B, constructed and operating as described, for the purpose of turning the edges of the face side of the cloth over as it passes between the compressing cylinders.

No. 21,930.—Milton D. Whipple, of Charlestown, Massachusetts, assignor to Alfred B. Ely, of Boston, Massachusetts.—*Improvement in Forming Bats for Felt Cloth.*—Patent dated October 26, 1858.—The first part of this improved process of preparing the bat for felting consists in shortening the staple used, by breaking or tearing in pieces the fibre; this gives a greater number of short fibres or ends to be interlocked with each other when the bat comes to be fulled.

The second part consists in a combination of certain devices for working the wool and making it into a bat after its staple has been shortened.

The inventor says: 1st. I *claim* shortening the staple, in the manner and for the purpose substantially as set forth, previous to forming the bat.

2d. I claim the combination of the draw rolls 1 and 2 with a brush cylinder B, a doffer C, and a suitable device upon which to form the bat, operating in the manner substantially as described for the purpose specified.

No. 19,235.—Thomas B. Butler, of Norwalk, Connecticut.—*Improvement in the Mode of Forming the Bat for Making Felt Cloth.*—Patent dated February 2, 1858.—The nature of this invention will be understood by an examination of the claim. The engraving is too elaborate for publication.

The inventor says: I do not claim the method of forming a bat of fibres deposited lengthwise, for that is open to the public; nor the method of forming a bat by alternating layers of lengthwise and transverse fibres, for that is covered by the Arnold patent referred to.

But I *claim* the arrangement of the machines, or their equivalents,

in the manner substantially as described, operating in combination, for the purpose of forming a bat, by the interposition of a layer or sliver of diagonal fibres between the alternating layers of longitudinal and transverse fibres, as set forth.

No. 21,931.—Milton D. Whipple, of Charlestown, Massachusetts, assignor to Alfred B. Ely, of Boston, Massachusetts.—*Improvement in Machinery for Fulling the Cloth in the Piece.*—Patent dated October 26, 1858.—The object of this invention is to avoid the partial pulling and strain upon any portion of the cloth, and consists in so manipulating it during the felting process that it shall at no time be subjected to strain, but only to compression.

Claim.—Fulling or felting cloth in the piece, by the action of rollers revolved alternately in one direction and the other, when the cloth is wound loosely on a spool, in the manner substantially as set forth.

No. 20,695.—John T. Boyd, of Charlestown, Massachusetts.—*Improvement in Machines for Turning Selvages in Cloth.*—Patent dated June 29, 1858.—The object of this invention is to facilitate the construction of sails for vessels, or in other words to prepare for being sewed the canvas of which they are composed, by turning down its selvage or edge in an expeditious and perfect manner.

The inventor says: I *claim* a combination of the following devices or their mechanical equivalents, viz: one or more guiding ledges B C, a bending or creasing roller C, a shoe or turning cam *b*, and one or more flattening or pressing rollers *a*, applied together and to a table or bed A, so as to operate substantially in manner and for the purpose as specified.

And in combination therewith I claim the press board *d*, arranged with respect to the table and the said devices for turning and pressing the selvage of the cloth substantially in manner and so as to operate on the cloth as specified.

No. 20,677.—Albert A. Wood, of Jersey City, New Jersey.—*Improvement in Machines for Picking Cop-Waste.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination described of a reciprocating toothed bed F, with vibrating toothed feeding rollers D D^1, or their equivalent, with a stationary toothed cover, when the teeth are constructed and arranged in reference to each other in the manner described and shown, to pass the waste or cotton through the machine without seriously rending the fibre, at the same time securing a precise and even feed to the bed by the combination of the vibrating toothed rollers working at a corresponding speed as set forth.

No. 19,554.—Charles Feickert, of New York, New York.—*Improvement in Machinery for Manufacturing Plated Cord.*—Patent dated March 9, 1858.—The cotton threads from the spools U U, after passing through the guides *u u* and notches 5 5, in the flanges *f f*, are

by the rotary motion of the strand spindles twisted together to form the strands, which, after passing through the central holes *i i* in the head pieces S^1 S^1 of the spindles, are covered with the threads of silk or wool from the spools V V, which latter threads, after passing through guides *v v*, are laid evenly by passing through the notches 6 6 in the flanges f^1 f^1 and wound around the strand. The strands thus twisted and covered are taken up by the regulators R R and conveyed to the pulleys *r r*, which are combined to operate like the laying block of a rope machine; and after passing between the pulleys, the strands are twisted together by the rotary motion of the laying spindle, and as fast as they are twisted into a cord it is taken up by the spool Q.

The inventor says: I *claim*, first, the construction of the strand spindles, substantially as described, whereby the operations of twisting together the threads to form the strands and the covering or plaiting of the strands are performed simultaneously and by the same rotary motion, and a uniform twist thus given to the threads of the body and of the plaiting or covering.

Second. The regulators R R, applied substantially as described, between the strand spindles and the laying spindles, for the purposes set forth.

Third. The arrangement of the strand spindles, the laying spindle, and the rollers *r r*, or other equivalent for laying the strands, substantially as described for the purpose set forth.

No. 20,690.—James A. Bazin, of Canton, Massachusetts.—*Improvement in Machinery for Braiding Cordage.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not intend to restrict myself to the use of the particular number of spools mentioned in the description, it being obvious that by varying the size of the circular geared plate *g g*, any number of spools which can be divided by three can be used.

I *claim* the combination of the gears *m m*, geared circle 9 9, and gears *o o*, with their curved arms, whereby one spool and its strand is made to travel around two stationary ones, and thus form an interlocking twist, as described.

I also claim, with the above combination of devices, the use of a series of double gears *o o o o*, whereby the spools can be revolved in either direction, according to the direction of the twist of the yarns.

No. 20,691.—James A. Bazin, of Canton, Massachusetts.—*Improvement in Manufacturing Braided Cordage, Webbing, &c.*—Patent dated June 29, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—The improvement in the manufacture of cordage, webbing, or other similar fabrics, which consists in laying up or so combining the strands as to form an interlocking twist, in which each and every strand passes around and interlocks with two others, as set forth, and thereby brings the strain equally upon each strand.

No. 19,394.—Cullen Whipple, of Providence, Rhode Island.—*Improvement in Drawing Cotton, &c.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The method described of drawing cotton, wool, flax, or other fibrous materials, viz: by means of a revolving toothed or card-clothed cylinder A and a single pair of drawing rollers B C, which draw the fibres directly from the teeth of said cylinder A, the surfaces of said rollers B C revolving as much faster than the surface of cylinder A as is requisite to produce the desired degree of drawing.

No 21,932.—Milton D. Whipple, of Charlestown, Massachusetts, assignor to Alfred B. Ely, of Newton, Massachusetts.—*Improvement in Machinery for Combing Cotton.*—Patent dated October 26, 1858.—In the engravings is represented a double-acting combing machine, having two sets of cards, nippers, and doffers, so arranged that, as the arms which carry the nippers are vibrated, and one pair of nippers is carrying the cotton which it has drawn from the feed rolls up to one doffer, the other pair of nippers will be returning for a fresh supply to be carried up to the other doffer.

The inventor says: First, I *claim* the vibrating elastic feed roll and permanent knife edge for holding the staple, as set forth.

Second, I claim the combination of the feed for introducing the material into the machine, the vibrating card *d*, and nippers, and the stationary cards *t* and b^1, operated in the manner substantially as described.

No. 20,270.—Thomas Oliver, of Yazoo City, Mississippi.—*Improvement in Machines for Cleaning Cotton.*—Patent dated May 18, 1858.—The invention consists in the employment of a series of toothed rollers *a b c d* and *e* and a fan D, so arranged that the cotton is loosened and its fibres separated one from the other, so as to "lighten up" the mass, and detach or loosen the dirt and other foreign substances from it; the cotton being discharged in a thin layer or sheet so as to be effectually operated upon by a blast generated by the fan, the blast separating the dust and other light impurities from the cotton. This invention also consists, in connexion with the toothed rollers and fan, of a toothed endless apron F arranged relatively with a guide board G, whereby husks and other foreign substances which the cotton may contain, and which are too heavy to be acted upon by the blast, are separated from the cotton.

Claim.—The arrangement of the toothed rollers *a b c d* and *e*, the guides *h* and *g*, and toothed carrying apron F, constructed and operating together in the manner and for the purpose specified.

No. 21,270.—John W. Newell, of New Brunswick, New Jersey.—*Improvement in Elastic Fabrics.*—Patent dated August 24, 1858.—This invention consists of a new article of elastic fabric produced by means of combining India rubber or gutta percha or their compounds, or the compounds of either of them or other elastic gum, with a plaited or braided fabric, when applied either by being cemented to the braid in strips or sheets, or in a plastic state.

Claim.—An elastic fabric formed by the application of an elastic gum to the side of braid, substantially as described.

No. 20,267.—John Gujer, of Philadelphia, Pennsylvania.—*Improvement in Thick Woven Fabrics.*—Patent dated May 18, 1858.—The sets of warp threads 1 1 and 4 4 pass around the sets of filling threads A A^1 and the sets of filling threads B B^1, and are united together. The sets of filling threads 3 3 and 6 6 pass around the filling B B^1 and C C^1, and are also united firmly together, and so on. In this fabric each set of warp threads turns around each of the outer threads A A and F F, and crosses all the other filling threads diagonally.

Claim.—The manufacture of stout textile fabrics for the purposes above named, of considerable thickness, in which all the warp threads are interwoven with the filling threads, substantially in the manner described.

No. 20,263.—Thomas France, of New York, New York.—*Improvement in Woven Tucked Fabrics.*—Patent dated May 18, 1858.—For weaving the fabric plain, four leaves of harness are required, two for each warp. In weaving the straight part *a a* of the fabric, all four leaves of harness are operated, and both warps are used; but on arriving at the point where a tuck is to be made, the weaving of one of the warps is stopped, by suspending the operation of its two leaves of harness, and the weaving of the other warp, which may be termed the tuck warp, continues for a sufficient distance to form the tuck; after which the loom is stopped and the beam of the tuck warp is relieved of the friction to which it is subjected during the weaving operation, and the lay and reed are brought forward to bring the last thread weft that has been woven into the said warp singly up to the last thread that has been woven into the two warps.

Claim.—The tucked fabric produced entirely by weaving, in the manner substantially as set forth.

No. 21,164.—Thomas B. Butler, of Norwalk, Connecticut, assignor to Lounsberry, Bissell, & Company, of said Norwalk.—*Improvement in Machinery for Forming Bats for Felting.*—Patent dated August 10, 1858.—This invention consists in arranging in the ordinary calender roll now in use, to felt the sliver upon the apron as it comes from the card or the vibrating roll, a movable rod, in which the teeth are placed, which teeth hold the sliver in place while the vibration of the traversing rolls is changed; whereby an acute or any desired angle may always be formed, and by means of cams, and the movable character of the rods in which the teeth are fixed, the teeth may be withdrawn from the sliver when it is brought in contact with the apron.

The inventor says: I do not claim the rolls J, G, or F, nor any combination of them, nor the vibration of J and G, nor the process of depositing the sliver diagonally upon the roll or apron.

But I *claim* the arrangement of rows of teeth upon the calender or felting roll, to hold the sliver while the vibration of the roll G is changed, and the angle formed substantially as described.

I also claim the rods L, springs M, pins P, and cams R, or their equivalents, arranged and operating as described, and for the purposes set forth.

No. 21,771.—S. S. Mills, of Charleston, South Carolina.—*Improvement in Machines for Separating the Fibres from the Pulp in Hemp Leaves.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim preparing the hemp leaves by boiling or steaming the same in vats, for this has been previously done in preparing ordinary hemp stalks.

But I *claim*, first, the toothed cylinder H, concave C, provided with the steam or water pipe S, and reciprocating bar D provided with the clamp E, arranged substantially as shown for shredding the hemp, as set forth.

Second. The vibrating toothed plates Q Q, in combination with the reciprocating clamp bar L and steam or water pipes R R for the purpose of heckling the hemp, as described.

Third. The cylinder H provided with the longitudinal plates *e*, and the concave I provided with the loaded plates or flaps J, combined and arranged substantially as shown for the purpose of skutching the hemp or separating the pulp from the fibre.

Fourth. The combination of the tooth cylinder B, concave C, toothed plates Q Q, clamp bars D L, cylinder H, and concave I, provided respectively with the plates *e* J, when the whole are arranged for joint operation, substantially as and for the purpose specified.

No. 21,077.—Azel Storrs Lyman, of New York, New York.—*Improvement in Separating the Fibres of Wood.*—Patent dated August 3, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The mode of separating the fibres of wood, flax, or other fibrous substances, for paper, cloth, or other purposes, by charging the mass with hot water, steam, compressed air, or other elastic fluid, while in a cylinder or other suitable receptacle; and then causing it to be projected from said receptacle into the atmosphere, or any space where it is subjected to a sufficiently less pressure to cause its disruption by the sudden expansion of the fluid within it, substantially as specified.

No. 19,600.—Oliver Woodworth, jr., and John D. Page, of East Hartford, Connecticut.—*Improvement in Machines for Picking Fibrous Material.*—Patent dated March 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We *claim* the combination of two or more conical cylinders, having teeth placed spirally around them at proper intervals, and within a suitable case having teeth arranged in such manner as to allow the teeth in the cylinders to pass between them, for the purpose described and in the manner substantially as set forth.

We wish it understood that we do not confine ourselves to the precise dimensions given, but vary according to the kind of stock used and quantity required.

No. 21,659.—Alexander Douglas, of New York, N. Y.—*Improvement in Folding-Guides.*—Patent dated October 5, 1858.—This invention consists of a peculiar tube of such interior dimensions and form that it sustains and guides the cloth, and, by folds in the said tube, compels the cloth drawn through it to be folded along three lines, so as to produce a binding with both edges concealed, without destroying the stiffness of the cloth or giving it any disposition to curl.

The inventor says: I do not confine my invention to the sewing of any particular material, but only to such work as requires both edges of the material to be turned under and protected from wear. I do not know or believe that it is practicable to produce bindings similar to mine by any means previously known. Bindings have been folded along the middle by means analogous to mine, but the edges of the binding were left exposed. Various hemmers have also been invented for folding under the edges of cloth, but they are not capable of being crowded into so limited a space as is required for this purpose, nor of being constructed so cheaply as mine; besides which, they offer more resistance to the passage of the cloth, and bend or fold the same in a manner which impairs its stiffness and gives it a disposition to curl, which renders it impossible to produce so evenly folded and evenly sewn work as mine, if indeed, it is possible, as I doubt, to accomplish the object at all by such means. To enable the work to go on continuously and smoothly, the work must be delicately and gently supported on all sides, and carefully preserved from any deranging influences, among the worst of which influences would be severe pulls in any direction, and the curling and limbering effect produced by being drawn through hemmers.

I claim the peculiar flattened tube B, folded upon itself, as described, so as gradually to fold the enclosed material along three lines, and at the same time to support it on all sides, and preserve its stiffness at all other points, substantially as described and for the purposes set forth.

No. 19,041.—James F. Orr, of Orrville, Alabama.—*Improvement in Cotton-Gins.*—Patent dated January 5, 1858.—In the engraving R is the rib, jointed as shown at *a*, or made rigid, if desired; *o o o* are openings through the rib to carry off the seed and dirt; S represents the saw, and shows its position relative to the ribs and openings.

Claim.—Making in the ribs or grates of cotton-gins, either jointed or rigid, one or more openings for the passage of seed and dirt, as set forth.

No. 19,097.—David G. Olmstead, of Vicksburg, Mississippi.—*Improvement in Cotton-Gins.*—Patent dated January 12, 1858.—This invention is designed for ginning cotton which shall not have been separated from the bolls, and the improvements are mainly applied so as to act on the cotton before it shall be subjected to the ordinary operation of ginning. Therefore, the saws B B, grate L and its stripping-brush C, as well as the general arrangement of the frame A, may be as usual. The improvement may be added to gins of ordinary construction.

The inventor says: I am aware that a mote-brush has been used in the same relation to a stripping-brush and saws which my screen-brush occupies; therefore I disclaim such a combination and arrangement, irrespective of the kind of screen brush which I employ.

But I *claim* the ribs I I, constructed, arranged, and operating in connexion with the saws B B, substantially as described.

I also claim, in combination with the ribs I I and saws B B, the revolving feeding-screen D, located beneath the feed-box G and over the grate Q, substantially in the manner and for the purposes specified.

I also claim the combination of the revolving screen-brush E with the stripping-brush C, when said screen-brush is constructed, operated, and arranged in relation to the brush C and the saws B, in the manner described and for the purpose specified.

No. 19,324.—Lewis J. Chichester, of New York, N. Y., assignor to Henry G. Evans, Samuel Barstow, and Daniel L. Winteringham, of said New York.—*Improvement in Cotton-Gins.*—Patent dated February 9, 1858.—This invention consists in the employment or use of two rollers A B grooved circumferentially and fitted together in the same plane, so that the projecting flanches *b* of each roller will work in the grooves *a* of its fellow or adjoining roller.

The inventor says: I do not claim broadly the employment or use of grooved rollers, in themselves considered, without reference to their application to cotton-gins; for grooved rollers are used in sheet metal-working devices, crushing-machines, and various other machines for different purposes.

But I *claim* the rollers A B, grooved circumferentially, as shown, and having the peripheries of their flanches *b* smooth or serrated, the rollers being fitted together with or without the elastic wings *e*, substantially as and for the purpose set forth.

No. 19,415.—T. C. Garlington, of Lafayette, Alabama.—*Improvement in Cotton-Gins.*—Patent dated February 23, 1858.—The saw teeth S take hold of the fibre and draw it gradually until the roller R is reached. The encounter of the seed with the roller causes the fibre to be stripped from it to a great extent unbroken. The cotton passes under the transverse grooves of roller R, and is stripped from the saws by the brush B, which also cleans the roller R.

The inventor says: I do not claim broadly placing a roller above the saws, nor do I claim spirally grooving said rollers, as shown in the patented gin of Parkhurst.

But I *claim* grooving the roller R transversely above each saw and obliquely across the said transverse grooves, substantially as set forth, when used in combination with ribs *r* which diminish the protrusion of the saws gradually, as described.

No. 19,417.—Benjamin D. Gullett, of Aberdeen, Mississippi.—*Improvement in Cotton-Gins.*—Patent dated February 23, 1858.—A represents the common ginning cylinder, and B the usual stripping brush; below this brush B there is another brush D of equal size,

called the carding-brush, which is made to revolve about one-fourth as fast as brush B. In front of these brushes there is a cylinder E, which bears upon its periphery a series of comb-plates or brushes *a*, which are made of steel saw-plate.

The inventor says: I *claim* the combination of the comb-brush E, the gin-brush B, and the gin A, in the manner set forth; the brush B being arranged between the comb-brush and the gin-brush, in the manner and for the purposes set forth.

Second. I claim the lower carding-brush D, arranged and operating as set forth, in combination with the gin-brush and comb-brush, as set forth.

Third. I claim the blast-board F, in combination with the gin A, the gin-brush B, and the carding-brush D, in the manner set forth.

Fourth. I claim the end brushes *k k*, constructed and operating as set forth.

Fifth. I claim the curved guards L, arranged and operating as set forth, in combination with the lower carding-brush D and stripper E, as set forth.

No. 19,598.—Francis L. Wilkinson, of Adam's Run, S. C.—*Improvement in Cotton-Gins.*—Patent dated March 9, 1858.—This invention consists in having one or both rollers B of the gin grooved spirally for the purpose of readily detaching the seed from the cotton, and also using, in connexion with the grooved rollers, stripping-brushes *v w* and a guard-plate E.

The inventor says: I am aware that the plate E has been previously used for the purpose stated, and stripping-brushes have also been used; I therefore do not claim separately the plate E.

I am also aware that grooved rollers have been used in cotton-gins, and therefore I do not claim them as my invention.

Nor do I claim, separately and irrespective of their relative position with the rollers D B, the brushes *v w* on the bars H I.

But I *claim* the arrangement, shown and described, of the spirally grooved rollers B D, one or both, stripping-brushes *v w*, and plate E, for the purposes set forth.

No. 19,679.—Hiram W. Brown, of Millville, New Jersey.—*Improvement in Cotton-Gins.*—Patent dated March 23, 1858.—The cotton is placed upon the plate W; and motion being applied to the shaft *b*, the roller B is rotated, and the cotton is drawn up over the upper edge of the plate R and down between the plate and roller B; at the same time the cotton is subjected to the action of the plate L, and the seeds are stripped from the cotton by the action of said plate.

The inventor says: I am aware that a roller and vibrating and stationary plates have been previously used for ginning cotton, but arranged in a manner different to that shown; so far as I am aware, no provision has been made for the ready discharge of the seed from the cotton; I therefore do not claim broadly a roller B, vibrating plate L, and pressure-plate R, irrespective of the arrangement and connexion with the parts shown, as these are seen in the patent of Fones McCarthy, dated July 3, 1840.

But I *claim* the roller B, stripping-plate L, and pressure-plate R, arranged as described, in combination with the yielding or vibrating feed board or plate W, provided with the rods *o*, the rods *n*, and doffer N; the whole being arranged to operate conjointly as and for the purpose set forth.

No. 20,120.—James N. Wilson and George W. Payne, of Memphis, Tennessee.—*Improvement in Cotton-Gins*.—Patent dated April 27, 1858.—The nature of this invention relates to the feeding of the cotton to the saws by means of a feeding cylinder; to the stripping of cotton of coarser impurities by means of projections on the ribs between which the saws run, and to the peculiar arrangement of the belting of the feeding cylinder, which permits the feeding-hopper to be raised, lowered, or adjusted to the ginning saws, without previously stopping the machine.

The inventors say: We *claim* the adjustable hinged hopper and rib frame, in combination with the belt arrangement described, by which the side frame can be adjusted, raised, or lowered without stopping the motion of the machine, substantially in the manner set forth.

We also claim the projections *g* on the ribs, substantially in the manner and for the purpose described.

We also claim the toothed feeding cylinder G, in combination with the inclined grate H, partition *p*, and hinged cover *n*, substantially in the manner and for the purpose set forth.

No. 20,051.—John Du Bois, of Greensboro', Alabama.—*Improvement in Cotton-Gins*.—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The use of the flange *b* on the face of the rib, constructed, arranged, and operating in the manner described; that is to say, the flange situated opposite the lower edge of the hopper-board *c*, with the lower end extending below that point, to separate the ginned seed from the cotton and facilitate their passage from the roll-box.

No. 20,086.—Stephen R. Parkhurst, of New York, N. Y.—*Improvement in Cotton-Gins*.—Patent dated April 27, 1858.—The nature of this invention consists in connecting the stripper and ginning cylinder with an "internal gear," viz: a female gear-wheel surrounding and driving the pinion on the end of the stripper-shaft, by which means the proper motion is given to the stripper *c* from the cylinder *b*; the two are compelled always to rotate simultaneously, there being no chance for the cotton to clog.

The inventor says: I do not claim the ginning cylinder or stripper, nor the combination of the same with the brush blower, each revolving in the directions specified.

Neither do I claim internal gears in themselves.

But I *claim* the manner described of connecting a ginning or card cylinder with a stripper, by combining with said cylinder and stripper the internal gear *h* and pinion *i*, substantially as and for the purposes specified.

No. 20,216.—Enoch Osgood, of Boston, Massachusetts.—*Improvement in Cotton-Gins*.—Patent dated May 11, 1858.—In the operation of this machine the cotton, with the seeds and dirt in it, is laid upon the endless apron *l*, and by such is deposited upon the inclined rack M, or in the space between the same and the adjacent cylinder B; and by such cylinder, the double concave or guard C, and the clearer D, it will be separated from its seed and extraneous matters.

Claim.—The combination of the oscillating clearer D and the concave guard or plate C, constructed and arranged with the cylinder B and the rack M, and made to operate therewith, substantially in the manner and for the purpose as before specified.

No. 20,747.—J. Alexander Ventress, of Woodville, Mississippi.—*Improvement in Cotton-Gins*.—Patent dated June 29, 1858.—The nature of this invention consists in making the saw plates C much thinner upon their edges, where their teeth are cut, and for a short distance below the gullets or roots of the teeth, than the remaining portions of the plates, so that the cotton cannot be crowded between said saw plates and the ribs B in ginning by any vibration of the plates or jaws.

Claim.—In combination with the ribs set close up to the saws, forming a clear space between the ribs at that point where the teeth of the saw carry the cotton through them, to prevent said cotton from being brought in contact with said ribs, substantially as and for the purpose set forth.

No. 20,904.—Joshua Tetlow, of Taunton, Massachusetts.—*Improvement in Cotton-Gins*.—Patent dated July 13, 1858.—The gins in which this improvement is made are such as are used for ginning Sea Island or long staple cotton, and the intention is to produce a machine which will gin long staple cotton more expeditiously, and at the same time work in a thorough manner, without injuring the fibre in the least. Grooved rollers are used in connexion with vibrating plates and adjustable feed-boards, arranged so as to operate together and produce the effect desired.

Claim.—The rollers B B, one or more, grooved as shown, namely, longitudinally and parallel with their shafts, and grooved also in a zigzag manner; in connexion with the adjustable stationary plates S and vibrating plates *b*, arranged to operate as and for the purpose set forth.

No. 21,357.—Henry C. Parkhurst, of New York, N. Y.—*Improvement in Cotton-Gins*.—Patent dated August 31, 1858.—The nature of this invention consists in the application of stationary end pieces to the hopper, combined with movable half end pieces connected with the breast board and jointed on to the fixed end pieces, whereby the fixed end pieces retain the cotton in the hopper, preventing the same from working over the end of the cylinder and around the journal; at the same time free access is provided for clearing the hopper when required.

The inventor says: I do not claim generally a hopper for cotton-gins.

Neither do I claim the mouth or opening beneath the board *i*, adjustable as set forth.

But I *claim* constructing the hoppers of cylinder cotton-gins with the fixed end pieces *f* and movable end pieces *g* on the breast-board *h*, attached by the joint 2, as and for the purposes set forth.

No. 21,582.—John L. Tuttle, of Bridesburgh, Pennsylvania — *Improvement in Cotton-Gins.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—So combining a toothed cylinder with an open breast that allows the fibre to pass through it, but holds back the seeds, as that the cylinder shall work against the edge of said open breast, and carry the fibre past it, whilst the seeds shall roll up against the surface of said breast, and draw the lint that has not been taken from them up through the openings, whence they are turned over and returned again and again by the action of the cylinder to the breast until divested of all their fibre, substantially as described.

No. 21,714.—A. Q. Withers, of Byhalia, Mississippi.—*Improvement in Cotton-Gins.*—Patent dated October 5, 1858.—The brush cylinder F strips the cotton from the ginning saws and conveys it to the carding saws G, which revolve in the direction opposite to that of the brush cylinder, and at about once and a half or double its velocity. These saws are smaller than the ginning saws, with much finer teeth, and their number is twice or three times that of the ginning saws. The stripping and discharging brush H which takes the lint from the carding saws may be of ordinary construction, and revolve at a speed of about once and a half or double that of the carding saws. It discharges the lint through the spout I.

The inventor says: I *claim* the curved spring board C, situated in the "roll-box," and provided with teeth projecting from its lower edge, arranged and operating substantially as specified.

I also claim the employment of the additional brush E and carding saws G, situated between the ginning saws E and discharging brush H, and acting in combination therewith, substantially as described. In combination with the additional brush F and carding saws G, I also claim the concentric screen *i i* and "break currents" *g g g*, when arranged in close proximity to said brush and saws, and for the special purposes set forth, in connexion with their action.

No. 21,795.—Lewis S. Chichester, of New York, N. Y., assignor to Henry G. Evans, of said New York.—*Improvement in Cotton-Gins.*—Patent dated October 12, 1858.—The object of this invention is to obtain a gin that will perform its work more rapidly than the ordinary saw gin without injuring the staple or fibre. This object is attained by dispensing with the usual stationary breast, which consist of a series of ribs placed in a frame, and between which ribs the saws work, and the cotton is forcibly drawn through in detached masses by

the teeth of the saws; and using instead an oscillating breast, in connexion with saws armed with peculiar teeth.

Claim.—The saws C, in combination with the oscillating breast D, the parts being constructed and arranged to operate substantially as and for the purpose set forth.

No. 22,288.—Michael Hardy, of New York, N. Y.—*Improvement in Machinery for Forming Hat Bodies.*—Patent dated December 14, 1858 —This invention consists in making the picker or brush by which the fur is taken and thrown toward the pervious cone of a conical form, with the view of supplying more fur on to the base than the tip of the cone, and in combining with such conical picker or brush a feeding apron made in the form of a segment of a cone, and causing it to pass around two conical rollers, or the equivalent thereof, that fur may be supplied to every part of the length of the conical picker or brush in proportion to the diameter. This invention also consists in combining with the conical picker a series of rollers forming a concave, to direct the discharge of the fur from the picker toward the perforated cone.

The inventor says: I *claim* combining with a pervious cone, connecting with an exhausting apparatus, a picker or brush of a conical form, substantially as and for the purpose specified.

I also claim, in combination with the pervious cone and conical picker or brush, the apron formed and mounted, substantially as described, for supplying fur to the several parts of the length of the picker in proportion to the diameter, as set forth.

I also claim, in combination with the pervious cone and conical picker or brush, substantially as described, the employment of a series of rollers, forming a concave, substantially as described, to direct the fur towards the cone, as described.

I also claim, in combination with the two cones, the one on which the bat is formed and the other fitting over the bat, the tube connected with the exhausting fan and adapted to receive and hold the outer cone, substantially as described, to effect the transfer of the bat of fur fibres from the inner to the outer cone, as set forth.

No. 20,602.—S. W. Wood, of Washington, D. C.—*Improvement in Machines for Sizing Hat Bodies.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Sizing or planking hat bodies by rolling the bat continuously forward, that is to say in one direction, between endless belts running in opposite directions, and at different or variable velocities, as specified.

No. 21,382.—Alva B. Taylor, of Newark, New Jersey.—*Improvement in Hat Body Machinery.*—Patent dated August 31, 1858.—The picker is composed of two disks A and B, one of which (A) is stationary, while the other revolves upon its axis. These disks face each other, and are studded with teeth in concentric rings of different diameters, so that the teeth of one disk enter between those of another.

The inventor says: Having described my improvement, and a

machine in which it is embodied, it may be proper to state that I do not limit it to the precise arrangement and construction described, but intend to vary these as circumstances may render expedient. Thus, for example, both disks of the picker may be caused to revolve either in the same direction with different speeds or in opposite directions, and the picker may be combined with a perforated former not enclosed in a forming chamber, or with other devices than those described.

I *claim* the combination of a disk picker, operating substantially as set forth, with a perforated former.

I also claim a disk picker composed of two disks, whose faces are studded with teeth, operating substantially as set forth, to pick fibrous material fed into the eye of the picker, and to discharge the picked fibre at the run thereof.

No. 19,138.—William A. Fenn, of Brookfield, Connecticut.—*Improvement in Machinery for Forming Brims of Felt Hats.*—Patent dated January 19, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I do not claim, in the abstract, the employment or use of conical pressure rollers, for they are used in various ways for similar or analogous purposes.

But I *claim* the employment or use of the two pair of rollers O F N G, arranged as shown, to wit: the upper rollers O N of each pair being fitted or placed in an adjustable frame K, and the two pair of rollers rotated with varying speed, whereby the hat brim is stretched, and at the same time subjected to the necessary pressure, as described.

I further claim giving the roller G a certain degree of elasticity, or allowing it to yield or give vertically, to a certain extent, by any proper arrangement, when said roller G, thus arranged, is used in combination with the other described parts, whereby the pressure of the feed-rollers N G is rendered constant, and at the same time the pressure of the rollers O F allowed to be regulated as desired, for the purpose of forming an even and perfect brim, as set forth.

No. 19,616.—James W. Beebe, of New York, N. Y.—*Improvement in Ventilating Hats.*—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not wish to be understood as making claim broadly to the use of a sweat-leather, separated from the hat by an open space for the circulation of air; nor to the use of a perforated flanch for the admission of air to the space between the hat and the inner lining.

But I *claim* making the sweat of leather, or any of the equivalent substances usually employed for hat sweats, with a flanch pierced with numerous small holes *e e*, combined with and attached to the brim of the hat, substantially as described, so as to leave open space for the free circulation of air between the sweat and the hat.

No. 19,255.—Solomon P. Moore, of Arrow Rock, Missouri.—*Improvement in Hemp-Brakes.*—Patent dated February 2, 1858.—The motive power, being applied to the wheel A, causes the crank B on the same axis to revolve, thereby communicating a reciprocating motion to the horizontal bar C, and, this being attached to the frame D D, causes it to swing on the axis E through a small circular arc. The outer vertical faces F F of the side of this frame are serrated or corrugated.

The inventor says: I do not claim any of the improvements embodied in the machine for which a patent was granted to S. A. Clements in 1853.

I *claim* so corrugating the contiguous faces of the brakes in a transverse direction to the general line of the feed and general line of the longitudinal surfaces of said brakes, as to prevent the fibres or stalks from escaping the proper action of the machine by a change of direction, when combined with the brakes vibrating in relation to each other, substantially as described and shown.

No. 20,890.—George M. Newell, of Lexington, Missouri.—*Improvement in Hemp-Brakes.*—Patent dated July 13, 1858.—By shaping the swords or slats of the reciprocating gates, and giving them a circular, reciprocating motion, they have a positive downward action upon the hemp or flax, both in their backward and forward motion, and thereby cause the same to be continuously drawn down from the hopper, and to be fed down through the machine without the aid of any auxiliary feed devices; and by arranging reciprocating whipping rods or beaters below the breakers, all the shoves are removed, and thus the perfect operation upon the hemp before it leaves the machine is insured.

The inventor says: I am aware that straight slats, in a horizontally reciprocating frame, in combination with similar stationary slats, have been used previous to the date of my invention. Also, that a reciprocating whipper has been used in combination with a reciprocating gate and other reciprocating devices for breaking hemp. Such devices and combination of devices, therefore, I do not claim broadly.

But I *claim*, first, giving the slats of the pivoted frame a curve, which is concentric with the axis on which the frame A in which they hang reciprocates, and arranging said slats or swords so as to move in curved slots of stationary pillars as the frame reciprocates, substantially as and for the purposes set forth.

Second. The arrangement in the manner specified, below the breaking swords or slots, of two sets of stationary beaters or whipping rods and two sets of reciprocating beaters or rods G G^1, the latter being attached to pivoted rocking arms provided with curved slats E^1 E^2, so that they shall reciprocate in the path of a vertical circle, and operate in combination with the stationary rods, substantially as and for the purposes set forth.

No. 21,513.—H. D. McGeorge, of Morgantown, Virginia.—*Improvement in Hemp-Brakes.*—Patent dated September 14, 1858.—The nature of this invention consists in the manner in which the breakers and cleaners are arranged and combined.

Claim.—Breaking and cleaning hemp, flax, &c., by a combination of vibrating blades *d i* and stationary blades *e k*, and clearing devices

f n acting in concert with them; the whole being arranged and operating substantially in the manner set forth.

No. 21,680.—WILLIAM C. HUTCHINSON, of St. Joseph, Missouri.—*Improvement in Hemp-Brakes.*—Patent dated October 5, 1858.—The nature of this improvement consists in constructing a hemp-breaking machine, wherein the features of invention are a peculiarly shaped tooth or breaker, which is termed the rounded, oval, or bevelled, angular shaped tooth, together with a pendently arranged swingle, or a vibrating sword or beater, with a horizontally arranged reciprocating or a sliding scalloped edged, double jaw hatchel, or beaters.

The inventor says: I *claim* the tooth described and illustrated in the drawings as constructed, to be used in the drums of cylinder hemp brakes, as set forth.

I also claim the combination and arrangement of the pendent scalloped edge swingle P P P *q q r r*, with the sliding or reciprocating double jaw hatchel *s s s s t t*, arranged and operated substantially in the manner as set forth and described.

No. 21,983.—WILLIAM SHELBY, of Waverly, Missouri.—*Improvement in Hemp-Brakes.*—Patent dated November 2, 1858.—A represents a horizontal rectangular frame, which is properly supported at a suitable height, and on which two parallel bars B B are secured longitudinally at a suitable distance apart. C is a bar which is placed between the two bars B B, and allowed to work freely between them. To the under side of bar C a traverse bar D is attached, said bars resting on longitudinal bars E; and to the traverse bar D is attached an inclined bar F, said bar F having one end of the connecting-rod G connected to it, the opposite end of the rod G being attached to crank H, which is on the driving or power shaft H^1 of the machine.

The reciprocating bar C is provided with beaters J, which are placed parallel with the sides of its bar. The beaters J are not quite as high as the blades I. To the bars I, at their inner sides, vertical metallic plates K are attached, said plates being attached to the bars near the inner edges of the blades I.

Claim.—The arrangement of the beaters or blades I J at varying distances, in combination with the yielding plates K, as and for the purposes shown and described.

No. 22,399.—ROBERT HENEAGE, of Buffalo, N. Y., assignor to Himself and EDWARD O. BALL, of said Buffalo.—*Improvement in Hemp-Brakes.*—Patent dated December 21, 1858.—A represents a table upon which the flax or hemp is laid in order to be carried to the brake B B^2. This consists of two fluted rollers, the one placed above the other, and both running together. Journals are formed upon their ends, which have bearings in the standards D.

C^2 is a strip of metal which is let in longitudinally across the face of the revolving cylinder c, and, arranged as they are with the cylinder, constitute a beater.

K is a shell of metal which lies parallel with the roller B^2, and close to it, and forms nearly a quarter circle around it. X shows a chamber or recess for the purpose of passing the hemp into during the process of dressing.

The inventor says: First. I *claim* the combination of the reversing mechanism with the brake B B^2, beater C C^2, and shell K, substantially as described, and for the purpose of dressing hemp, as set forth.

Second. I claim the combination and arrangement of the brake B B^2 with the revolving beater C C^1, shell K, and revolving apron J, for the purpose of dressing flax, substantially as set forth.

Third. I claim the arrangement of the chamber X within the machine, for the purpose of affording room for the movements of the hemp while being dressed, substantially as described.

No. 21,264.—SAMUEL H. LITTLE, of St. Louis, Missouri.—*Improvement in Machines for Breaking Hemp.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this improvement.

Claim.—In combination with the main beating cylinder F, rotating in a fixed vertical plane on the permanent frame of the machine, the arrangement of the feeding apron, breaking and crushing rollers, and concave, in a second frame adjustable on the first one, so that when it becomes necessary to adjust the concave to the beating cylinder, the parts preceding the concave in the operation shall always maintain the same relative positions to it and to each other, as set forth. Also, the arrangement and operation of the beater cylinder F, the concave J, the reel *f*, and carrying apron *g*; all as described and represented, and for the purpose specified.

No. 20,827.—WERNER STAUFEN, of London, England.—*Improvement in Treatment of Fibre of Tampico Hemp.*—Patent dated July 6, 1858.—The claim will explain the treatment of the fibre of Tampico hemp.

Claim.—Changing the properties of the fibres of the plant known as the "Argave Americana," by first saturating said fibres with an alkaline solution, and then immediately submitting the same to the action of a high degree of artificial heat, substantially as herein described, and preparatory to using said fibres as a substitute for horse hair and bristles in the production of various useful articles.

No. 19,625.—LINUS B. COOLEY and JAMES C. COOKE, of Middletown, Conn.—*Improvement in the Manufacture of Textile Hose.*—Patent dated March 16, 1858.—By springing the warp shades, and throwing in the woof successively in A and B, there is formed a single hose or pipe. After throwing in a suitable number of woof threads in A and B, the warp shades of C and D are sprung, and cross the woof from A and B to C and D, and through them successively a suitable number of times, thus forming a second single pipe or hose within the one already woven.

Claim.—The double tube or hose, as a new article of manufacture, woven in the manner and for the purpose specified.

No. 20,893 —JAMES PEATFIELD, of Ipswich, Mass.—*Improvement in Manufacturing Knit Gloves.*—Patent dated July 13, 1858.—The object

of this invention is to produce seamless knitted gloves by machinery. This is done by knitting the hand of a glove and the fingers and thumb separately, each in circular form, and consequently without seam, and uniting them by knitting them together by hand.

The inventor says: I do not claim to be the inventor of a seamless knit glove, as such are knit by hand.

But I *claim* the manufacture of seamless knitted gloves by knitting the hand and the fingers and thumb separately, and uniting them in the manner substantially as described.

No. 19,370.—Joseph K. Kilbourn and Edward E. Kilbourn, of Norfolk, Conn.—*Improvement in Knitting-Machines.*—Patent dated February 16, 1858.—The claim and engravings will explain the main features of this invention. A detailed description of this machine would take up too much space to be given here.

The inventors say: We *claim* combining the needles and sinkers with a reciprocating carriage, operating substantially as set forth.

We also claim the adjustment of the position of the needles at the time the sinkers are forming the folds of yarn by means of grooves in the nosing, whose sides converge so as to insure the uniform width of the stitches.

We also claim the combination of a reciprocating series of needles, with a reciprocating thread guide, operating substantially as set forth, so as to move at times with the needles, and to remain stationary at other times when the needles are moving

We also claim the varying of the width of the fabric by causing the thread guide to pass down between one pair of needles and to rise between another pair, by mechanism operating substantially as set forth, thus producing a selvage edge when widening is effected.

We also claim the combination of under supports, operating substantially as set forth, with a reciprocating series of needles, so as to support the needles and effect the closing of their barbs.

We also claim combining with a reciprocating series of needles and sinkers cam bars, or their equivalents, in such manner as to impart the necessary movements for forming the loops to the several members of the series in succession, substantially as set forth.

We also claim combining a reciprocating series of needles and sinkers with reciprocating mechanism for taking up the work as it is formed, substantially as set forth.

No. 19,740.—Joseph Vickerstaff, of Philadelphia, Pennsylvania, assignor to Martin Landenberger, of said Philadelphia.—*Improvement in Knitting-Machines.*—Patent dated March 23, 1858.—This improvement consists in the employment of two sets of thread guides v^1 v, actuated by a cam wheel and levers in such a manner that their respective threads may be knitted first by one and then by another set of needles.

Claim.—Imparting to two sets of thread guides the continuous vibratory movement, combined with the transposing movement described, by means of the cam wheel L, acting in conjunction with the lever K and arms p and p^1, or equivalent devices, for the purpose specified.

No. 20,854.—Nelson P. Aiken, of Troy, New York.—*Improvement in Knitting-Machines.*—Patent dated July 13, 1858.—This invention consists in a certain mode of combining the sinker wheel or any toothed wheel gearing into and deriving motion from the needles with a movable stop H, which is applied to the belt shipper G to lock it in a position to hold the driving belt on the driving pulley of the machine as long as the knitting progresses properly; whereby, as soon as the thread breaks, or any of the loops miss, the shipper is caused to be unlocked and allowed to be moved by a spring, or its equivalent, applied for the purpose, to a position to ship the belt on to a loose pulley, and thus stop the machine.

The inventor says: I am aware that it is not new to use a belt-shipping apparatus in a knitting-machine to move the belt from the driving to the loose pulley, when the yarn breaks or gives out, and therefore I do not claim broadly this as my invention.

But I *claim* the arrangement of the shipper or belt-shifter G in the manner substantially as described, and in combination with the movable stop H, lever M, and sliding bar K, when controlled by a sinker wheel, or by any wheel gearing with and moved by the needles, for the purpose set forth.

No. 21,045.—Joseph P. Delahunty, of Cohoes, New York, assignor to Himself and Edgar S. Ells, of Troy, New York, and said Ells having reassigned his right, title, and interest in the same to Clark Tompkins, of Troy, aforesaid.—*Improvement in Knitting-Machines.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—So arranging or adjusting the presser and connecting it with the yarn running to the needles B that, when the yarn breaks or fails, the presser E will move and cease depressing the barbs of the needles, and thereby prevent the casting off of the "quarter" or web, substantially as set forth.

No. 21,396.—Thomas Lovelidge, of Germantown, Pennsylvania, assignor to Himself and William Fulfirth, of said Germantown.—*Improvement in Knitting-Machines.*—Patent dated August 31, 1858.—This improvement consists in introducing between the thread guides a pressure bar, which is so connected to the guides as to press the loops formed on the needles down the latter and over the pawls, so that the fabric may consist of single instead of double threaded loops, and similar to fabrics knitted by hand, and at the same time require less material than the fabric produced by ordinary machines.

Claim.—The pressure plate E, situated between the two rows of thread guides d and d^1, and operated so as to press the loops down the needles, substantially in the manner and for the purpose set forth.

No. 21,762.—Joseph K. Kilbourn and Edward E. Kilbourn, of Norfolk, Connecticut.—*Improvement in Knitting-Machines.*—Patent

dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the transferring of stitches in a knitting-machine from the needles on which they have been formed to other needles by means of transferring hooks, or their equivalents, which take the stitches from the needles, move along to other needles, and deliver the stitches to these other needles, operating automatically, substantially as set forth.

We also claim arranging transferring hooks with reference to the needles in such manner that they may enter the stitches upon the needles by moving along the stems of the needles toward their heads, substantially as set forth.

We also claim directing the operations of transferring hooks, or their equivalents, for transferring stitches by means of a pattern barrel, or its equivalent, operating substantially as set forth.

We also claim combining the mechanism that actuates transferring prongs with the mechanism that moves the needles of a knitting-machine in such manner that the prongs enter the stitches upon the needles at times when the latter are supported both vertically and laterally, substantially as set forth.

We also claim combining a nosing having V-shaped grooves with transferring prongs having corresponding grooves, the grooves of the nosing and prongs acting in concert to confine the needles and direct their heads into the stitches on the transferring prongs.

We also claim controlling the operation of the mechanism by means of which the relation of the thread guide to the needles is changed so that yarn is supplied to more or less needles by means of a pattern barrel, or its equivalent, operating substantially as set forth.

We also claim varying the extent of travel of the needle carriage in proportion to the number of needles at work, by means of mechanism operating automatically, substantially as set forth.

We also claim varying the periods of time at which the transferring mechanism begins to operate in proportion to the number of needles at work by means of mechanism operating automatically, substantially as set forth.

We also claim combining the widening mechanism with the mechanism that actuates the needle carriage in such manner that the period of time at which the former operates is varied in proportion to the number of needles at work.

We also claim combining the mechanism that actuates the pattern barrel, or its equivalent, with the mechanism that actuates the needle carriage, in such manner that the period of time at which the former is moved is varied in proportion to the number of needles at work.

We also claim combining the widening mechanism and the narrowing mechanism together, when both are used in the same machine, in such manner that the movement of the one to do its work is attended by a corresponding movement of the other, so that the thread guide and transferring hook, or their equivalents, are both in the proper position to operate in connexion with the selvage needle.

We also claim raising the sinkers out of the way of the prongs of the transferring instrument, substantially as set forth, so that the

latter may move along the series of needles without obstruction from the sinkers, substantially as set forth.

We also claim obtaining a pause in the endwise movement of a nut moved by a screw, by causing the screw to move endwise while it is turning in the nut, substantially as set forth.

We also claim the arrangement of the pattern holes of a pattern barrel in a helical line, so that they may be brought in succession beneath the device upon which the pattern pins operate, by a screw, or its equivalent.

We also claim operating the transferring instrument, substantially as set forth, in such manner that its movement is effected partly while the carriage is travelling in one direction, and partly while it is travelling in the opposite direction.

We also claim combining with a travelling series of needles and a rigid bar above them, stationary under supports, over which the needles ride, so that their barbs may be closed by pressure against the stationary bar above them.

No. 22,004.—WALTER AIKEN, of Franklin, New Hampshire.—*Improvement in Knitting-Machines.*—Patent dated November 9, 1858.—By means of the peculiar shaped cam groove each needle is drawn in just before it is moved out, thus insuring the casting off of the loops from over the hooks of the needles; and as soon as new loops are formed the needles are moved out, releasing the strain upon the loops around the plates L L, thus dispensing with all friction. By means of the treble-motioned cam-groove, the vibrating yarn-carrier and the mechanism to work it are dispensed with. By means of the fingers K K the yarn is sure to be fed to the selvage needles.

The inventor says: I *claim* the peculiar-shaped cam groove, constructed and operating substantially as described.

I also claim the selvage fingers, substantially as described.

No. 22,135.—FREDERICK SCHOTT, of Brooklyn, New York.—*Improvement in Knitting-Machines.*—Patent dated November 23, 1858.—This invention consists in a series of improvements in those kinds of straight knitting-machines in which the needle bed has a movement back and forth, to present the needles, one or more at a time, in regular succession, in an operative relation with one or more feeders or thread conductors and a corresponding number of stitch hooks.

The inventor says: I *claim*, first, the combination of levers G and H, the dog G^1, spring k, sliding bar I, adjustable stops k^1 k^2, and the eccentric H^1, or its equivalent, on the main shaft; the whole operating substantially as described, to effect the movement of the needle bed in one and the other direction alternately.

Second. The two-grooved safety guide K^2 applied in combination with the feeder, to operate substantially as and for the purposes specified.

Third. The needle and stitch hook protector N, applied and operating substantially as set forth.

Fourth. The combination of mechanism to operate the sinker or reliever P, consisting of the cam R on the main shaft, the arm D^3 and

spring u^2 on the rock shaft, the spring w applied to the reliever bar P^1, the projections v^1 v^2 on said bar, the stationary inclined projections Z on the frame, and the stationary inclined planes Z^1 Z^2; the whole applied and operating substantially as set forth.

Fifth. The combination of the bar X, or its equivalent, furnished with teeth 20 20 21 21, and a wedge-like projection 27, the pawl 23 operated by the movement of the needle bed and the stop lever W; the whole applied to operate substantially as described, in combination with a belt shipper to stop the machine as soon as any desired number of courses have been knitted.

No. 21,566.—Joseph K. Kilbourn, of Pittsfield, Massachusetts, and Edward E. Kilbourn, of Norfolk, Connecticut.—*Improvement in Needles for Knitting-Machines.*—Patent dated September 21, 1858.—This improved knitting needle has the same general form as the knitting needles in ordinary use, *a* being the barb of the head, which, as usual, when depressed to cast off the stitches, is received into a groove in the stem. Behind this groove there is a secondary groove *b*, which is formed in the stem of the needle upon that part thereof which the stitch yarn encircles at the time transference is to be effected, so that the point of the transferring instrument, which is entered in this groove, is by it guided into the stitch upon the stem of the needle.

Claim.—The improved knitting needle having a secondary groove in its stem, substantially as set forth.

No. 20,044.—George Crompton, of Worcester, Massachusetts.—*Improvement in Looms.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not wish to be understood as limiting my claim of invention to the special construction specified, as the same end may be obtained by equivalent means.

I *claim* the employment of the two bars for holding up and holding down such of the series of jacks as are not required to be elevated or depressed at the forming of any shed, substantially as described, in combination with the jacks, the pattern cylinder or chain, and the lifter and depresser, substantially as and for the purpose specified.

And I also claim the holder bar, which acts on the ends of the heddle levers to hold them in their elevated or depressed position until the beginning of the operation of opening a shed, substantially as described, in combination with the two bars for holding up and holding down such of the jacks as are not required to be shifted during the operation of opening a new shed, substantially as and for the purpose specified.

No. 20,969.—Joseph Welsh, of Philadelphia, Pennsylvania.—*Improvement in Looms.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: As a multiplier of the pattern wheel of looms has been used before, and patented by Barton H. Jenks on the 24th of October, 1854, I do not claim broadly increasing the capacity of said pattern wheel by means of a multiplier.

But I *claim*, as an improvement in the said multiplying apparatus, the arrangement and combination consisting of the extra ratchet wheel G and its pinion H, in connexion either directly or indirectly with the pattern wheel, the adjustable pawls C^1 C^2 on their actuating lever D, and the prolongation *o* on the usual operating pawl C of the pattern wheel; the said devices or their equivalents being arranged so as to effect the changes as desired in number at any given point of the pattern wheel during its rotation, substantially as set forth and described.

No. 21,098.—Joseph Welsh, of Philadelphia, Pennsylvania.—*Improvement in Looms.*—Patent dated August 3, 1858.—This invention consists in the application of a jointed loom so that it shall be made to operate upon the pattern wheel C, or its equivalent, to reduce its normal capacity, or the number of "shots" which it would otherwise produce or allow, as well as to render the aggregate number of notches divisible.

The inventor says: I do not limit my claim to the described construction, arrangement, or mode of operating the lever L, or its equivalent.

But I *claim* reducing the normal capacity of the pattern wheel or its equivalent, so as to make it perform the functions described, substantially in the manner and for the purpose set forth and described.

No. 21,448.—Edwin M. Scott, of Auburn, New York.—*Improvement in Looms.*—Patent dated September 7, 1858.—This invention provides for the shuttle motion of a loom, and harness motion by the movements of the lay, thus dispensing with the cam shaft and cams and treadles, and simplifying the construction of the loom.

The inventor says: I *claim*, first, operating the shuttle motion by means of the lay, in the manner and for the purpose described.

Second. The combination of the sliding shaft *h*, attached to the lay, the rollers *e e*, or their equivalents, on said shaft, the cam I and its appendages attached to the lay for giving longitudinal motion to the shaft, and the dog *n* attached to the breast beam to operate the cam, the whole applied and operating substantially as described, to actuate the shuttle motion at one side of the loom only at a time by the movement of the lay.

Third. Operating the harness motion by means of the lay in the manner and for the purpose specified.

Fourth. The combination of the swinging frame Q and its dogs *q q*, cams *t t*, and turning plate w^1 with the lifting rods *o o* below the heddle frames, the dog *v*, and the lay, the whole operating substantially as set forth to cause the heddles to be operated alternately or in proper order of succession.

No. 21,793.—Samuel B. Chaffee, of Providence, Rhode Island, for Himself and as administrator of the estate of Samuel M. Chaffee, deceased, late of said Providence.—*Improvement in Looms for Weaving Hair-Cloth.*—Patent dated October 12, 1858.—The operation of this loom is as follows: As the main shaft B revolves, the lathe is caused to beat up and be thrown back by means of the rods D D^1, connected as shown in the engravings. At the same time the shaft H is revolved

by means of cams I I¹, rods K K¹, lever M, rod N, and jack staff O gives the required motions to the shuttle. The nippers, which form the point of the shuttle, open as they approach the hair cylinder by the pressure of the roller N, and they close when the lathe has beat up by the relief of the pressure. When thus closed they are drawn back, carrying with them the hair for the filling. When sufficiently far back, they are opened to release the hair by the knee *e*, which may be placed at any point required by the width of the cloth.

The inventor says: I *claim*, first, forming the selvage of hair cloth by means of a set of heddles operating independently of the heddles used in forming the rest of the cloth, substantially as described and shown.

Second. The method described of operating the jack staff by the combination of the cams I I¹, rods K K¹, lever M, and rod N, as specified.

No. 21,312.—James Beck, of New York, New York.—*Improvement in Looms for Weaving Skirt Fringe.*—Patent dated August 31, 1858.—This invention consists in cutting the threads forming the skirt fringe on the said rod by combining shears with the said rod, by the operation of which the skirt fringe will be cut against the edge of the said rod as the fabric is moved along during the progress of the weaving operation.

Claim.—The employment of shears in combination with the rod around which the fringe threads are carried, substantially as described, for the purpose of cutting the said threads on the rod, as set forth.

No. 22,042.—Samuel Walker, of Roxbury, Massachusetts.—*Improvement in Fringe Looms.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, riveting the thread carriers to a reciprocating frame S moving with the lathe, as set forth for the purpose specified.

Second. I claim the guard plates *i* attached to the knife, and operating in the manner substantially as set forth.

Third. I claim depressing each loop of fringe as it is formed by means of the fingers *i*, or their substantial equivalents, for the purpose of preventing them from being entangled and twisted up with the succeeding loops, as set forth.

Fourth. I also claim twisting the weft thread immediately before the loops of fringe are formed, by pivoting its spool upon a revolving carriage P¹, as set forth.

No. 19,719.—Rufus J. Stafford, of Smithfield, Connecticut.—*Improvement in Stop Motion for Hair-Cloth Looms.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I wish it to be understood that I do not limit myself to the special construction or arrangement of parts as described.

But I *claim* all merely formal variations performing the same mode of operation by equivalent means.

What I claim is the mode of operation, substantially as specified,

by means of which, in case the hook, nippers, or other instrument used to insert the weft of the cloth, fails to seize and draw in any one hair or other material intended, a disconnexion is in consequence effected between the gear that controls the action of the several sets of heddles and the source of motion, before the relative positions of the several sets of heddles to each other are shifted, and a new set opened, while the other parts of the loom are permitted to continue in operation, substantially as specified.

And I also claim the mode of operation, substantially as specified, by means of which the "signal messenger" (No. 6) during the backward beat of the lay is returned to such a position that whenever the hair or other material is inserted between the threads of the warp, where it belongs, the gear which controls the action of the several sets of heddles is again put in motion, as set forth.

I also claim the "signal messenger," (No. 6,) constructed, applied, and operated in the manner and for the purpose substantially as described.

No. 19,428.—Zebulon Lyford, of Lowell, Massachusetts.—*Improvement in Pickers for Looms.*—Patent dated February 23, 1858.—This invention consists in firmly securing all the outer surface of the material of the picker to prevent its wear and destruction, and in securing the picker cylinder or retainer for the picker material permanently to the picker staff by screws or otherwise.

The inventor says: I *claim* retaining or confining the picker material C by means of the curb B or its equivalent, to prevent wear and destruction by the picks or blows of the shuttle, substantially in the manner and for the purposes fully set forth.

No. 22,114.—Samuel Estes, of Newburyport, Massachusetts.—*Improvement in Picker Staffs for Looms.*—Patent dated November 23, 1858.—By means of this invention that part of the picker staff which strikes the end of the shuttle and drives the shuttle over the race-beam is made to travel in a straight line. In this respect it performs a function common to that of many other picker motions, or other operative mechanism.

Claim.—The improved arrangement of the picker staff E with the guide D, with respect to the outer end of the passage *a*, the same being substantially as shown and described.

No. 22,065.—John Crawshaw, of Rochester, New York.—*Improvement in Power Looms.*—Patent dated November 16, 1858.—This invention consists in certain means of controlling the take-up motion of a power loom, whereby its operation is rendered perfectly uniform: and also in certain means of governing the let-off motion, whereby the amount of let-off is caused to be always in proportion to the amount of the take-up.

The inventor says: I do not claim operating the take-up motion by means of a pawl attached to a lever operated upon by a stud or roller attached to the lay; nor do I claim reducing the friction on the yarn

beam, as the quantity of yarn upon it is reduced by the use of weights travelling along levers connected with the friction straps.

But I *claim*, first, the lever *i j k*, applied in combination with the cloth roll and with the spring *h* of the take-up lever, to operate substantially as described for the purpose set forth.

Second. The rock beam I, its arm *u*, and pawl *v*, applied in combination with the ratchet wheel *t*, screw *r*, and lever or levers *q q* and weight or weights *s*, substantially as described to move said weights toward the fulcra of the friction strap lever *p p*, as the quantity of yarn on the yarn beam is reduced.

No. 19,073.—Stephen O. Colvin, of Coventry, Rhode Island.—*Improvement in the Let-off Motion of Power Looms.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I disclaim the let-off motion of the power loom of Jonathan Knowles, patented April 30, 1850.

I *claim* the roll F, or its equivalent, the springs *a a*, and the clever G, combined and operating substantially as described, to turn the ratchet wheel I, or its equivalent, that moves the yarn beam to let off the yarn only as required by the tension of the cloth and the warp yarn.

No. 19,664.—Newell Wyllys, of South Glastonbury, Connecticut, assignor to Himself and Charles Collins, of Hartford, Connecticut.—*Improvement in Let-off Motion for Power Looms.*—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the employment of a movable cap C or its equivalent as the bearing surface for the cloth on the breast beam of the loom, for the purpose of controlling the letting off the warp yarn from the yarn beam, by the pressure of the cloth on the breast beam, substantially as described.

Second, in combination with the movable cap C of the breast beam, or its equivalent, and a friction wheel and friction band applied to the yarn beam, I claim the train of mechanism described, through which the said movable cap or its equivalent is operated to control the tension of the friction band, for the purpose of controlling the tension of the warp yarn.

No. 19,698.—William J. Horstmann, of Philadelphia, Pennsylvania.—*Improvement in Ribbon Looms.*—Patent dated March 23, 1858.—A B C D represents the frame of the loom, E F the lay suspended, G is the shuttle, H I and H^1 I^1 represent the warp threads. The filling thread is carried by the shuttle. P is the breast beam roller over which the fringe passes. K L M N N^1 is a bent piece of iron about ¼ inch square. It is hinged at K, so as to permit its rise and fall with the portions of the warp.

Claim.—The bent rod K L M N N^1 passing between the two headings of the trimmings or fringes, and forming a back or edge over which the filling is worked, substantially as described.

No. 22,420.—A. F. Gibboney, of Union Township, County of Mifflin, Pennsylvania.—*Improvement in Shuttle Boxes for Looms.*—Patent dated December 28, 1858.—The nature of this invention consists in lengthening the fly A the full length of the shuttle box B, hinging at the fulcrum C, and attaching to the inner end of the fly A a half swell D, to be properly adjusted by the set screw E.

Claim.—The half swell D on the end of the fly A to be operated on by the picker F, as set forth.

No. 21,515.—Robert Pilson, of Laurel, Maryland.—*Improvement in Temples for Looms.*—Patent dated September 14, 1858.—The nature of this invention consists in dispensing with the usual roller case or box, and instead thereof employing an adjustable extension connecting suspension bar, on each end of which is an independent tubular sheath or receptacle for holding the pin roller; all of which devices produce what may be termed a double acting compensating spring temple, which has a free vibration to and fro horizontally, as well as a yielding up and down motion simultaneously.

Claim.—The construction of temples for looms, wherein is employed an adjustable extension compound connecting bar or rod, composed of the spindle bars or sections m^2 m^2 *m n* and the splice lengths *o o o o*, the detachable independent tubular sheaths P P *q r s*, Fig. 3, the sliding yielding brackets or bearings I I I J J J, spring holders *b b*, and springs *e e e*, the whole operated as shown, and whereby a double yielding action of the temples is brought about, and for the purposes substantially as set forth and described.

No. 19,270.—Elisha Waters, of Troy, New York.—*Improvement in Manufacturing Angular Paper Boxes.*—Patent dated February 2, 1858.—The nature of this improvement will be understood by reference to the claim and engraving.

Claim.—The construction of angular boxes of paper board by cutting the board into strips for the sides and pieces, for the tops and bottoms, forming the upright angles one by one, by pressing the strips between angular dies without cutting, creasing, or scoring the board, and finally cementing the parts together, substantially as set forth, thus producing by the use of only a single set of the dies, and with the least waste of the paper board, any required number of different sizes of many sided boxes, with smooth, solid, upright corners, as specified.

No. 19,045.—Stephen Rossman, of Stuyvesant, New York.—*Improvement in Machinery for Manufacturing Paper.*—Patent dated January 5, 1858.—The nature of this invention is shown by the claim and engravings.

I am aware that the use of guide rollers in various relations to the main cylinders is common in paper machinery. Examples are seen in the patents of G. W. Turner, January 27, 1852, and D G. Jones, December 11, 1855. I make no claim to anything contained in those devices. But, to the best of my knowledge and belief, it is new, in

the manufacture of paper, to lift the web from the press roll, as I have described.

I *claim* lifting the web of paper from the upper press roll *c*, by means of a lifting roll F, arranged and operating as set forth.

No. 21,004.—JOSEPH C. KNEELAND, of Northampton, Massachusetts.—*Improvement in Machinery for Piling Paper.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a combination composed of the following elements: First, a carrier E made of endless belts and rollers, or their equivalents, and arranged substantially as specified; second, holders or holding mechanism, consisting of a rod or roller G, one or more flexible strips H H or bars I I, or equivalent devices; third, mechanism to keep each roller of the carrier from revolving while such roller is drawing the paper along over the table; fourth, mechanism to cause the roller to revolve and discharge the sheet of paper at the proper time, as specified; fifth, a table L, or its equivalent, to receive the paper from the carrier.

And in combination with the above described laying mechanism or combination of mechanical elements, I claim one or more bars or guards g^1 g^1, arranged substantially as specified, and so as to prevent the sheet of paper while being carried forward from being drawn against the rear edge of the pack on the table, and being torn or injured thereby.

No. 21,768.—JOHN MCMURRAY and ROBERT MCMURRAY, of New York, New York.—*Improvement in Constructing Frames for Wire-Cloth Paper-Making Cylinders.*—Patent dated October 12, 1858.—The object of this invention is to obtain a very rigid frame, one that will retain its form so as to insure a perfectly cylindrical wire-cloth surface. It is designed to be used in paper-machines, and in other cases where wire-cloth cylinders are employed, and where it is necessary to have the wire-cloth retained in a perfectly cylindrical form, in order to perform perfectly the desired work.

The inventors say: We are aware that a wire *j* has been wound spirally around longitudinal bars in order to form a cylindrical surface or bed to a frame to receive the wire-cloth, and we do not claim separately said wire.

But we *claim* the spiral wire or rod B and longitudinal rods *e*, connected to suitable heads A, provided with journals c^1, in connexion with the spiral wire *j*, the whole being arranged substantially as and for the purpose set forth.

No. 21,008.—THOMAS LINDSAY, of Westville, Connecticut, and WILLIAM GEDDES, of Seymour, Connecticut.—*Improvement in Paper-Making Machines.*—Patent dated July 27, 1858.—This invention consists in having the "lip" or basin J which conducts the pulp from the vat to the endless wire apron B constructed of two parts, so arranged that one part may slide over the other, and having said parts connected with the "deckles" C C, which, as well as the deckle-straps, are by a novel mechanism rendered susceptible of lateral adjustment.

The inventors say: We do not claim the gauge K, nor do we claim separately the adjustable deckles C C, for they have been previously used.

But we *claim* the expanding lip or basin J, in combination with the adjustable deckles C C and straps D, the above parts being arranged to operate as and for the purpose set forth.

No. 20,355.—HENRY LOWE, of Baltimore, Maryland.—*Improvement in Preparing Paper Pulp from Reeds.*—Patent dated May 25, 1858.—The claim describes the nature of this invention.

Claim.—The described process of making paper pulp from reeds by first disintegrating the reeds by boiling in a solution of caustic soda, accompanied by agitation, and then reducing them directly to pulp without reducing to half stuff by the machine technically called the old rag engine.

No. 22,401.—CHARLES MARZONI, of New York, New York, assignor to J. GANDOLFO, of said New York.—*Improvement in the Manufacture of Paper Pulp from Wood.*—Patent dated December 21, 1858.—The nature of this invention consists in the abrasion or tearing of the woody fibre from the surface of the wood, in combination with the use of steam and of hot water during the process of converting the wood into minute particles adapted to its direct transformation into a suitable pulp for the manufacture of paper.

The inventor says: First, I *claim* the use and application of the peculiar stone called "adamantine" described, when used as a means of tearing the woody fibre into a state suitable for pulp for paper as described, by rotation or any other substantially similar manner.

Second. I do not claim steaming the wood, nor the use merely of hot water.

But I claim the combining the use of the hot water at the boiling point, or 210° Fahrenheit, with the stone in rotation while acting upon the wood simultaneously and continuously, so as that the hot water and flakes or particles of woody fibre immediately become united into pulp.

Third. I claim the apparatus consisting of the cover or box E, the boxed openings therein 1 2 3 4, and arms, rods, and weights 7 8 9, by which the blocks of wood are fed and held to the surface of the stone.

No. 20,277.—JOSEPH JORDAN, Jr., of East Hartford, Connecticut, and THOMAS EUSTICE, of Hartford, Connecticut.—*Improvement in Machines for Grinding and Sizing Paper Pulp.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim*, as our improved machine for the manufacture and sizing of pulp, that it is constructed of a single conical grinder and outer shell, and with pipes for the introduction of the rags and the size, and the eduction of both arranged with

reference to the axis and ends of the grinder, substantially in manner, and so as to enable the grinder to operate to reduce the rags to pulp and mix the sizing therewith, as explained.

No. 20,294.—Martin Nixon, of Philadelphia, Pennsylvania.—*Improvement in the Preparation of Fibre for Paper Pulp.*—Patent dated May 18, 1858.—The bottom angle of the tub beneath the floor *b* is occupied by a steam pipe *c*, perforated at intervals of about two feet with apertures about one-eighth of an inch in diameter, to permit the escape of jets of steam toward the centre of the tub; *d* is a perforated cover, which rests on the mass of straw; *e* is a pipe extending axially from beneath the floor *b* to a short distance above the cover *d*, where it may be surmounted with an inverted bowl *f* or with a centrifugal spreader or rose *g*; *i* is a pipe discharging a current of steam into the mouth of the axial pipe *e*, which serves to impel a portion of the alkaline solution upward through said pipe, and deliver it, in a heated state, in a continuous spreading shower upon the top of the straw, from whence it percolates downward through the mass of straw. At the same time, the steam which escapes into the space beneath the floor *b* rises through the straw.

The inventor says: I am aware that a process has existed whereby the alkaline solution is, by the agency of steam, heated in a separate vessel and delivered on top of the straw in intermittent showers. This I do not claim.

Neither do I claim any process in which cutting of the straw is a prerequisite.

But I *claim*, first, the described manner of applying the steam, whereby the solution is automatically and continuously delivered on top of the straw, as set forth.

Second. The process of boiling whole straw by the combined action of an upward current of steam and a downward current of alkaline solution, permeating the mass, and acting upon it in conjunction, substantially in the manner and for the purpose explained.

No. 21,161.—Henry Voelter, of Heidenheim, Wurtemberg, Germany.—*Improvement in Reducing Wood Fibres to Paper Pulp.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I make no claim in this application as to the originality of the invention of using wood pulp for paper-making, although it might be shown that this even emanated from me; nor do I claim broadly the employment of mechanical agents in combination with water or other suitable liquids, for the purpose of separating and obtaining the fibres of wood.

I also disclaim the various parts and mechanical devices constituting my machine when separately considered, and when not combined as set forth.

But I *claim*, first, the particular arrangement, construction, and combination of the machinery or the mechanical expedients employed, as herein specified, for reducing blocks of wood, or producing wood pulp, by feeding them up automatically to a rotating grind or millstone,

in connexion with the peculiar manner of applying or locating said blocks upon the circumference of the stone, or on a portion of its circumference, by holding them behind each other in a position and direction essentially the same as described and set forth.

Second. The employment and the combination of a series of perforated and rotating cylinders with the reducing expedient, when contracted and connected between themselves in the manner herein specified, by surrounding troughs and communicating channels or reservoirs, all made to operate as set forth, and for the purpose of assorting the fibres when separated from the wood in the modes described, rendering the pulp fit to be formed into paper of different qualities.

No. 20,884.—Henry Lowe, of Baltimore, Maryland.—*Improvement in Paper Stock from Reeds.*—Patent dated July 13, 1858.—This invention consists of paper stock made from reeds, (*Arundinaria macrosperma*, Michaux) the same being intended as a substitute for rags, ropes, and other fibrous material.

Claim.—The prepared reed fibre, or new article of manufacture above described, as a substitute for rags, ropes, and other fibrous materials, for the manufacture of paper; said reed fibre or paper stock being prepared substantially as set forth.

No. 20,020.—Adolphe Nicolas Mathieu, of Paris, France, assignor to M. J. A. Guiet, of New York, New York.—*Improvement in the Manufacture of Pasteboard.*—Patented in France, April 13, 1855; Patent dated April 20, 1858.—The claim of the inventor explains the nature of this invention.

The inventor says: I do not claim the employment of leather in making pasteboard, &c., when the same is made to pass through a process of maceration with lime or like substances, or when leather scraps are mixed with resinous or glutinous compounds to cause them to adhere, for all such modes are too expensive for practical use.

But I *claim* manufacturing pasteboard or paper of leather shavings by simply washing and grinding, and mixing the same with vegetable fibres, without the addition of other manipulation or material; by which I make a cheap and merchantable article, when heretofore the process was too expensive for its profitable use.

No. 20,766.—Seth Peck Spencer, of Lancaster, Pennsylvania, assignor to Himself, S. S. Spencer, and Harris Boardman, of said Lancaster.—*Improvement in Drawing Rollers.*—Patent dated June 29, 1858.—This invention consists in a certain construction of the drawing rollers which not only insures a much more perfect rolling, but reduces the cost of the rollers, and also the cost of keeping them in repair.

Claim.—Providing the lower roller with grooves *d*, and the upper roller with leather collar *c*, the said collar *c* being arranged to run into the grooves *d*, substantially as and for the purposes described.

No. 19,623.—Gardner G. Clark, of Providence, Rhode Island.—*Improvement in Calender Rolls.*—Patent dated March 16, 1858.—The

nature of this invention consists in a cylinder roll with a hair surface. The engraving is a cylinder composed of a metallic shaft A A and two heads B B, between which heads is compressed animal hair C, which forms a smooth working surface.

Claim.—As a new article of manufacture a calender roll with its working surface formed of animal hair, in the manner and for the purpose specified.

No. 21,238.—NEWTON ADAMS, of Lansingburg, New York.—*Improvement in Machinery for Making Rope.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of a revolving flyer containing a capstone F and reel G with the revolving strand flyers B B, revolving around the laying spindle C, substantially for the purposes set forth.

Producing and controlling the rotary motion of the strand spindles or flyers on their own axis, by means of the stationary or moving belt L, acting on pulleys on the said spindles or flyers, the pulley N, worm wheel U, and stationary moving endless screw *z*, the whole being combined to operate substantially as set forth.

No. 19,133.—WILLIAM COUTIE, of Troy, N. Y.—*Improvement in Rope Machines.*—Patent dated January 19, 1858.—This invention consists chiefly in certain arrangements of the well known parts of the "sun and planet" rope machine. One object of these arrangements is to prevent the great development of centrifugal force, which is, at high speed, so injurious to the common "sun and planet" rope machine, and thereby to enable the machine to be driven with safety at a higher velocity. Another object is to keep the machine always in balance, and to prevent the injurious action which in the common "sun and planet" machine results in the machine getting out of balance by reason of unequal quantities of strand in the several flyers.

Claim.—Arranging the strand flyers apart from the strand spindles, with their axes in the same planes as the axis of the laying spindle, but intersecting the latter axis at right angles, and with their journals in bearings in the sides of a frame constituting part of the laying spindle, and gearing said flyers with the strand spindles, the planetary arrangement of which is retained by mitre gears or their equivalents, by which the said flyers are caused to rotate with the laying spindles, so as to cause no twist but what is produced by the planetary strand spindles, in the same manner as in the ordinary "sun and planet" machine, substantially as described.

No. 22,150.—JOHN STEWART, of Brooklyn, N. Y., assignor to CHARLES WALL, of said Brooklyn.—*Improvement in Machines for Tarring Rope-yarn.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment within the tar vat of one or more series of sheaves or conductors, over or around which the yarns are bent in the manner described, to open their fibres and make them pass and return in an opposite direction through the tar, for the purpose set forth.

No. 19,015.—DAVID W. CLARK, of Bridgeport, Conn.—*Improvement in Sewing-Machines.*—Patent dated January 5, 1858.—The nature of this invention will be understood by an examination of the claim and illustrations.

Claim.—First. Feeding the cloth in sewing-machines by means of a rocker J, arranged and operating substantially as described.

Second. The employment of a hinged slide Q^1 to flatten and hold the loop, substantially as and for the purposes set forth.

No. 19,059.—GEORGE FETTER, of Philadelphia, Pa., assignor to Himself and EDWARD JONES, of said Philadelphia.—*Improvement in Sewing-Machines.*—Patent dated January 5, 1858.—This improvement consists in so attaching a looper to a spindle that the former may be readily adjusted to the latter, the spindle being allowed to turn so as to accommodate itself to the lateral movement of the looper. The looper is so confined with a small finger that it may be readily adapted to the formation of either a double or single chain stitch.

Claim.—First. The combination of the looper R with the spindle N, when the former is rendered adjustable to the latter in the manner described, and when the spindle is allowed to turn so as to accommodate itself to the lateral movement of the looper.

Second. The combination of the finger *p* with the looper *r*, in the manner and for the purpose specified.

No. 19,080.—ALEXANDER DOUGLAS, of New York, N. Y.—*Improvement in Sewing-Machines.*—Patent dated January 12, 1858.—This invention consists in the mode of constructing and combining one part of a cone chuck, a spring, and an adjusting nut, by which the apparatus is rendered convenient to use and less liable to be lost.

The inventor says: I am aware that the application of conical chucks and springs, adjusted by a set screw, have been before used for regulating the tension of the thread in sewing-machines.

I am also aware that the inner chuck has been made movable upon the shaft, and a spring made to press upon that, to control the tension of the thread, instead of upon the part of the chuck upon the outer end of the shaft, which arrangement avoided the necessity of removing the spring each time that a fresh spool was put on, at the expense, however, of a considerable multiplication of parts. I therefore make no claim to the conical chuck, or broadly to its combination with springs and an adjusting screw, for regulating the tension of the thread.

The particular improvement which constitutes my invention, and which I *claim*, is the combination of the part *d* of the chuck, the spring *e*, and the nut *f*, when united as one piece, substantially as described, and for the purposes set forth.

No. 19,072.—DAVID W. CLARK, of Bridgeport, Conn.—*Improvement in Sewing-Machines.*—Patent dated January 12, 1858.—The nature and object of this invention is explained by the claim and engravings.

The inventor says: I *claim*, first, feeding the cloth or fabric in sewing-machines by a movement of the table upon which the fabric is sustained, as described.

Second. Placing the loop in the position to receive the needle and thread by a movement of the table, as set forth.

Third. The employment of a wiper J, arranged and operating in combination with the reciprocating table, substantially as shown, for the purpose of placing and holding the loop in position to receive the needle and thread.

No. 19,129.—David W. Clark, of Bridgeport, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated January 19, 1858.—This invention relates or pertains to that class of sewing-machines in which the common "chain stitch" is formed. The claim and engravings give the reader an idea of the nature of the invention.

Claim.—Placing and holding the loop in position to receive the needle by means of a slot *x*, which runs or extends at right angles to the direction of the feed, and is notched at its centre for the passage of the needle, substantially as described.

No. 19,171.—Amos H. Boyd, of Saco, Maine, assignor to Oliver D. Boyd, of Saco, Maine.—*Improvement in Sewing-Machines.*—Patent dated January 19, 1858.—The nature of this improvement consists in introducing distinct lateral and perpendicular movements of the shoe, by which the performance of its exact functions are made certain on every kind of work. The lifting and depressing movement being strictly perpendicular, and the feed motion strictly, the operator is enabled to use a flat or level shoe, by which the cloth is held firm about the needle a sufficient space to prevent its being strained and forced through the slot in the bed piece by the action of the needle when passing through the cloth.

The inventor says: I *claim* the combination of the lever M with the shoe and spring 4 for giving the shoe a vertical reciprocating movement.

Also, in combination therewith, the slide T for giving the horizontal reciprocating movement to the shoe, (when the shoe is to be operated in the manner described,) arranged as set forth.

No. 19,141.—Daniel Harris, of Boston, Massachusetts —*Improvement in Sewing-Machines.*—Patent dated January 19, 1858.—This invention consists in an improved manner of regulating the delivery of the thread from the spool to the needle by a tension clamp located at any convenient point A denotes a screw pin or spindle applied on top of the goose neck. B is a piece of India rubber tubing placed on the spindle and resting upon a base or plate C, or directly upon the goose neck, or plate to which the spindle may be applied. Upon the top of this tubing a washer D, made large enough in diameter to cover the tubing B, is placed.

Claim.—The specific device described for applying tension to the thread during its passage from the bobbin or spool to the needle, that is, causing it to run through the eye of the spindle and between two

disks of parchment, when said disks are placed upon the spindle between two India rubber tubes or cylinders, which are liable to be compressed in the direction of the axis of the spindle to any degree of intensity required, substantially as set forth.

No. 19,155.—James and Amos W. Sangster, of Buffalo, New York —*Improvement in Sewing-Machines.*—Patent dated January 19, 1858.—A is the feeding bar, which is attached to the frame work by a screw at the point G. Its upper part is so made of elastic metal as to spring backwards. The spring bar F is connected to the feed bar A by a small rod H. I is a nut for fastening said rod. B is a bar which terminates in an elastic foot piece, for the purpose of holding the cloth firmly down to the plate J.

Claim.—The looper A^1, in combination with the plate D and cross piece Z, substantially as described, for the purpose of catching the loop and causing it to be formed round the looper A^1, and held open in the aperture *v* for the reception of the needle.

No. 19,135 —M. Dimock and N. Rixford, of Mansfield Centre, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated January 19, 1858.—In the under side of the bed plate a groove *e* is cut to receive the slide K, which is accurately guided by the two guide pieces *i* and *n*, or by the sides of the groove *e*. The object of this slide is to carry the looper *r s*, and also the stud *u* and spring *z*, by which the looper is adjusted and vibrated. The looper consists of two separate pieces, namely, the pendulum *r* and the beam *s*, both of which are fastened to plate K by pin *t* in such a manner that their points play freely from right to left and left to right.

The inventors say: We do not claim the looping apparatus patented by W. Lage, June 30, 1857.

But we *claim* the looper *s r*, in combination with the sliding plate K and the loop guide *f o*, when arranged in the manner substantially as set forth, and for the purpose specified.

No. 19,285.—Benjamin J. Angell, of Attleborough, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated February 9, 1858.—This machine belongs to that class which form a chain stitch with a single thread, by means of the ordinary machine needle combined with a stitch hook which catches and spreads the loop, and carries the same beneath the needle in such a manner that the loop formed by the successive descending stroke of the needle shall pass through the first loop, when the stitch hook is withdrawn preparatory to catching up the second loop, being drawn up against the under side of the cloth by the descent of the needle, thus forming a stitch.

The inventor says: I am aware that a method of causing the cloth to progress regularly, in feeding, by the joint action of the surfaces between which it is clamped, has been previously patented by Allen B. Wilson. I would not, therefore, be understood as claiming such device for this purpose.

I *claim* the combination of the grooves S S of the presser with the barbs *t t t t*, of the feed bar, and the surfaces *a a* and *h h*, with

the thumb screw S^1, arranged and operating substantially and for the purpose as set forth.

No. 19,409.—David W. Clark, of Bridgeport, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated February 23, 1858.—This improvement is intended for the sewing and ornamenting of every description of cloth or other fabric. A A^1 represents the frame of the machine. B is the needle holder. This consists of a flat slide having bevelled edges, and moving up and down between grooves in the frame A^1. C, the needle, is inserted in the lower part of the needle holder B, and held there by means of a screw *a*.

The inventor says: I *claim*, first, the employment of the device which feeds the cloth to flatten, hold, and place the loop in proper position for receiving the needle.

Second. Flattening and holding the loop by means of a slide I, substantially as set forth.

No. 19,439.—Abner N. Newton, of Richmond, Indiana.—*Improvement in Sewing-Machines.*—Patent dated February 23, 1858.—C is a lever, by means of which motion is communicated to the needle bar I and also to the lever D. It is pivoted in upright bearings F F, and receives the lever D through a long mortise. The upper end of the lever D is curved in order to adapt itself to the shape of the slot *s*; this slot receives a pin *p* from lever C, and nearly coincides with the motion of pin *p*.

The inventor says: 1st. I *claim* the slotted lever D in combination with mortised lever C, for the purposes set forth.

2d. I claim the combination of levers C D with the needle bar I, in the manner described.

No. 19,535.—Amos W. Sangster, of Buffalo, New York, assignor to Victor M. Rice, James Sangster, and Eliza Remington, of said Buffalo.—*Improvement in Sewing-Machines.*—Patent dated March 2, 1858.—The stitch is taken as follows: The point of the needle, when descending, passes or pushes the plunger C downward, and throws the looper W in the position shown in figures. Just after the needle commences to ascend, the looper is thrown through the loop and into the position shown in figures; and, as the needle continues to ascend, the looper rises with it until its point passes into the slot Z on the under side of the plate U, and assumes the position of fig. 2, when the loop is drawn up and spread, fig. 2, ready for the needle to pass through it and form another stitch.

The inventor says: I do not claim imparting a feeding or forward motion to the cloth or other material while being sewed, by means of a wheel which moves the cloth while revolving, as that has been done before.

But I *claim* the specific mechanism described, consisting of the frame-work, slide, and toggle joint, designated by the letters H^4 I^2 I I L K M M^1 N O and R, arranged and operating in the manner and for the purpose specified.

No. 19,532.—Joshua Gray, of Medford, Massachusetts, assignor to Himself and George O. Brastow, of Somerville, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated March 2, 1858.—The nature of this invention consists in an improved device for distending the loop to insure the entrance of the needle.

Claim.—The described device for distending the loop, consisting essentially of the sliding bar B and the vibrating arms A and *c*, operating in the manner substantially as set forth.

No. 19,612.—Charles Raymond, of Bristol, Connecticut, assignor to Willford H. Nettleton, of said Bristol.—*Improvement in Sewing-Machines.*—Patent dated March 9, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I wish it to be understood that I do not claim fixed and moving looping instruments, over both of which the thread is drawn to spread the loop for the needle to pass through, as this has before been used; but I am not aware of any previous device in which the loop has been taken and directed to a double inclined spreading plate, on the sides of which the loop is spread by the drawing up of the needle thread, thereby insuring the proper entrance of the needle into said loop in its next descent, and using but a very short loop close up to the bed supporting the material being sewed, at the same time the instrument, taking the loop from the needle, performs no duty in spreading the loop, but simply directs it to the stationary double inclined spreader, as specified: therefore,

I *claim*, first, the combination of the thread guide 3^1, clamping surface 3, and the eye 2, on the upper end of the needle bar, when said thread guide is fitted to move with the needle bar, and regulated by the stop *h* or its equivalent, so as to measure off the amount of thread for each stitch, substantially as specified.

Second. I claim a stationary double inclined spreading plate *n*, over the sides of which the loop is drawn and spread when combined with a looping point, to direct the loop of needle thread to said spreading plate as it draws up, as specified.

No. 19,660.—Joseph E. Hendrick, of Brooklyn, New York, assignor to Himself and William Holmes, of said Brooklyn.—*Improvement in Sewing-Machines.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, A concentric rotary feeding pad, vibrating upon an axis which yields to pressure in an upward direction, giving a pressure upon the cloth, which is entirely subject to the tension of the spring or other device by which the pad is forced down upon it, without being subjected to the action of a toggle joint, as set forth.

Second. The combination of an adjustable spring friction brake with a rotary thread carrier, consisting of the shaft *o*, disk P, and points or pins *n n*, or their equivalents, as set forth.

No. 19,662.—Sidney Parker, of New York, New York, assignor to Himself, Leonard Westbrook, and Hugh Herringshaw.—*Improvement*

in Sewing-Machines.—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim, generally, the communicating of a reciprocal motion to the needle stock for the purpose of sewing by machinery.

Nor do I make claim to the use of a stationary bobbin resting in a loose socket, over which the loop of the upper thread may be carried to form a stitch without a shuttle.

But I *claim* the combination and arrangement of the horizontally reciprocating pronged looper *m n* and the bobbin, when constructed and operating in the manner substantially as described.

No. 19,665.—Joshua Gray, of Boston, Massachusetts, assignor to Himself and T. B. Mackay, of said Boston.—*Improvement in Sewing-Machines.*—Patent dated March 16, 1858.—To one side of the arm I, which projects down from the plate C, is attached by a screw and nut *l* a block *p;* to this block is attached by a screw and slot at *r* a bent bar or arm L, the end of which is bent over and formed into a pointed hook at S. This bar plays between a block *t* and the plate C, to which the block is attached. The motion is imparted to the hook by the cam block M, which is attached to the lower branch of the arm D, the advancing edge *x* of the block bearing against the pin *v*, and giving the forward motion to the hook.

The inventor says: I am aware that the angularly slotted plate has been employed in combination with other devices in the patent of Daniel Harris, for operating the feed in sewing-machines. I therefore do not claim this device. My method avoids the necessity of using any intermediate device to operate the feeding foot.

But I *claim*, first, the arrangement of the adjustable slotted plate H in the manner described, and for the purposes specified.

Second. The arrangement and combination of the double cam block M with the looper L, substantially as described and for the purpose specified.

No. 19,684.—Fayette S. Coates, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated March 23, 1858.—The nature of this improvement will be explained by reference to the claim and engravings.

The inventor says: I am aware that there are many devices for opening or spreading the loop in single thread sewing-machines; therefore I do not claim as new the expansion or spreading of the loop in such machines.

But I *claim* the combination of the spring 8 with the feed K and hook I, for the purpose of expanding the loop in sewing machines, as set forth.

No. 19,732.—David W. Clark, of Bridgeport, Connecticut, assignor to H. L. Clark, of Fairfield, Connecticut.—*Improvement in Sewing-Machines* —Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the employment of an adjustable guide N, constructed and arranged substantially as described, for the purpose of guiding the needle J and its thread, stripping the loop of needle C, and placing the loop of needle J.

Second. The combination of spring O with guide N for holding the needle J within the groove of the guide, substantially as described.

Third. The employment of a swinging plate P, serving as a loop stop for both stitches.

No. 19,723.—James Sangster and Amos W. Sangster, of Buffalo, New York.—*Improvement in Sewing-Machines.*—Patent dated March 23, 1858.—The looper may be operated without the use of the spiral spring P, and without the operation of the needle for that purpose in "its bed place." A is a crank connected to a rod B, which is fastened to the lever C. This lever works on a pivot at D, and the end E operates the loopers.

Claim.—The looper, when the several parts thereof are constructed and arranged to operate, in relation to each other, to the needle, and thread, substantially as set forth.

No. 19,793.—O. L. Reynolds, of Dover, New Hampshire.—*Improvement in Sewing-Machines.*—Patent dated March 30, 1858.—This invention relates to that description of sewing machine in which a needle and looper are employed with a single thread to form the chain stitch. It consists principally in a device termed the loop distender *t*, operating in connexion with a looper *l* of suitable construction, for the purpose of distending the loop in a proper manner and to a proper extent, to insure the entrance of the needle.

Claim.—The loop distender *t*, operated by and operating, in combination with the shouldered looper *l*, substantially as and for the purpose set forth.

No. 19,823.—Abraham Barthole, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the construction of the taper portions of the shuttle and the forked portion of the shuttle driver, which acts upon it to drive it back, in a manner substantially as described, so that the said portion of the driver bears upon the top and bottom of the shuttle with a tendency to draw it away from, or prevent it from hugging, the side of the race-way.

And I also claim giving the two claws *i i*^{1}, which produce the backward motion of the shuttle, a relative form, substantially as described, by which the shuttle is prevented hugging the bottom of the race-way, as set forth.

No. 19,876.—Elliot Savage, of Berlin, Connecticut —*Improvement in Sewing-Machines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* forming a chain-stitch seam by the looper, constructed and arranged in the manner described, when operated in combination with an eye-pointed needle, so that the looper shall enter the open loop as the needle rises, and, while resting on the

bed plate, securely hold the first loop open in the path of the needle and release the loop when the needle shall have entered, to form a new stitch, as set forth.

I also claim the specific device herein described for regulating the tension of the thread in sewing machines, consisting in a spool-supporting bracket constructed as specified, and arranged in relation to and operating in connexion with a screw-threaded standard in such a manner as to ascend or descend when rotated around and upon said standard, for the purpose of causing the thread to be wound around said screw until the requisite degree of tension is obtained.

No. 19,903.—J. E. Atwood, J. C. Atwood, and O. Atwood, of Mansfield Centre, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated April 13, 1858.—The operation of this machine is as follows: As the needle descends through the cloth its point will not fail to enter the die, and it will force itself through the die without difficulty, as the spring *h* is not necessarily very strong, for the pressure of the looper *j* against the needle H pushes it against the back of the die and towards the part *b*. The principal pressure is towards the back of the die, and though this is met by both parts *b* and *d* of the die, it has little tendency to force the movable part *d* away from *b*. The looper is stationary in the position shown in the figs. 1 and 4, till after the needle has completed its descent and has commenced to rise and leave the thread slack on that side which is exposed at the slit *v* which is formed by the junction of the cavity *c* with the face *g* of the die; but as soon as the needle has arisen a little way, the looper begins to move on the pin *m* and crosses the slit *v*, thus passing between the needle and the slack thread.

The inventors say: We do not claim the use of a die to guide the needle and hold it steady against the action of the looper.

But we *claim* the arrangement of the needle die, the looper, and the stationary finger in such relation to each other as herein described, for the purpose of extending the loops in a position for the needle to enter them without failure.

No. 19,979.—Charles Frederick Bosworth, of Petersham, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated April 20, 1858.—During the vibration of the lever or rocker *d*, the feed hand *g* is caused to project slightly above the surface of the sewing table, when it will exert a gentle pressure against and slightly lift the yielding pressure pad, the slot through which the feeder passes being arranged immediately underneath the pressure pad, and the cloth to be sewed is introduced between the pressure pad and the table, so as to cover the slot, as in other sewing machines where the feed passes through the table and is alternately worked upon by the feeder for the purpose of being shoved along the proper distance after each stitch.

The inventor says: I *claim* the jointed rocking feed hand constructed and arranged as described, so as to play freely between and upon two fulcra when operating from beneath the sewing table, in

combination with the pressure pad above said table, in the manner and for the purpose specified.

I also claim regulating the angle of vibration of the feed hand constructed, arranged, and operating as herein described, by means of two stops, one of which is so adjustable as to allow the fulcrum upon which the said feed hand moves to be raised or lowered, thereby diminishing or increasing the feed at pleasure, substantially as set forth.

No. 20,175.—E. Harry Smith, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated May 4, 1858.—The nature of this invention consists in arranging cranks and connexions therefrom to the needle and shuttle in such a manner that the shuttle is caused to move through the loop with accelerated velocity while the needle is retarded, and *vice versa*.

Claim.—Arranging the cranks and connexions to the needle and shuttle in substantially the manner set forth, whereby the differential movements are imparted to the needle and shuttle in the alternating manner described.

No. 20,471.—Charles A. Shaw and James Clark, of Biddeford, Maine, and David T. Giveen, of Saco, Maine, assignors to Charles A. Shaw and James Clark, aforesaid.—*Improvement in Sewing-Machines.*—Patent dated June 1, 1858.—The looper 2 being mounted in rests and made to pass through the arc of a circle at some distance from the screw 4, as the centre of motion, it is enabled by this and its rotary movements to pass the needle E without coming in contact with it, and also to tighten and securely fasten the stitch, while at the same time the thread is partly drawn from the spool for the next stitch. When the needle bar *d* is elevated, the rod *j* is also raised from the cloth, taking up the toe of the pad *i* by means of the bar *u*, and releasing the work.

The inventors say: We do not claim the wheel 21, cam 14, lever 13, slide 1, spring 20, slot *o*, needle *e*, or spool 19 or dog 6, as the same are in common use and not patentable.

We also disclaim the use of two threads and the stitch formed by their combination, in the manner described.

Also all and any part or parts of the mechanisms described, when those parts are in and of themselves separately considered, which are not of our invention.

But we *claim* the combination of the looping mechanism described, whereby the forward and backward, lateral and reciprocating rotary movements are given to the looper, for the purpose described and specified.

No. 20,413.—Martial Dimock, of Mansfield, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated June 1, 1858.—The grippers *a* consist of a couple of bows of spring steel attached to a stock or bar a^1, which is so set under the bed of the machine as to receive action to give the necessary reciprocations by a cam *b* on the main shaft.

Claim.—The gripping apparatus, operating substantially as described, in combination with the needle and the thread, for the purpose of drawing the loop into the path of the looper, as set forth.

No. 20,481.—David W. Clark, of Bridgeport, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings

Claim —Regulating the extent of the feed by expanding or contracting the rear end of the lever E, substantially as described.

No. 20,531.—Amos W. Sangster, of Buffalo, New York, assignor to V. M. Rice, Joel Thayer, James Sangster, and Eliza Remington, of said Buffalo.—*Improvement in Sewing-Machines.*—Patent dated June 8, 1858.—In figure 2, R is the shuttle with the hook 7 fastened to it. S is a side view of the case or shuttle holder. It is attached to the shuttle carrier or arm U by the screw G^5. In figure 3, P is a brace or cross piece between the rods V^5 and V^6. The pin passes through the shuttle carrier U into the opposite part of the cross piece; it is used for a fulcrum or axle, on which the arm U vibrates.

The inventor says: I do not claim the hook detached from the shuttle, because I believe this has been made before; nor do I claim to have conceived the idea of making the rough or serrated foot piece, because serrated foot pieces are now in common use.

But I *claim*, first, the spring thread carrier K, in combination with the stationary arm L and feeding mechanism operating together in the manner and for the purpose specified.

Second. The combination of the shuttle R and hook 7 fastened together, or their equivalents, operating substantially in the manner and for the purpose described.

Third. The shuttle carrier U, the case S, and the cross piece P, when operating together substantially in the manner and for the purpose described.

No. 20,557.—Abial C. Herron, of Remsen, New York —*Improvement in Sewing-Machines.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arrangement of the mechanism by which the feeding surfaces upon both sides of the cloth are moved as stated, and by which the motions produced are combined and applied at the same time to the feeding surfaces upon both sides of the cloth, viz: the arrangement of the rocker shafts above and below the table, with the connecting and intermittent pressure mechanism, or its equivalent, whereby I am enabled to feed the article to be sewed between two smooth surfaces, both having a positive, uniform, independent, and intermitting motion, substantially as above described.

I also claim the arrangement of the mechanism, or its equivalent, for interweaving two threads upon the upper surface of the cloth, substantially as described.

No. 20,686.—Albert F. Johnson, of Boston, Massachusetts, assignor to Himself and Francis F. Emery, of said Boston.—*Improvement in Sewing-Machines.*—Patent dated June 22, 1858.—The cam E is formed with a hook 1 on its periphery; a deep groove or slot 2, into which the needle descends after it has passed through the cloth; a shallow groove 3, which runs out on the outer face of the cam, forming a lip 4, which catches the loop of the thread, and holds it distended until the hook has caught another loop and drawn it through this one.

The inventor says: I *claim* taking the loop from the needle by a revolving hook, operating in the manner substantially as set forth.

I also claim, in combination with the revolving hook 1, the groove 3 and the lip 4, or its substantial equivalent, for holding the loop distended, in the manner substantially as described.

No. 20,684.—Heman S. Snow, of Meriden, Connecticut, assignor to Himself and Gamaliel F. Snow, of said Meriden.—*Improvement in Sewing Machinery.*—Patent dated June 22, 1858.—The feeding apparatus consists of a jointed lever O united to the vibrating arm at P. Resting on the cloth is a pad, which is held down by a spring Q. Underneath this lever is fastened a lifting feeder R, which is brought above the spring pad, and rests upon it by means of its shape, which constitutes a spring. The lever forming the pad has a lever fastened to it at S, the short arm of which passes under the lifting feeder, and the long arm T is pushed down by the needle carrier I in its descent.

The inventor says: I do not claim as new imparting motion to the looper by means of the needle, nor do I claim the moving of the feeder by means of the carrier, as both have been used before.

But I *claim* the combination of the lifting feeder R with lever T, or its equivalent, for lifting the feeder from the cloth by the descent of the needle carrier, the same being arranged and operated substantially as described.

No. 20,688.—William T. Barnes, of Buffalo, New York.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—A full description of this invention would require too much space to be given here. When the needle in its descent hits the upper end of the rod V, it forces the looper down the upper end of the looper, the strip T passing across the line of motion of the needle and passing close by the needle, revolving on the principle of a screw, the rod V moving perpendicularly to the plate G.

The inventor says: I do not wish to be understood as claiming any particular mode of operating my improvements in sewing machines, or any precise shape of parts, as these may be varied without changing the principle of my invention.

I disclaim the patent of T. J. W. Robertson, dated May 22, 1855, and the patent of S. S. Turner, dated August 22, 1854.

But I *claim* the looper strip or point T when secured to the revolving rod or piston V, and arranged and operating in combination with the step or looping aperture G^2, spring N, and cylinder P, in the manner and for the purpose specified.

Second. I claim the cloth-guiding apparatus F F a a^2, and t and t^1, as constructed, arranged, and operating in combination with the feeding device, for the purpose specified.

No. 20,763.—Wesley Miller, of Cambridge, New York, assignor to Himself and William P. Prescott, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a looper moving in the arc of a circle, as that has before been used. Neither do I claim moving such looper by a disconnected lever.

But I *claim* the hooked heel piece 12 and straight side 13, on the looper stock g, in combination with the finger h, having a reciprocating motion on the slide f, whereby the necessary motions for taking a loop, pausing during the ascent and commencement of the descent of the needle, drawing back out of the loop, and then taking a fresh loop of needle thread, are given from the continuously reciprocating finger h, without the use of springs, as described and shown.

No. 20,761.—Thomas A. Dugdale, of Richmond, Indiana, assignor to Himself and John A. Burbank, of said Richmond.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—By moving the cylindrical bar F up and down, motion is imparted to lever G, and from that to the needle bar H; motion is also imparted to lever I, lever L, and the eccentric M and feed hand m, by means of the arrangement of slot f, and the circle at the end of lever I and stud i playing horizontally on upright bar P, by means of slot f.

The inventor says: I do not claim giving motion to the shuttle and feeding device by means of the vibrating motion of the needle arm. I do not claim the spiral groove, cam, eccentric, or inclined plane, neither separately nor combined, as they have before been used.

But I *claim* the construction of lever I, with its circle at the end through which upright F works, in combination with stud i and slot f and eccentric M and feed hand m, the whole being constructed, arranged, and operated substantially as described and for the purposes set forth.

No. 20,699.—Samuel Comfort, jr, of Morrisville, Pennsylvania—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the passing of the loop of the needle thread over a shuttle by a lateral movement of the needle, or the imparting of a feed motion to a fabric by a similar motion of the needle, or the exclusive use of a discoidal shuttle, in which the spool is central with the case, as the devices for accomplishing these objects are set forth in patents already granted.

But I *claim*, first, the rocking frame G as operated by the crank F, and constructed substantially as described, with its concave shuttle race in combination with the stationary shuttle.

Second. Imparting to the needle an upward and downward combined with a lateral vibrating movement, by means of the rocking frame G and levers H and J, as operated by the crank F, substantially in the manner set forth.

Third. The vibrating concave shuttle race K, with its lips r and r^1, in combination with the discoidal shuttle L and adjustable retaining plate M.

Fourth. Sustaining the needle in the slot v of the shuttle race during the time that the said needle is, by its lateral motion, imparting the feed motion to the fabric.

No. 20,753.—H. B. West and H. F. Willson, of Elyria, Ohio.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The spring looper-bar in combination with the eccentric I, and the oscillating fork J and stationary projection N, against which the outer end of the looper-bar strikes, for the purpose of carrying the looper-bar back and forth as required, and giving it two intermittents or stop motions, carrying the looper into a position where the needle will pass through it, and allowing the spring again to recoil immediately after the needle has passed through said loop; the whole being constructed in the manner and for the purposes described.

No 20,739.—E. Harry Smith, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Revolving the shuttle by means of a series of drivers 6 on the surface of a disk that is arranged to rotate at an angle to the plane of the shuttle's rotation, by which a continuous motion is given to the shuttle, while the drivers operate in such a manner that the needle and its thread are unobstructed in their action, substantially as specified.

No. 20,742.—John Thomson, of Worcester, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated June 29, 1858.—The inventor says: I do not claim broadly the use of a device separate from the looper for the purpose of spreading the second thread, as such a device has before been proposed. Neither do I claim a double looper to open the loop of needle thread and form a single chain stitch, as such a device has heretofore been used, and may be seen in the patents of William Sage, June 30, 1851, and Rixford & Dimock, January 19, 1858; but neither of these devices is used with or applicable to spreading the second thread to form a loop for the needle, because the device that spreads the said second thread must move between the looper having the eye for the second thread and the under side of the bed of the machine; for if said device moved at the side of the looper, the said second thread would draw from its eye down between the two parts, and the spreader become useless. Therefore,

I *claim* the spreading finger 8, acting between the bed of the machine and the looper i that carries the second thread, in such a manner that both enter the loop of needle thread, and then the spreader 8 extends

the loop of the second thread as it draws from the eye of the looper to the cloth, substantially as and for the purposes specified.

No. 20,773.—Robert M. Berry, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated July 6, 1858.—*a* is the vertical slide or lever which operates the needle; *b* is the vertical intermittent feed-slide, which works in the horizontal intermittent slide *c*; *d* is a diagonal slide attached to *a*, and as it moves up and down with *a*, it moves *c* back and forth with an intermittent motion; *e* is a spring which presses the feed-slide *b* down on the cloth; *f* is a double trip-lever, and is operated by the trip-spur *g* attached to *b*, and by the trip-slide *h* attached to *a*; *f* is also intermittent in its motion.

Claim.—Lifting the feed-slide *b* from the cloth, as described, by the double trip-lever *f*, the trip-slide *h*, and the trip-spur *g*, or their equivalents, operated and operating substantially in the manner and for the purposes set forth.

No. 20,775.—Lyman R. Blake, of South Abington, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated July 6, 1858.—The nature of this invention consists in arranging the shoe-rest *b* on the end of an arm D to extend from the table or supporting frame of the machine and enter the shoe; also in arranging the looper *d*, as well as a thread passage *e* within such horn, or applying the same to operate in connexion with the arm D.

The inventor says: I *claim* the arrangement of the rest *b* of a sewing mechanism, or combining it with an auxiliary arm D of such form as to be capable of entering a shoe and introducing the rest *b* into the toe, as well as other parts of the interior of the shoe, in order that an outer sole may be stitched or sewed upon the inner sole and upper of a shoe.

I also claim arranging either the thread passage or looper, or both, within or so as to operate with the auxiliary arm, substantially as described.

No. 21,015.—Charles Moore, of Buffalo, New York.—*Improvement in Sewing-Machines.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the feed-plate described, nor the combination thereof with either function it performs, when said functions are separately considered; neither do I claim any part of the mechanism, nor any combination thereof by which the feed-plate is operated, or by which either function thereof is produced, when separately considered.

But I *claim* the elastic compression plate B, constructed with an offset or face B^2, which projects through the bed-plate, and performs the combined functions of supporting the cloth equally upon all sides against the puncture of the needle, and of producing an equal pressure upon the cloth upon both sides of the seam or line of stitch when in the act of feeding, substantially as described.

I also claim the self-expanding looping springs Q, arranged and

operating as described, in combination with the slotted hanger U and springs V, for the purposes substantially as set forth.

No. 21,049.—Albert H. Hook, of New York, New York, assignor to the Union Sewing Machine Company, of New York aforesaid.—*Improvement in Sewing-Machines.*—Patent dated July 27, 1858.—These improvements are made upon the single threaded or tambour sewing machine, to which alone they relate, the construction and arrangement of the parts being devised with reference to cheapness and durability.

Claim.—A narrow space between the looper finger *e* and arm *g* in combination with the rough surface on *g*, the whole being constructed and arranged substantially as set forth.

No. 20,994.—Cornelius Donovan, of Abington, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application or attachment to the sewing machine of the stop motion described, consisting of the lever *a*, the cogged segment *b*, the rack *c*, the belt guide *d*, the brakes *j j*, the crank *n*, the springs *i i i i*, and the lever *h*, the cam *k*, the pulleys e^1 e^2, and the belt running on them, the pulley e^3, arranged and operating in the manner described.

No. 20,990.—Luman Carpenter, of Oswego, New York.—*Improvement in Sewing-Machines.*—Patent dated July 27, 1858.—This improvement relates to a feeding mechanism, and consists in the arrangement of a tilting dog or cam F at the lower part of the pivoted feeding bar G, and operating in combination with a friction spring H and the needle bar, whereby the feeding pad I I is caused to retract at the commencement of the upward movement of the needle bar, and thus avoid any tendency to deflect the needle by the friction of the pad upon the cloth.

The inventor says: I am aware that the feed in sewing machines has been produced by a projection or fixed cam on the end of the needle bar or feed bar, or both; also that the feeding bar has been pivoted to a tilting lever and operated over an adjustable screw as its fulcrum. Neither of these arrangements do I propose to claim.

But I *claim* the combination of a tilting dog or cam F with its friction spring H and pivoted vibrating bar G, when operated by the needle bar for feeding the cloth, in the manner substantially as described.

No. 21,089.—E. Harry Smith, of New York, New York.—*Improvement in Sewing Machines.*—Patent dated August 3, 1858.—The nature of this invention consists in a continuously revolving looper *g*, that passes into, through, and out of the loop of needle thread, catching said loop and retaining it in a distended form until the needle in its next descent passes through the loop; and then the looper passes out of said loop, allowing the same to be drawn up by the descent of the needle, and another loop is taken by the point of the looper from the needle as the looper revolves.

The inventor says: I *claim* forming the stitch by means of the detached looper specified, operating in combination with the needle, and passing entirely through the loop, in substantially the manner and for the purposes described.

I claim the spreader 10, on the side of the looper, for the purposes specified.

I also claim the revolving and oscillating lever *h*, when constructed and arranged in the manner described, to drive the looper *g*, substantially as specified.

No. 21,100.—DARIUS WHEELER and LUMAN CARPENTER, of Oswego, New York.—*Improvement in Sewing-Machines.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We are aware of Blodget & Lerow's patent of January 14, 1851, and do not intend to claim anything therein contained; and we are also familiar with the claims of E. Harry Smith, now under examination at the Patent Office, and make no claim to the broad principle claimed by him of a revolving looper, having a continuous rotary movement, and passing entirely through a loop of the needle thread.

But we *claim* the combination of the notched looper B with the needle spring pins J J and cam plate K substantially as described, whereby one end of the looper takes the loop and the other end discharges it upon the needle D, while the looper is moving continuously in a circle.

We also claim the form of the looper substantially as set forth, whereby, as the looper progresses through the loop, the loop by the combined action of the needle and looper becomes shorter than when first taken, and is removed entirely out of the path of the point of the looper at and after its discharge, so that it cannot be taken again by the looper.

No. 21,129.—JAMES E. A. GIBBS, of Millpoint, Virginia.—*Improvement in Sewing-Machines.*—Patent dated August 10, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* so constructing and combining or arranging and operating a revolving hook or looper with a reciprocating needle, as that the one loop shall be taken from the needle after the former loop shall have been drawn up, on, along or over the needle during its advance movement, in the manner and for the purpose substantially as described.

I also claim the conical sleeve or its equivalent for holding the spool and for revolving therewith, in combination with the adjustable cones F and G, or their equivalents, for producing the requisite degree of friction upon the conical sleeve spool holder, when constructed and arranged so as to operate substantially in the manner and for the purposes set forth.

No. 21,230.—JONATHAN S. BUELL and W. T. BARNES, of Buffalo, New York, assignors to J. FORSYTH, R. D. ROCKWELL, V. M. RICE, and W. T. BARNES, of said Buffalo.—*Improvement in Sewing-Machines.*—Patent dated August 17, 1858.—The object of the spring F is to hold the feeder bar Q in the position gained by the feed motion while the needle is descending and while the stitch is being tightened. While the projection L is descending the inclined plane E, the spring F will prevent the feed bar from changing its position, and consequently the foot piece will remain stationary upon the cloth, until the downward motion of the projection L strikes the spring F and presses it downward and its end further into the recess formed in the feeder bar as seen between the points T and U.

The inventors say: We *claim*, first, the arrangement of the springs E F G J and I, with the feeder bar *q*, and feeder *l*, each operating in the manner and for the purpose specified.

Second. The looping apparatus, composed of the framework Y, the spear S, the hooks *t* t^1, and the guide W, operating substantially in the manner and for the purposes described.

No. 21,224.—WM. P. UHLINGER, of Philadelphia, Pennsylvania.—*Improvement in Sewing-Machines.*—Patent dated August 17, 1858.—In order to secure the needle catching the under thread while coming down, the device L is added to the under side of the machine, which is a vibrating finger so attached and operated that its point catches the under thread just before the needle and carries it away from the looper G, so as to allow an increased space for the needle to enter and catch the under thread.

Claim.—The vibrating finger L, in combination with the needle and looper, arranged and operating substantially as described.

No. 21,234.—TIMOTHY D. JACKSON, of New York, N. Y., assignor to JOSEPH W. BARTLETT, of said New York.—*Improvement in Sewing Machines.*—Patent dated August 17, 1858.—The nature of this invention consists in the employment of a thread guide so constructed and arranged that it may be operated entirely by the needle and a spring, and, in combination with a hooked needle, insure the taking of every stitch, and thereby produce a simple and effectual tambour stitch sewing machine.

The inventor says: I am aware that thread guides are used in single-thread machines to convey the thread across the path of the needle, which receive their movements from mechanism other than the needle, an example of which may be found in the patent of O. L. Reynolds, May 14, 1850; and I therefore disclaim all such.

But I *claim* a swinging thread guide attached to the cloth presser, and operated by and in combination with an oscillating hooked or barbed needle, constructed substantially as described, whereby I am enabled to secure the taking of every stitch and render a single-thread machine effectual, as set forth and specified.

No. 21,250.—R. B. FITTS and MILTON D. WHIPPLE, of Charlestown, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated August 24, 1858 —This invention has for its object more perfectly to steady and guide the cloth in its passage through the machine, and

to prevent it from moving frivolously as the sewing proceeds; and it consists in the use of an angular guide upon the table immediately beneath the pressure foot, which lies in the direction in which the cloth is fed, and causes it to advance in a straight line, except when it is guided or turned by the hand of the operator. The guide, which is called a "keel-guide," from the nature of its operations, is seen in the engravings.

Claim.—First. The keel-guide *a* beneath the pressure foot, operating as set forth, for the purposes specified.

Second. Causing the shank of the needle to play vertically in the guides, and connecting the pitman directly thereto, as described.

Third. Securing the needle in place by means of the pin *f*, when its shank is provided with a notch to insure its proper position with respect to the hook G and the table, as set forth.

Fourth. The peculiar arrangement of the bar K and its post *o* with the bent lever *b*, sliding plate *m*, and spring *n*, operating as and for the purposes set forth.

No. 21,299.—Timothy D. Jackson, of New York, New York, assignor to Joseph W. Bartlett, of said New York.—*Improvement in Sewing-Machines.*—Patent dated August 24, 1858.—The nature and object of the first part of this invention consists in the employment and use of a yielding roller, so arranged as to close the barb of the needle during the perforation of the material, and also during the retraction of the needle, to prevent the barb catching in the material.

And the nature of the second part of this invention consists in arranging and combining with a flexible roller a swinging thread-guide, which shall always carry the thread in position for the barbed needle to catch it.

The inventor says: I *claim*, first, the employment of a yielding roller, constructed as described, for the purpose of closing the barb of the needle during its movements, substantially as set forth and specified.

Second. And in combination with a yielding roller the swinging thread-guide, to carry the thread in position for the needle, to insure the stitch, as set forth.

No. 21,258.—Elias Howe, jr., of Brooklyn, New York.—*Improvement in Sewing-Machines.*—Patent dated August 24, 1858.—This invention consists in a method of operating the shuttle so as to cause it to move to and fro by means of a driver applied only to one part of its length. Also in constructing the shuttle, and the mechanism that drives it, in such a manner that they are well adapted to this mode of operation.

Claim.—Imparting a reciprocating movement to the shuttle of a sewing-machine, by the application of a driver to one point only of its length, substantially as set forth, in such a manner that the driver need not be disconnected from the shuttle. Also constructing the shuttle-driver in such a manner that it is guided by a race parallel with the shuttle race, or its equivalent, and it is at the same time supported and prevented from sinking out of its proper position by

pivoting its stock, perpendicularly to the table of the machine, in a socket in the arm which imparts motion to it, substantially as set forth.

No. 21,322.—D. W. Clark, of Bridgeport, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated August 31, 1858.—The requisite intermittent motion of the belt is imparted by means of a pair of pincers or levers Q Q¹, which are pivoted together at *g*. The forward ends of these pincers grasp the belt O, and alternately release their grasp. At the moment of grasping, the pincers vibrate upon the standard or pivot R, (which rises from frame A,) and by this vibration the belt is moved, the wheel M also turned, and the cloth consequently fed or carried in direction of arrow 1.

Claim.—Imparting the neccessary intermittent motion to the feed-wheel M, by means of an endless belt O and vibrating pincers Q Q¹, arranged and operating in the manner substantially as described.

No. 21,310.—Solomon Andrews, of Perth Amboy, New Jersey.—*Improvement in Sewing-Machines.*—Patent dated August 31, 1858.—The operation of this machine is as follows: When the wedge lever is moved on its pivot towards the butterfly, the wedge *b* first enters between the staple and the butterfly, on the under side and over the back of the butterfly. This presses down the butterfly, because the staple will not yield. By the time the butterfly is fully pressed down, the lever *c* comes in contact with the extreme end of the mortise in the tail of the butterfly, and will pull it in that direction as far as it is moved on. When the motion is changed to the contrary direction, the wedge is first pulled out; the butterfly rises by its spring, or, if the plate be turned over, falls by gravity, or the spring, or both combined; and as soon as this is done, the lever comes in contact with the other end of the mortise, and pushes back the butterfly to its original position.

The inventor says: I am aware that the square or parallelogram motion has been employed for feeding the cloth in sewing machines, therefore I do not claim this movement.

But I *claim* the combination of the wedge and lever piece fig. 7 and feeding foot fig. 3, constructed and operating in the manner substantially as described for the purpose specified.

No. 21,465.—Sherburne C. Blodgett, of Philadelphia, Pennsylvania, assignor to George B. Sloat & Co., of said Philadelphia.—*Improvement in Sewing Machines.*—Patent dated September 7, 1858.—The nature of this invention consists in an improved mode of operating the hook about the bobbin, viz: with a compound motion produced by a crank and an arm, or by two cranks, whereby the point of the hook is made to travel in an elliptical or circular path without being reversed, or made to point upward or downward during its rotation; also in a peculiar mode of constructing the hook.

The inventor says: I lay no claim to a shuttle, a needle, and mechanism for operating them, in such manner and while they carry separate threads, as either to cause the shuttle carrying one thread to

pass through a loop of thread formed and held in cloth or other material by the needle, or to cause the loop of the needle thread to be seized by a hook, and cast around the shuttle in such manner as to carry the thread through the loop, as I am aware that such is not new.

Nor do I claim the application of the hook to the bobbin in such manner that such hook shall revolve in a circular path concentric with the axis of the bobbin, and be turned over or reversed in position, so that it shall be caused to point upward and downward while making each entire revolution.

But I *claim* my improved mode of operating the hook about the bobbin, viz: with a compound motion produced by a crank *i* and an arm *p*, or by two cranks, whereby the point of the hook is made to travel either in an elliptical or a circular path, without being reversed or made to point upward and downward during its rotation. Also, the particular mode above described of constructing the hook, viz: so that not only the heel part thereof shall lap over the edge of the bobbin, but the point of the said hook extend obliquely in manner as described, or towards the needle, and so as to operate therewith as explained, and making the said hook with an auxiliary hook or notch *z*, the same being to operate together as specified.

No. 21,402.—Bryan Atwater, of Berlin, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The improved arrangement of the guide plates J *i*, with respect to one another, the needle *a*, and the bed plate B, viz: so that there may be a space *b* between the bed plate and the upper end or notch of the guide plate J, and the two guide plates be placed so close together as to hold the middle of the bow of the loop in position and bridged across the recess of the plate J, substantially in manner for the reception of the needle by the loop, and to effect advantages, as set forth.

No. 21,461.—Jerome B. Woodruff, of Washington, District of Columbia.—*Improvement in Sewing-Machines.*—Patent dated September 7, 1858.—This invention consists in the construction and use of a double corrugated spring to regulate the tension of the needle thread, which is made to pass between the plates of the spring; and in the employment of an extension rod to adapt the machine to tables of varying heights; and also in the means employed for retaining the shuttle in place, and at the same time to render it easily accessible to insert and remove the bobbin.

The inventor says: I *claim*, first, the double corrugated yielding spring, between which the thread is guided, the same being regulated by a thumb-screw, or any equivalent device, to bear upon the thread in the manner described to produce any degree of tension required.

Second. I claim making the bowl or shuttle carrier, and attaching it to the slotted driver, as described, in combination with the circular shuttle race.

Third. I claim the application of extension rods for pitmans to sewing machines, when used in combination with a hinged foot piece

to be placed upon the floor, and the machine upon a table, in the manner and for the purpose specified.

No. 21,466.—Miles L. Clinton, of Ithaca, New York, assignor to H. F. Hibbard, of said Ithaca.—*Improvement in Sewing-Machines.*—Patent dated September 7, 1858.—This improvement consists in the peculiar method of operating the hook (or spring hook) that holds the loop of thread in single-thread sewing-machines, and also the device for winding the thread on to the spool.

Claim.—The cams B and C on shaft A, in combination with spring hook D, constructed and operated substantially in the manner and for the purpose described.

No. 21,537.—George W. Hubbard, of Meriden, Connecticut, assignor to Himself, Walter Hubbard, W. L. Bradley, and N. L. Bradley, of said Meriden.—*Improvement in Sewing-Machines.*—Patent dated September 14, 1858.—This invention consists in a looper of novel construction, operated by the "eye-pointed" needle, and operating in combination therewith to sew what is known as the chain stitch with a single thread.

The inventor says: I do not claim the operation of the looper by means of the needle, as this was patented by T. J. W. Robertson, May 22, 1855.

But I *claim* the looper composed of the fixed plate *c*, the elastic plate *d* d^1, and the hook *i*, applied to be operated by and to operate in combination with the needle, substantially as specified.

No. 21,592.—Jonas Hinkley, of Huron, Ohio, assignor to Himself and F. A. Wildman, of Norwalk, Ohio.—*Improvement in Sewing-Machines.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the method of operating the feeding arm or cloth mover by the combined action of the pivoted bow K, pressing lever N, flexing strap O, and vibrating plate D or its equivalent, as set forth.

Second. Mounting the vibrating plate D, which imparts motion to the loop-forming hook and feeding mechanism, upon the spring arms *n*, arranged at right angles to a longitudinal spring H for balancing said plate in its vibration.

Third. Mounting the spool T upon a spindle having elliptical-shaped springs, which extend into and through the eye of the spool, as and for the purposes specified.

No. 21,722.—Joseph E. Hendrick, of Bristol, Connecticut, assignor to Himself, W. H. Nettleton, and George Stevens, of said Bristol.—*Improvement in Sewing-Machines.*—Patent dated October 5, 1858.—The nature of this invention consists in the application of sewing mechanism to a device similar to shears, whereby the opening and shutting of the shears perform the functions of sewing; thereby a simple, portable, cheap, and efficient machine is constructed that can be used in the hand in a manner similar to shears, and applied to the

work instead of the work being applied to it, or the said shears may be screwed to the table or other convenient place for support, and the cloth presented to the "sewing shears."

Claim.—The shears handles or bowls a^1 b^1, in combination with the upper part or blade *a* acting as a needle carrier, and the lower part *b* formed as a bed, as specified, whereby the sewing and feeding mechanism is actuated by a motion of the hand similar to that of cutting with shears, as set forth.

No. 21,713.—JOSEPH WHITE, of Troy, New York.—*Improvement in Sewing-Machines*.—Patent dated October 5, 1858.—This invention relates to the particular operation of the looper for the purpose of catching, spreading, holding, and releasing the loop at proper intervals during the process of sewing, without putting any twist in the thread, thus making a neat and finished seam.

Claim.—Giving the looper its motions for catching, spreading, and holding open the loop, and then delivering it up to the needle, without putting any twist in the thread, by means of a shaft having two motions at the same time, and given to it by mechanism substantially such as described.

No. 21,672.—DANIEL HARRIS, of Boston, Massachusetts.—*Improvement in Sewing-Machines*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* driving the needle arm and the apparatus for effecting the feed and for forming the loops in sewing-machines by means of a pulley provided with an India rubber ring, or its equivalent, and hung in brackets cast on to the bed plate, substantially as described, in combination with a fly wheel, also hung in brackets, but which are attached to the table; said pulley and fly wheel being arranged in relation to each other so that they may be readily thrown into or out of working contact, as set forth.

I also claim the peculiar construction of the hollow goose neck, when so shaped as to admit of the insertion of a bent needle arm, and the vibration thereof upon a fulcrum within said goose neck, in the manner and for the purpose specified.

I also claim, for feeding the cloth or other substance in sewing machines, the feed hand connected by means of a yielding joint with the slotted plate containing the slide *l*, and forming therewith a parallelogram opening, in combination with a vibratory needle stock having a pin projecting into said slot, so as to operate in the manner and for the purposes described.

No. 21,669.—WILLIAM O. GROVER, of Boston, Massachusetts.—*Improvement in Sewing-Machines*.—Patent dated October 5, 1858.—The nature of the first part of this invention consists in combining the needle of a sewing machine with a hollow cylinder and with a piston or plunger, the one sliding upon the other.

The inventor says: I *claim*, first, the combination of a cylinder and plunger and needle of a sewing-machine, substantially in the manner and for the purpose specified.

Second, I claim a slot, or its equivalent, for the purpose specified, in combination with the guiding mechanism of a sewing-machine needle, substantially as described.

No. 21,670.—WILLIAM O. GROVER, of Boston, Massachusetts.—*Improvement in Sewing-Machines*.—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination with a curved needle or hooker-on, or looper, of an irregularly shaped spiral shaft and a reciprocating driver, both substantially such as before specified, and constituting an apparatus for imparting the required motions and pauses to a crooked needle, substantially in the manner specified.

Second. I claim mounting a driver, combined with and acting upon a spiral shaft, both substantially such as described, with a spring or springs, substantially in the manner and for the purpose specified.

Third. I claim combining such springs with layers of raw hide, leather, or similar material, when acting upon and in combination with a spiral shaft, substantially in the manner and for the purposes specified.

Fourth. I claim an actuating surface, substantially such as is specified, so formed as to surround or embrace an irregular screwed shaft, and at the same time free to slide in a driver, in planes perpendicular or nearly so to such a shaft, substantially in the manner and for the purposes specified.

No. 21,671.—WILLIAM O. GROVER, of Boston, Massachusetts.—*Improvement in Sewing-Machines*.—Patent dated October 5, 1858.—This invention consists in the construction and combination of parts. The presser foot having a rounded surface to come in contact with the cloth is shown at *a*, making part of or attached to the slide *b*, which is free to play in proper ways or guides in a block *d d* attached to some part of the machine. This slide or rod is furnished at or near its upper end with a bar *f*, either making part of the slide, or secured to it by brazing or otherwise; the precise function of this bar being to rest upon a cam and transmit motion to the slide.

Claim.—The inventor says: I wish it distinctly understood that I am aware of the fact that there are now in common use a variety of devices for giving and permitting the motion of presser feet slides, and that among them is a bent lever attached by a hinge to a slide which is pressed upon by a coiled spring. I therefore claim as my own invention the combination of a spring, a bar attached to or making part of a slide and resting upon a cam, and a cam shaped substantially as specified, when these parts are held in working position and connection by the spring, as there is no attachment between the bar and the cam; all these parts being substantially such as are before described, and acting severally and in combination, substantially in the manner and for the purposes before specified.

No. 21,751.—JAMES E. A. GIBBS, of Mill Point, Virginia.—*Improvement in Sewing-Machines*.—Patent dated October 12, 1858.—The claim and engraving explain the nature of this invention.

Claim.—In combination with an eye-pointed needle vibrating up and down and back and forth in a plane passing through the line of feed, the spring hook J, or a hook constructed so as to yield sidewise or laterally of the path of the needle when actuated by said needle, in the manner and for the purpose of operating substantially as described.

No. 21,800.—Warren Millar, of Chicago, Illinois, assignor to Himself and John Nutt, of said Chicago.—*Improvement in Sewing-Machines.*—Patent dated October 12, 1858.—This invention consists principally in a rotating two-hooked ring, operating to extend the loops in the needle thread, in combination with a reciprocating spool, which supplies the locking thread through said ring and through the loops extended thereon. It also consists in the employment of a loose ring applied within a cavity in the aforesaid rotating two-hooked ring, to produce the necessary tension on the locking thread.

The inventor says: I do not claim the combination of the rotating hook to extend the loops in the needle thread, with a reciprocating bobbin to carry the locking thread through the so-extended loops, as that is claimed in the patent of A. B. Wilson, August 12, 1851..

Neither do I claim the driving of the reciprocating spool by means of a groove in a rotating hollow mandrel, into which the said spool passes, and which carries the rotating hook.

Nor do I claim placing the hook which takes the loop from the needle on the side of the ring opposite to that where the thread passes from the bobbin or thread case to the needle loop, when such bobbin or thread case is stationary or revolves with the hook, as such construction and arrangement of these devices are employed in the patent of E. Harry Smith, dated November 10, 1857.

But I *claim*, first, the revolving hooked ring, constructed as described, when arranged and operating, in combination with the needle and the reciprocating spool carrying the locking thread, for the purpose specified.

Second. The loose ring R applied within the rotating two-hooked ring, and operating in combination therewith, substantially as described, to produce a tension on the locking thread.

No 21,752.—William O. Grover, of Boston, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, driving or speeding up a sewing-machine by means of a convex elastic face on one wheel or pulley acting in combination with and by friction upon a non-elastic concave face on another wheel or pulley, combined and acting together, substantially in the manner and for the purposes specified.

Second. I claim supporting and steadying a sewing-machine by the combination of a tube of India rubber, or its equivalent, with an internal pin or projection, the two being fitted and acting substantially in the manner and for the purposes set forth.

No. 21,745.—Chauncey O. Crosby, of New Haven, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated October 12, 1858.—This invention consists in so constructing the machine, that by the

arrangement and combination of the several devices, the operator is able to imitate, so far as is beneficial, the manipulations of sewing by hand, so far as the thumb and first two fingers of the left hand are concerned in holding the cloth, and those of the right hand in using the needle. And in the method of drawing the main portion of the thread through the cloth, controlling the slack thread, and drawing up the stitch without any strain upon the eye of the needle, or of the thread where it rests in the eye of the needle, or of chafing the thread by drawing it through at an acute angle with the cloth, each of which evils occurs in sewing by hand.

The inventor says: I *claim*, first, the combination of the cloth holder with the needle bar and thimble bar, when constructed and made to operate substantially as described.

Second. I claim the combination of the needle bar and thimble bar with a common needle, when made to operate substantially as described.

Third. I claim the combination of the feeding apparatus with the needle bar for carrying the needle, when made to operate substantially as described.

Fourth. I claim the combination of the needle bar with the hooks and endless tapes, when arranged and made to operate substantially as described.

No. 21,833.—George W. Hubbard, of West Meriden, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated October 19, 1858.—This invention consists in an improved construction of the loopers of sewing-machines, and in the manner of operating the same. The looper consists of a hook so shaped as to engage and spread the loop in a well known manner. It is, however, so constructed as to be capable of being operated by a fixture attached to the needle bar, which fixture, being carried up and down with the needle, effects the working at the proper time and in a simple manner.

Claim.—Operating the looper by means of a pin working in conjunction with the needle, in the manner substantially as described.

No. 21,929.—Amos W. Sangster, of Buffalo, New York, assignor to Victor M. Rice, Joel Thayer, James Sangster, and Eliza Remington, of said Buffalo.—*Improvement in Sewing-Machines.*—Patent dated October 26, 1858.—The nature of this invention consists in providing a revolving cam or wheel in combination with an adjustable foot-piece, or equivalent, between which, and by means of which, the cloth is fed to the machine and the length of the stitch is regulated.

Claim.—The combination of the cam or wheel H, provided with one or more projections on its periphery, with the adjustable foot-piece G, or its equivalent, for feeding the cloth and regulating the length of the stitch in the manner described and without the use of an intermediate feed-piece.

No. 22,050.—Samuel Comfort, jr., of Morrisville, Pennsylvania, assignor to Himself and Francis H. Jackson, of Philadelphia, Pennsylvania.—*Improvement in Sewing-Machines.*—Patent dated November 9, 1858.—This invention relates to improvements in sewing-machines

for which letters patent were granted to the above named inventor on the 29th of June, 1858, and consists in protecting the bent needle and preventing it from springing or breaking as it is in the act of penetrating the fabric, by means of a guard arranged to coincide with and be in juxtaposition to the needle; also in a device connected with the needle-guard, whereby the needle thread is caused to maintain the needle in proximity to the guard, and whereby the thread is caused to take its place in the groove in front of the needle, and thus prevent a double loop from being passed round the shuttle.

The inventor says: I *claim* the guard *i* in combination with a bent needle, the inner edge of the said guard being in juxtaposition with the needle and forming the segment of a circle of which the centre of vibration of the needle arm is the centre, for the purpose specified.

I also claim causing the needle thread to maintain the needle in proximity to the guard *i*, and at the same time so guiding the thread to coincide with the groove of the needle by means of the projection 2, arranged on the said guard, substantially as set forth.

No. 22,007.—Otis Avery and Zelotes W. Avery, of Bethany, Pennsylvania.—*Improvement in Sewing-Machines.*—Patent dated November 9, 1858.—This invention relates to that class of sewing machines known as the single thread or "Tambour machine." J is the cloth presser or foot, through a slot in which the needle works. This presser holds the material and prevents its being raised by the needle; it is attached to a rod *g*, which passes up through the part F of the frame, in suitable bearings therein; and behind this rod there is a spring *i* for throwing it towards the needle bar after it has aided to feed up the cloth for one stitch so as to be ready for the next succeeding stitch.

Immediately behind the hook *a* on the shaft B, there is a cam *h* which rotates in a yoke K that is pivoted to a frame *k;* said yoke is kept against cam *h* by spring L, so that as the cam rotates on its shaft the yoke shall vibrate on its pivoted point *k*.

The inventors say: We *claim* the combination of the rocker or yoke K, pivoted as described, and the presser S, operated as set forth, for the purpose of firmly holding the cloth whilst it is being fed up or moved as represented.

We also claim, in combination with the beam H and its cam *q*, the bar *o* and its cam *r*, when said parts effect the purposes described, and in the manner set forth.

No. 22,045.—Calvin D. Wheeler, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated November 9, 1858.—This invention consists in interposing between the thread-spool and the place where the thread is used a sheave whose greater or less freedom of motion on its axis is controlled by an adjustable friction brake, and whose periphery contains a sharp groove in which the thread, which is passed partly around the sheave, jams, so that the sheave is turned by the thread as the latter is drawn to the point where it is used, and the tension or the strain upon the thread depends upon the greater or less resistance of the friction brake,

which, when once adjusted, remains constantly the same whatever quantity of thread be passed through the machine.

Claim.—The combination of a sheave whose groove is sharp, or so constructed that the thread may jam therein by a partial passage around the sheave, with an adjustable friction brake to control the movement of the said sheave, substantially as described.

No. 22,148.—James Perry, of New York, New York, assignor to Isaac C. Noe, of said New York.—*Improvement in Sewing-Machines.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I wish it to be distinctly understood that I do not limit myself to the precise construction and arrangement of the parts, as these may be variously modified, without the principle or mode of operation which I have invented and claim to be new and useful. Nor do I wish to be understood as claiming any particular device simply to catch a loop and to move the same that the needle may enter it.

I *claim* the combination and arrangement of the levers and cams for imparting the three reciprocating movements to the looper, namely, that in the arc of a circle, the lateral, and the vertical, in the manner substantially as described for the purposes specified.

Also, the shield i^1 in combination with the looper and needle, arranged and operating in the manner described, for the purpose of presenting the loop to the looper with greater certainty.

No. 22,137.—James H. Spencer and Thomas Lamb, of Philadelphia, Pennsylvania.—*Improvement in Sewing-Machines.*—Patent dated November 23, 1858.—This invention consists in a novel combination of a reciprocating or vibrating shuttle-holder, with permanent and yielding projections, and a spring catch for retaining the shuttle plate and its spool, the whole being arranged in respect to each other and to a lip projecting from the cloth plate, as fully set forth. And it further consists in a peculiar arrangement of cams, rods, and arms for feeding the fabric and regulating the feed, and in a combination and arrangement of cylinders and pins for imparting the necessary tension to the fabric, and for regulating the amount of tension.

The inventors say: We *claim*, first. The vibrating and reciprocating carrier *h*, with its permanent projections *k k*, yielding projection *j*, and spring-retaining catch *p*, in combination with the shuttle M, its casing N and spool *n*, when the several parts are constructed substantially as described, and when they are arranged in respect to each other and to the lip *q* as and for the purpose set forth.

Second. We do not claim, broadly, feeding the fabric by the combined vertical and lateral motion of a roughened surface feed bar on the said fabric, as such a device is described in the patent of A. B. Wilson, granted December 19, 1854. But we claim the arrangement of the parts described for feeding the fabric and regulating the amount of the feed; that is to say, the cams F and G, spring-rod P, arms *w* and *v*, the rod *z*, its collar 2 and adjustable nut Q.

Third. The cylinders 3 and 4, with their respective pins, when

arranged in respect to each other to receive the folds of the needle thread as set forth, so that by turning one or both of the said cylinders the pins may cause more or less of the folds to bear against the surface of the cylinders as set forth.

No. 22,143.—Hiram W. Harkness, of Bristol, Connecticut, assignor to Himself and Millford H. Nettleton, of said Bristol.—*Improvement in Sewing-Machines.*—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—Feeding the cloth to sewing-machines by the combined action of a smooth reciprocating pressure foot and a vertical clamp, acting at the end of said foot, to hold the cloth firmly while being moved, the bend or angle thus formed in the said material enabling the feed to act with but little pressure on the goods from the smooth foot-piece, as specified.

No. 22,179.—Albert H. Hook, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated November 30, 1858.—This improvement consists in simplifying and arranging the construction of certain parts of machinery necessary to mechanical sewing, by which can be made a compact machine at small cost and retain all the useful features of a single thread sewing-machine, dispensing with threading and other difficulties in its operation usually incident to such devices.

Claim.—The combination of the levers *m n*, arm *k*, spring *o*, and cam *p*, constructed and arranged substantially in the manner and for the purpose set forth.

No. 22,160.—S. S. Burnet and William Broderick, of Chicago, Illinois.—*Improvement in Sewing-Machines.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the employment of the rocker F in combination with the cranks I J of the driving shaft, and with the needle bar or slide C, in the manner substantially as specified, for giving the required motions to the needle bar or slide to accomplish the formation of the loop, and at the same time allow the shuttle time to pass through the loop before the loop is drawn tight, and thereby accomplish the interlocking of the two threads and the drawing of the stitch tight on the cloth, as set forth.

Second. The employment of an auxiliary adjustable thread guide N in combination with the rocker F and stationary thread guide N^1 N^1, in the manner substantially as hereinafter specified, for the purposes of governing and adjusting the amount of thread for each stitch.

Third. The employment of the segment friction plate N^3, hung on a horizontal axis and constructed and operating as described, with or without index pointer *f*, in combination with the thread guides N^1 N^2, substantially as specified, for the purpose of causing greater or less tension upon the upper or needle thread.

Fourth. The employment of a vertical sliding, unyielding pressure bar P^1, formed of two pieces *m n*, which are right and left screw tapped, and coupled together by an adjustable link nut *l*, in combination with a jointed pivoted feeding and holding down pad O *o* and a vertically and laterally acting cam *s t* of the rocker, in the manner substantially as specified.

No. 22,220.—Charles Raymond, of Brattleborough, Connecticut, assignor to Willford H. Nettleton, of Bristol, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated November 30, 1858.—The nature of this invention consists in a peculiar manner of applying and regulating the feeding rollers that move the cloth, whereby more or less motion is given to the rollers to feed the cloth while the needle is out of it; also in a new construction of looper that forms a double chain stitch, said looper being formed in two pieces, the first of which passes through the loop and spreads the same, and then the second moves up and the needle takes a loop threfrom, and then the two retiring drop the first loop around the second, and so on.

The inventor says: I *claim* the arrangement of the adjustable neck *n*, having a reciprocating and vibrating motion, and operating in combination with the pinion *o* and feeding wheel *q*, to regulate the feed in the manner described.

I also claim the slide *u*, carrying the looper 13 and provided with the slot 16, receiving the pin 15 on the bar *x* that is formed with the carrier 14 for the second thread, whereby the thread carrier 14 is actuated by the reciprocations of the looper 13, substantially in the manner and for the purpose specified.

No. 22,269.—Stephen G. Tyler, of Quincy, Illinois, assignor to Himself, G. J. Savage, and J. W. Barnum, of said Quincy.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Making the bearing surface of a feeding foot or pressure pad of a sewing machine, or their equivalents, with two or more parts or toes, each self-adjusting to varying thicknesses or inequalities of surface, cording, hemming, or sewing plain work, and combining the same with a sewing-machine feeding apparatus, substantially as and for the purposes specified.

No. 22,225.—Robert M. Berry, of New York, New York.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—I is a smooth piece of cork wood made fast to the under surface of *b*, and L is a smooth brass table or plate. J is a nick in which the short end of lever *h* is held, and *k* is a set screw by which the extent of action of *h* is controlled.

Claim.—The combination and arrangement of the feeding foot L, of cork or its equivalent, with the peculiar feeding mechanism described, or its equivalent, operating in the manner substantially as and for the purpose specified.

No. 22,240.—Samuel F. Pratt, of Roxbury, Massachusetts.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—This machine is intended to accomplish the sewing of cloth or other material by the interlooping of two threads, one being carried by an

eye-pointed needle, and the other by a thread carrier or adjuster, with which a hook or expansion hook is employed to effect the formation of loops and their passage through those of the needle, the nature of the principal part of the invention consisting in the combination of the thread carrier or adjuster and the hook, when applied and used with a needle. It also consists in a peculiar thread carrier or a hook or barb, and a slot, or its equivalent, operating in conjunction or combination to effect the proper seizure of the lower thread and its disposal with respect to the loop of the needle, in order that such lower thread may be seized by the mechanism for drawing it through the needle loop.

The inventor says: I *claim* for interlooping two threads in order to sew cloth or other material, by means of an eye-pointed needle, or its equivalent, the combination of a thread carrier or adjuster M and a hook P, so acting together and with the eye-pointed needle, or its equivalent, as not only to cause the thread of the carrier to be laid or presented in rear of the needle in a proper manner to be seized by the hook, but to cause the hook to pass through the loop of the needle, seize the thread of the carrier, and next recede, and draw the said thread in the form of a loop through the loop of the needle, and properly present it for the needle to pass through it during its next downward movement after the cloth may have been fed along the length of the stitch.

I also claim the thread carrier M, constructed with the slit *a*, or its equivalent, and barb *b*, operating in the manner described, to present the lower thread to the reciprocating looper hook, which will draw it through the loop formed in the needle thread.

No. 22,264.—John First, of New York, New York, assignor to Himself and James Frost, of said New York.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—The nature of this invention consists in the use of a slotted arm driven by a rod connected to a crank pin and sliding in a swivel guide, the whole combined and serving in the relations to each other for the purpose of giving the requisite irregular motion to the needle bar.

Claim.—The employment of the slotted arm D, the rod and pin E H, and the swivelling guide G, or their respective equivalents, in combination with each other and with the crank E, substantially as described, for the purpose of communicating the requisite irregular motion to the needle bar of a sewing machine, as set forth.

No. 22,255.—John Mackenzie, of Cleveland, Ohio.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—This invention consists in a certain combination and arrangement of mechanical devices to provide for the operation of the feeding-dog, by the elongation of an eccentric pin which drives the shuttle.

Claim.—Combining the lever-like feed-dog K with the revolving eccentric pin *e*, which operates the shuttle by means of the vibrating slotted double cam-like plate P and the two levers L and M, the connecting-rod K and the springs S S, the whole being arranged and operating as described, to produce the movements of the feed-dog.

No. 22,226.—Hobert H. Bishop, of Bristol, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated December 7, 1858.—This invention relates to a device for sustaining and actuating the needle so that it enters the cloth vertically, and when near its furthest point of insertion moves laterally to feed the cloth, and then draws out straight, and while out returns to its previous position, a regulated distance corresponding to the length of stitch, whereby the needle feed does not operate except at the strong base of the needle.

Claim.—The plate *k* in slides on the needle-bar *h*, at right angles to it, and carrying the eye-pointed needle, in combination with the bent lever *m* and stops 4 and 5, or their equivalents, for the purposes and substantially as specified.

No. 22,273 —J. E. Atwood, of Mansfield Centre, Connecticut.—*Improvement in Sewing-Machines.*—Patent dated December 14, 1858.—This invention consists in the combination and arrangement of feeding mechanism for moving the cloth or other material to be sewed, between the other operations of the needle.

A is the plate upon which the material is placed to be sewed, having cast with it the standard B, to which is attached the arm C, to which is secured the spring pressure-pad D for confining the material to be sewed to the table or plate A; said arm also carrying the guide E for the vertically sliding needle-bar N, and containing the bearings for the main shaft F, from which the needle and looper, or shuttle and feeding mechanism, also derive motion.

Claim.—The combination of the vibrating arm H which carries the dog *g*, its attached arm K, the swinging frame I, the independent levers *i j*, the springs *h l*, and the cam J; the whole applied, arranged, and operating substantially as set forth.

No. 22,275.—Amos H. Boyd, of Saco, Maine.—*Improvement in Sewing-Machines.*—Patent dated December 14, 1858.—In using this machine, the wheel D is set in motion and the needle descends; and as it ascends, the eccentric-groove *c* is so constructed that the bar B will move, bringing the looper forward so that the projection *d* will catch the thread between it and the point *e* of the looper-bar. By the time the thread is fairly caught on the projection, the eccentric groove *g* operates upon the bar C, moving it backward; and thus, by means of the ear *i* and pin *o*, the looper-shaft is made to revolve partially, thus holding the loop open until the needle descends. When the needle descends, the bar C moves forward, revolving the looper-shaft back again, and almost instantly the bar B moves the looper-bar back so as to disengage it entirely from the thread. As the needle ascends again, the looper-bar is made again to move forward, receive the loop, revolve and hold it until the needle descends, then it turns and moves back, and thus each stitch is made.

Claim.—The combination of the looper E, the bars B and C, and cam-wheel D, when constructed, arranged, and operated in the manner substantially as described and for the purpose specified.

No. 20,664.—Francis A. Ross and William H. Marshall, of New York, N. Y.—*Improved Cabinet for Sewing-Machines.*—Patent dated

June 22, 1858.—Upon the top of the cabinet is placed the sewing platform B. It is hinged at the back, and has a catch-lock in front. The cap A is for covering the machine. The doors C of the cabinet are hinged upon pivots G.

Claim.—The hinged case B to form a sewing platform, arranged and constructed substantially as described.

No. 20,245.—LEMUEL W. SERRELL, of Brooklyn, New York, assignor to JOHN HAROLD, of Hempstead, New York.—*Improvement in Guides for Sewing-Machines.*—Patent dated May 11, 1858.—The object of this invention is to provide means for guiding the cloth to the sewing machine that any character of work can be performed, by a combination or permutation of guides that control the position of the cloth relatively with the needle, and at the same time keep the goods as flat as possible and open to the inspection of the operator, and also turn the hems on the cloth..

The inventor says: I *claim*, first, the detached tongue *g*, around which the edge of the cloth to be hemmed is folded or wrapped to a greater or lesser extent, substantially as and for the purposes specified.

Second. I claim the adjustable hem-spreader K, in combination with the tongue *g*, substantially as specified.

Third. I claim the combination of the separate or detached tongue *g* with the inclined tucker *h*, to pass the edge of the cloth beneath the said tongue *g* between that and the material on the bed to form the hem, substantially as specified.

Fourth. I claim the finger *g* in combination with the tongue *g*, substantially as and for the purposes specified.

Fifth. I claim the gauge *r*, in combination with the hem spreader *k* and gauge *l*, substantially as and for the purposes specified.

No. 21,355.—HENRY B. ODIORNE, of Philadelphia, Pennsylvania.—*Improvement in Hemming Guides for Sewing-Machines.*—Patent dated August 31, 1858.—This invention consists in constructing the pressure-pads of sewing-machines with certain recesses formed and arranged as shown, and in combining with the same a curved tongue or projecting curved lip, in order that by the joint action of the said recesses and curved tongue, or their equivalents, the edge of the fabric may be turned over, and the two folds, necessary for producing the required hem, formed as the fabric is moved forward by any of the feeding devices generally used in sewing-machines.

The inventor says: I lay no claim to any device described in the patent of S. P. Chapin, or to that of S. C. Blodgett, granted January 3, 1854.

But I *claim* constructing the pressure-pad of a sewing-machine with recesses, arranged and formed substantially as described, in combination with the curved tongue B, or its equivalent, for the purpose specified.

No. 21,361.—TRUMAN W. PEPPER, of New York, New York.—*Improvement in Oiling the Thread for Sewing-Machines.*—Patent dated August 31, 1858.—The nature and object of this invention is to obviate spattering the oil and consequent damage arising therefrom, by mounting to the pressure bar or other part of the machine a vessel filled with oil, and provided with an orifice for holding any porous or absorbing material for the thread to pass over during its passage to the needle, and having a valve to regulate the flow of oil to the absorbing material, so that the operator can saturate the needle thread more or less at option, and thereby accomplish the desired end without the slightest detriment to the goods during the process of sewing.

The inventor says: I am aware of the patent granted to I. M. Singer, May 30, 1854, wherein he claims oiling the thread with linseed oil mixed with a dryer, which he accomplishes by passing the thread into and out of a cup, said thread being passed over the edges of the cup, and made to pass near the bottom thereof by means of a guiding eye.

I am also aware of the patent granted to Salem Wilder, January 30, 1855, for waxing thread, wherein thread is passed into and out of a cup in a manner identical with Singer, and I therefore claim no part, device, or thing in these patents.

But I *claim* the described improvement in oil vessels for sewing machines, namely, providing the vessel with the regulating plug *a*, neck or spout *b*, and porous material *c*, over which the thread is drawn, arranged and operating in the manner substantially as described.

No. 20,006.—PHINEAS J. STEER, of Washington, District of Columbia.—*Improvement in Operating Sewing-Machines.*—Patent dated April 20, 1858.—When the operator is ready to start this machine, she will slightly elevate the left knee by raising the heel about half an inch from the floor, or until she feels the left knee touching the pawl H. The pawl will then be in the ratchet, and the machine will be securely locked against a backward motion, but free to move forward. Then, with her right foot upon the treadle, she starts the machine, and it must go forward, which is instantly known by the clicking of the pawl upon the ratchet wheel, when she may drop the knee and keep the machine going by the treadle. As soon as the knee drops, the clicking ceases.

The inventor says: I disclaim the employment of a pawl and ratchet for the purpose of revolving a shaft continuously in one direction, as this is not new.

But I *claim* the arrangement of the devices for starting sewing machines always in a right direction, and to prevent backward motion, with the knee and foot of the operator, and without using the hand for that purpose, as set forth and described.

No. 21,398.—JOHN T. B. ROGERS, of New York, New York, assignor to GEORGE B. SLOAT, of Philadelphia, Pennsylvania.—*Improvement in Regulating the Tension of the Thread in Sewing-Machines.*—Patent dated August 31, 1858.—This invention consists of two conical surfaces, one of which is concave, and forms a cap to the other, which is convex, and an adjusting screw and spring; the whole being combined

in a manner to produce upon the thread passing between the cones friction, which is sufficiently variable to produce a degree of tension on the thread which can be regulated with extreme delicacy.

The inventor says: I do not claim regulating the tension of the thread by graduated friction thereon, or by causing it to pass over variable angular surfaces.

But I *claim* the combination, substantially as shown and described, of the cone A and conical cap B, for the purposes set forth.

No. 20,409.—James Cottrill, of Studley, England.—*Improvement in Sewing Needles.*—Patent dated June 1, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

Claim.—The sewing needle described as a new article of manufacture, that is to say, giving the space between the cutting edges of the triangular or equivalent-formed needle a concave form, substantially in the manner and for the purposes described.

No. 22,140.—Henry Walker, of Alcaster, Warwickshire, and Gresham street, London, England.—*Improvement in the Manufacture of Sewing Needles.*—Patented in England, May 19, 1858.—Patent dated November 23, 1858.—The nature of this invention consists in forming the dies or bits in such a manner that the cylindrical shape of the needle is nearly or entirely preserved, so that a circular hole is left for the thread to be drawn into.

Claim.—Forming the eyes of the needles in the cylinder of the wire, without flattening the same, by means of the double grooves E, substantially as and for the purposes specified.

No. 19,283.—Harold Kelsea, of North Branch, in Antrim, New Hampshire, assignor to Himself and Henry Dunklee, assignors to D. B. and J. C. Fuller, of New York, New York—*Improvement in Manufacturing Sewing Silk.*—Patent dated February 2, 1858.—This invention consists in an improved manufacture of sewing silk or twist, it being made by interlooping a single strand so as to lay together, and side by side, between each two adjacent interloopings of it, three straight portions of the strand. After this has been done, the whole is to be twisted together, so as to form one single line or cord.

The inventor says: I do not claim a manufacture of silk twist as made by laying and twisting together three different strands.

But I *claim* my improved manufacture of silk twist or sewing silk, as made by looping and interlooping a single strand, and subsequently twisting it into one line or cord, as specified.

No. 21,068.—James Eaton, of Townsend Harbor, Massachusetts.—*Improvement in Cop Tubes for Shuttles.*—Patent dated August 3, 1858.—The extremities of the shuttle spindle are furnished with a button *b*, which serves to hold off the yarn from the spindle and prevent it from wrapping and winding round it as it is drawn off. This button also serves to hold the cop tube in place upon the spindle.

The inventor says: I do not claim the use of a cop tube of entire length of the spindle, when used alone and unconnected with the button, or its equivalent, to guide the yarn over the point of the spindle A.

But I *claim* the employment of a button upon the end of the spindle or of the cop tube, for the purposes specified.

Second. In combination with the above, I claim a cop tube of a length sufficient to hold the entire cop, as set forth.

Third. I claim a removable spindle in combination with the button and long cop tube, operating in the manner substantially as set forth.

No. 22,221.—Newiel J. Willis, of Lawrence, Massachusetts, assignor to Sidera Chase, of Brooklyn, New York, and George A. Fuller, of said Lawrence.—*Improvement in the Manufacture of Weavers' Shuttles.*—Patent dated November 30, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The improved manufacture of weavers' shuttle, made substantially as described, viz: of separate blocks and a hard rubber or indurated vulcanized caoutchouc shell or body, or its equivalent, cast or moulded on the nose blocks, arranged substantially in manner as described.

No. 21,556.—Ira Dimock, of Mansfield Centre, Connecticut.—*Improvement in Machines for Sorting Silk or other Thread according to its size.*—Patent dated September 21, 1858.—The principle of this invention consists in certain means whereby a thread or threads of silk or other fibrous material produced by spinning, or obtained in any other way, is so directed on to a bobbin or other winding apparatus that it will be distributed or arranged upon different parts of said bobbin, according to its size or thickness.

This invention further consists in certain means for controlling the winding of the thread or threads on a series of bobbins or spools, from the bobbin or winding apparatus, on the several parts of which it has been distributed according to its size or thickness, so that all of one thickness will be wound upon one bobbin or spool, and all of another thickness on another, and the whole be sorted in as many quantities of different size or thickness, but each having nearly the same thickness throughout, as may be desired.

The inventor says: I *claim*, first, a device by which the varying thickness of the thread is made to shift a traversing guide or its equivalent, to distribute the thread upon a winding apparatus according to its thickness, consisting of two surfaces, one of which is caused to receive a reciprocating motion through the agency of variations in the thickness of the thread passing between them; whether the said surfaces consist of the peripheries of an eccentric wheel and roller, as represented in the drawing and described, or have any other form which permits of their operation in an equivalent manner.

Second. The movable carriage T, with its opening 7 and notches 7^1 7^1, applied in combination with the series of spools S^1 S^2 S^3 and the bobbin D, or winder on which the thread has been distributed and arranged according to its size or thickness, and operating substantially as described to stop the winding operation as the unwinding of the thread from said bobbin or winder varies beyond certain parts thereof.

No. 21,481.—Ernest Bredt, of New York, New York.—*Improved Manufacture of Skirting Material.*—Patent dated September 14, 1858.—In order to form this improved skirting a shuttle containing suitable cord or tape to form the loops is employed, and at suitable intervals this tape shuttle is thrown through the shed, so as to apply the tape thereto, that it may be interwoven with the warp threads, as shown at A A; the warp threads are operated by suitable heddles or otherwise, in the modes well known in the art of weaving, so as to permit the tape to pass wholly beneath those warp threads where loops are to be formed, as shown at *e e e*, while it passes between the shed formed by the other warp threads in the same manner as ordinary filling, as shown at *i i i*.

The inventor says: I *claim*, as a new article of manufacture, the looped fabric described, having loops formed in it at intervals by combining the loop-forming material with the web in the process of weaving, substantially as set forth.

No. 22,262.—Cyriel E. Brown, of Millbury, Massachusetts, assignor to Himself, John Tenney, and John Rhodes, of said Millbury.—*Improvement in Spindles for Throstle Spinning.*—Patent dated December 7, 1858.—In constructing this improvement a spindle A is made with a socket X in its end, to secure and sustain the movable spindle B; the spindle A is fastened in the rail C, and on it is fitted the flyer D, with its whir E; the flyer D is reversed, or placed in the position shown in the engravings; below the whir is placed the loose collar F, and below it the strap or slip G, which sustains the whir and flyer and secures them to the frame or rail, which is made stationary; and the traverse motion, or rise and fall, to fill the bobbin or make a cop, is given to the rail C, with its spindle, or *vice versa*. The motion is given to the slip G, and the rail C is stationary.

Claim.—The combination and arrangement of the stationary socket spindle, the loose spindle, and the reversed flyer and whir, when constructed and operated in the manner and for the purposes set forth and described.

No. 20,285.—John Marland, of Lawrence, Massachusetts.—*Improvement in Machines for applying Cop Tubes to Spindles.*—Patent dated May 18, 1858.—In operating this machine the door *m* is raised and the tubes *p* are placed in the cavities *g*, the machine being turned with the openings *i* upmost for the purpose, and the drum H and rings being turned by manipulating the knob N, so that the alternate cavity in each longitudinal row is filled in succession; the drum is then slipped lengthwise a distance equal to the width of rings 1, and the other alternate cavities are filled in a similar manner. The spring E is now wound up, and the machine is placed as seen in the engravings, the two extreme tubes O^1 resting upon the spindles S, the tubes being at a distance from centre to centre equal to the distance of the spindles apart.

Claim.—The machine for putting cop tubes upon spindles, operating in the manner substantially as set forth.

No. 20,920.—Amasa Houghton, of Putnam, Connecticut, assignor to Ebenezer D. Draper and George Draper, of Milford, Massachusetts.—*Improved Spinning Frames.*—Patent dated July 13, 1858.—The nature of this invention consists in combining and arranging with the upright spindle A, and bolster B, a cup or oil receptacle D, such being made to extend below and concentrically around the bolster and to project from the spindle.

Claim.—The application of the cup to the upright spindle and the bolster so as to operate therewith, substantially in manner as specified.

No. 19,161.—William W. Spafford, of Peterborough, New Hampshire.—*Improvement in Spinning Machines.*—Patent dated January 19, 1858.—The nature of this improvement consists in constructing a spinning machine in such a manner as to dispense entirely with the drums or cord cylinders, the cords, whirls, throstles, fliers, and rings usually employed in spinning yarns; thereby greatly simplifying, rendering the machine more substantial, and reducing its cost.

Claim.—The construction of spinning machines having series of bush-gear wheels *n o*, *n o*, *n o*, and twisting thimbles P P P Q combined, and working on the circumference of a main central driving gear wheel I I I I, said central driving gear wheel combined with the annular plates J J J K K K and the adjustable graduating segmental plates *t t t t*, the whole arranged and operated substantiallyas described.

No. 21,333.—Charles Greene, of Salem, Mass.—*Improvement in Top Rollers for Spinning Machines.*—Patent dated August 31, 1858.—The nature of this invention consists in the application of each top roller to its spindle in such manner as to enable the roller to rotate and rock or tilt on each spindle, and for the purpose of attaining one or more new and useful results.

Claim.—The application of a top roller of a spinning machine to its spindle, so as to be capable of rocking and rotating them, substantially in manner and for the purpose specified.

No. 19,531.—John B. Winslow, of New Bedford, Mass.—*Improvement in Machines for regulating the supply of Spinning Machines.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the secondary clutch and the main clutch made to operate together upon one shaft V, and to be operated by the fibrous material acting in the draw-rollers, substantially as specified; the same causing the shaft V and the bevel gear U, and of course the delivering belt, to have their speed varied as circumstances may require, as before specified.

No. 21,242.—James H. Brickill, of Taunton, Massachusetts.—*Improvement in Spinning Mules.*—Patent dated August 24, 1858.—The inventor says: The object of this invention is to effect the operations of "backing off" and "winding on" in a more positive manner than is possible in Mason's mule, and thus to obviate the only serious defect in that mule.

Claim.—1st. Arranging the winding gear H loose on the stationary bushing C, or its equivalent, which surrounds and forms one of the bearings of the winding shaft; and applying a pall E attached to said gear, and a spring D fitted to the bushing, to engage the said gear with a ratchet wheel F fast on the winding shaft, in the manner described, whereby the winding shaft and winding gear are permitted to be entirely disconnected during the operation of backing off.

2d. The combination of the adjustable cam A *d* on the rock shaft P^1, the loose pulley B working on the stationary bushing C^1 or its equivalent surrounding the winding shaft, the pall E^1 on said pulley, the clip spring D^1 on the bushing, and the ratchet wheel F^1 on the winding shaft; the whole operating together substantially as described to effect the backing off of the yarns. And in combination with the pall E^1 is claimed the pin G, applied as described, to disengage said pall and permit the reversal of the shaft to wind on the yarns.

3d. The combination of the brake wheel Y on the winding shaft, the brake X, and the tooth *h*, on the belt shipper, substantially as described, for the purpose of stopping or reducing the momentum of the winding shaft previous to the operation of backing off.

No. 19,011.—Smith Baldwin, of St. Louis, Missouri.—*Improvement in Spinning Oakum.*—Patent dated January 5, 1858.—This machine combines the process of carding and spinning; the picked oakum, being supplied to it, is converted into a merchantable state for the use of caulkers, &c., at a single operation.

The claim of the inventor further shows the nature of this improvement.

Claim, 1st. The employment of two series of revolving straight or knife-edged combs J J, arranged and operating as described, for the purpose of taking the web of carded oakum in an unbroken sheet from the doffer.

2d. The employment, in combination with the said endless moving apron O and the stationary apron *e* belonging to the first conductors P P, of the roller S, operating as and for the purpose specified.

No. 20,925.—Britton Richardson, of Haydensville, Massachusetts, assignor to Himself and the Hayden Manufacturing Company, of Haydensville aforesaid.—*Improvement in Machinery for Polishing Thread.*—Patent dated July 13, 1858.—In this invention the threads or yarns pass between the sizing rollers C C and dressing and polishing rollers D D, then pass over a guide roller E, and are taken on spools in manner common to dressing and polishing machinery; the rollers D D rotate respectively in the directions indicated by the arrows, and, by their friction upon the threads or yarns, rub the size into them, take up all that is superfluous, and rub down the loose fibres and polish the surface.

Claim.—The construction of the dressing and polishing rollers with ribs *a a* covered with flannel, felt, or material of similar character, and arranged relatively to each other substantially as described to produce elasticity of surface.

No. 21,487.—Alfred B. Corey, of Franklin, Connecticut.—*Improvement in Moulds for Making Warp-dresser Guides of Glass or other Plastic Anti-corrosive Material.*—Patent dated September 14, 1858.—The peculiar object of this invention is to enable a warp-dresser guide to be moulded of glass and with very smooth eyes or yarn-holes. Glass eyes or yarn-holes not only resist acids as well as wear, but are capable of being moulded with very smooth surfaces.

The inventor says: I *claim* a new or improved manufacture of warp-dresser guides made of glass, or its equivalent, and by moulding it on smooth cores and subsequently reducing the plate or the bars or projections made by the cores, substantially as described.

I also claim making a warp-dresser guide in several separate sections A A, combined and applied in one frame, essentially as and for the purpose explained.

No. 21,488.—Alfred B. Corey, of Franklin, Connecticut.—*Improvement in Warp-dresser Guides.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is my improved mould as made with plunger cavities *e e e*, of the kind described, in its bed plate B, a body or body and flange matrix *d*, a removable plunger guide C or its equivalent, and a plunger D, provided with a series of projections or cores *g g*, the whole being combined and arranged substantially in manner and for the purpose as described.

No. 20,190.—William Bradley, of Manchester, Pennsylvania.—*Improvement in Dressing and Sizing Warps.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that drying cylinders have been used heretofore in dressing frames, therefore I make no claim to them.

Neither do I claim as new the circular brushes.

I am also well aware that reeds and harness have been used heretofore in dressing machines, consequently I make no claim to them as such.

But I *claim* the combination of the section sleys or reeds, together with the warp sleys or reeds, and the harness for taking the lease or cross shed before the warp is sized in every alternate thread or threads, so as to allow the lease rods to pass with the warp to the yarn beam, and thus dispense with the use of combs, ravels, or guides, after the warp has passed through the size, substantially as described.

No. 21,988.—Waterman Smith, of Manchester, New Hampshire.—*Improvement in Preparing Wool and other Fibres for Spinning.*—Patent dated November 2, 1858.—The nature of this improvement in the process of working wool and other fibrous substances, consists in heating the wool or fibrous substance to make it soft and pliable, and drawing it, while hot, to straighten and elongate the fibres or sliver of the fibrous materials worked while hot.

Claim.—The process of drawing wool and other fibrous substances, heating the sliver of wool or other substance, and keeping it

hot while it is being drawn by passing it over or against and in contact with heated surfaces, either moving or stationary, substantially as described, for the purposes set forth.

No. 19,816.—Thomas Musgrave, of Leeds, Massachusetts, assignor to Anna L. Musgrave, of Northampton, Massachusetts.—*Improvement in Machines for Burring Wool.*—Patent dated March 30, 1858.—A full description of this machine is too long to be given here. The wool is placed on the usual feeding apron, which passes around the rollers *c c*, and thence the wool is taken by a pair of feed rollers *d d* and by them presented to the burring cylinder *b*, by which it is taken, and by the rotating beaters *e* the burs are rolled out of the fibres of wool and knocked off.

The inventor says: I do not claim the construction of the burring cylinder or strippers or beaters, nor the combination of beaters or strippers with a burring cylinder.

But I *claim* the combination of the second burring cylinder and its beaters, substantially as described, with the first burring cylinder and its beaters, substantially as described, by means of an interposed stripper, or an equivalent therefor, as described.

No. 21,538.—John W. Kennedy and John T. Plummer, of Plainfield, Connecticut, assignors to Themselves and John Bachelder, of Lisbon, Connecticut.—*Improvement in Machinery for Drawing and Twisting Wool.*—Patent dated September 14, 1858.—The nature of this invention consists in a certain novel combination of tubes and drawing rollers, and means of operating the said rollers; by which the processes of drawing and twisting can be performed simultaneously, or either of the said processes separately; and by which, when the two processes are combined, great convenience is afforded for varying the relative degrees of draught and twist, to suit various lengths and quantities of the fibre.

The inventors say: We do not claim the attachment of the front drawing rollers in a rotating tube through which the roving passes, so as to give the twist between the back and front drawing rollers, as we are aware that such application of the rollers has been made with a different and less simple contrivance than we have employed to produce the rotary motion of the so attached rollers.

But we *claim*, first, the combination of the tubes F and G, the toothed drawing rollers, and the convolute groove *h*, the whole applied and operating substantially as described, to effect the draught and twist simultaneously, or either alone.

Second. Making the upper part of the frame which carries the back drawing rollers, and the rollers or their equivalents which carry the roving to be drawn and twisted, adjustable vertically, substantially as and for the purpose specified.

No. 21,116.—Thomas B. Butler, of Norwalk, Connecticut.—*Improvement in Operating the Teeth of Cylinders for Burring Wool, &c.*—Patent dated August 10, 1858.—This invention consists in so applying and operating the teeth of a revolving cylinder B C, which presents a uniform peripherical surface to the action of the strippers, brushes, or other analogous devices, that as said teeth *c c* are severally caused by the rotary motion of the cylinder to approach the feed rollers H H, which supply the wool or other material, they are projected beyond the peripherical surface of the cylinder for the purpose of seizing said material. Immediately after passing the feed roller, they are retracted into "pockets" within the peripherical surface of the cylinder. The claim and engraving further explain the nature of this invention.

Claim.—The application of teeth to a rotating cylinder having a uniform peripherical surface, in such a manner as to be projected beyond the said surface to catch the fibrous material to be operated upon, and afterwards retracted into pockets within the said peripherical surface, for the purpose of holding said material and presenting the greater portion of it upon the even peripherical surface of the cylinder without any obstruction to the action of strippers, brushes, or other analogous devices for burring, ginning, or cleaning it, operating in combination with said cylinder, substantially as described.

No. 19,690.—Daniel Dermond, of Philadelphia, Pennsylvania.—*Improvement in Regulators for Roving or Yarn.*—Patent dated March 23, 1858.—This invention is principally intended to be applied to the jenny for spinning rope yarns, but may be adapted to other machinery for drawing and roving, or spinning hemp or other fibrous materials of similar character.

The inventor says: I do not claim the controlling of the movement of the heckle chain through the agency of the upper feed roller.

But I *claim* the combination of the pulley G, the system of spur gearing, the shaft A, pulley B, and enclosed box C, with the ratchet *a* and position stop *d*, the whole arranged, applied, and operating substantially as and for the purpose set forth.

IV.—CHEMICAL PROCESSES.

No. 20,755.—Joseph Albrecht, of New Orleans, Louisiana, assignor to Charles E. Rulh, of said New Orleans.—*Improvement in Obtaining Pure Sulphurous Acid.*—Patent dated June 29, 1858.—The sulphurous acid gas, which accumulates below the head *d* of the cistern B, escapes through the tube *g h*, the coil *c c* of which is bathed in cold water, so as to cool the gas and condense any aqueous vapors which may have accompanied the gas. From the tube *g h* the purified sulphurous acid is conducted to a third cistern containing lime water and a small portion of neutral sulphate of lime.

The inventor says: I do not claim to have made any new discovery in chemical science, but I have applied known principles of science in such new and useful manner as to greatly improve the art of making pure sulphurous acid on a large scale.

I *claim* the described process for the purification of sulphurous acid gas by absorbing the acid in water or an alkaline solution, and the subsequent expulsion therefrom by the use of heat or steam, substantially as set forth, for the purposes described.

No. 21,711.—M. Werk, of Cincinnati, Ohio.—*Improvement in Apparatus for Manufacturing Acids.*—Patent dated October 5, 1858.—D is the vessel in which the decomposition is effected, furnished with a cock L near the top, to admit the body to be treated, which should be first melted. A is a boiler for generating steam, and B is a super-heating furnace containing a coil C, to which the steam pipe E from the boiler is connected, and from which a pipe F leads to the vessel D and circulates within the vessel, in the form of a coil, which is perforated to admit the steam in numerous small streams.

The inventor says: I do not claim the use of the boiler as new, or the use of a furnace for super-heating steam as new, nor yet the use of a tank as new.

But I *claim* the combination of boiler, super-heating furnace, and tank, for the production of fat acids without distillation or direct application of fire, as set forth.

No. 21,922.—Luigi Ferrari Corbelli, of Florence, Tuscany, and Vincent Riatti, of the Duchy of Modena, assignors to Luigi Ferrari Corbelli, aforesaid.—*Improvement in Preparation of Aluminum.*—Patent dated October 26, 1858.—This invention has for its object to obtain "aluminum" in a simple and more economical way than by the process heretofore employed.

The inventors say: We *claim*, first, the combination of operations set forth whereby we are enabled to reduce aluminum from earthy matters containing it as a base, or in combination with other matters.

Second. We claim the application of prussiate of potash to the clay or earthy matters, and the treatment of such clay or earthy matters with prussiate of potash in the presence of heat, substantially as described.

No. 21,923.—Luigi Ferrari Corbelli, of Florence, Tuscany, and Vincent Riatti, of the Duchy of Modena, assignors to Luigi Ferrari Corbelli, aforesaid.—*Improvement in Manufacture of Aluminum and Calomel.*—Patent dated October 26, 1858.—The object of this invention is to obtain "aluminum" in a simpler and much more economical manner than by the process heretofore employed for that purpose. The invention also applies to the manufacture of protochloride of mercury. In order to obtain aluminum by this improved method, the operator takes of rock alum 5931 parts, and of chloride of calcium 2076 parts; or of rock alum 5931 parts, and chloride of sodium 2190 parts; or of sulphate of alumina 4167 parts, and chloride of calcium 2076; or other salts having aluminum for their base may be substituted for those above mentioned.

Claim.—The process described of manufacturing at the same time aluminum and protochloride of mercury, by means of galvanic precipitation, as set forth.

No. 20,488.—George Habich, of Roxbury, Massachusetts.—*Improvement in Apparatus for the Manufacture of Beer.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination, arrangement, and connexion of the copper, the mashing tun, the filtering vessel or vessels, and the hop vessel, substantially as specified; whereby the several operations connected with each of such parts can be conducted, through the agency of the heat from one furnace, and steam from its copper, substantially as specified.

I also claim combining and arranging the wort warmer with the copper, the hop vessel *c*, the filtering vessel or vessels *e e*, and the mashing tun *f*, so as to operate therewith substantially as set forth.

I also claim the combination of the condenser *d*, the hop vessels, the copper, the filtering apparatus *c*, and the mashing tun *f*, as connected and arranged so as to operate together, substantially as specified.

I also claim the arrangement and combination of the water heater *g*, the mashing tun *f*, the filtering apparatus, the hop vessel, and the copper, as connected and made to operate together, substantially as set forth.

No. 21,882.—John Jones, of Baltimore, Maryland.—*Improvement in Machines for Making Candles.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of the improvements in this invention.

The inventor says: I do not claim the supplying of the wick as described at fig. 3, nor the cutting of the candle by bringing the knife edges together.

But I *claim* the feeding and packing roller A with blades moving alternately in and out by the cam G, as shown in the drawings, or by an eccentric or any other device, for the purpose of feeding and working tallow, wax, or any other plastic material.

I also claim the combination of one or more feeding and packing rollers A with the various moulds, for the different purposes to which it is applicable.

I also claim the entire combination of the machinery for the purpose of cutting and removing the candles as described in figures 1, 2, 3, 4, 5, and 6.

No. 21,706.—Joel H. Tatum, of New York, N. Y.—*Improvement in Manufacture of Candles.*—Patent dated October 5, 1858.—The object of this invention is to indurate the exterior of tallow or other candles that are manufactured of inferior materials, in such a manner that a firm, smooth, and handsome external surface is obtained, one not liable to crack and shell off, and one that will prevent the candles from "guttering," add materially to their illuminating power, and will not soften sufficiently in a warm climate to be deteriorated in value.

Claim.—Coating or covering candles manufactured of tallow or other inferior substance with a plurality of compositions formed of stearic acid and tallow in varying proportions, together with proper fluxes to give different degrees of fusibility, and also certain degrees

of hardness and smoothness to the same, substantially as described, the candles being dipped into the several compositions in the order of the sequences, as set forth.

No. 21,697.—Dubois D. Parmelee, of New York, N. Y.—*Improvement in Tools for Manufacturing Goods of Caoutchouc.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The instrument or tool for cutting sheets of India-rubber, or its equivalent, constructed substantially as described, consisting essentially of two jaws, provided with cutting edges shaped according to the form intended to be produced, when one jaw is to operate within the other so as to effect shear action for cutting forms at one stroke and leaving edges thereon, which are capable of being united in a more perfect and expeditious manner than has ever been done heretofore.

No. 21,122.—Austin G. Day, of Seymour, Connecticut.—*Improvement in Treatment of Caoutchouc.*—Patent dated August 10, 1858.—This invention consists of a special process of making a hard but highly elastic rubber compound, by a process differing in the length of time, in the degree of heat, in the proportions of the ingredients, and in the mode of equalizing the heat, from that described by Nelson Goodyear, in his patent of 1851. A full description of the invention is too long for a place in this report.

The inventor says: I do not claim, in the broad, vulcanizing rubber or equivalent gums, and irrespective of the special process used and product made. Therefore,

What I *claim* is, running the heat for vulcanizing elastic hard rubber compounds as set forth through the several grades of temperature, and the several intervals of time described and illustrated in the specification.

I also claim making, as described, the elastic, hard rubber composition of two parts by weight of rubber, and one part of sulphur, when such composition is made preparatory to the running of the heat through the several grades of time and temperature, as set forth in the specification.

I also claim equalizing the temperature in the heating apparatus by mechanical means, or by a current of steam, or its equivalent, in the manner set forth.

No. 22,115.—De Grasse B. Fowler, of New York, N. Y.—*Improvements in the Mode of Baking Articles Composed of Carbon.*—Patent dated November 23, 1858.—The claim explains the nature of this invention.

Claim.—The manufacture of articles from a composition of carbon and gas tar, or their equivalents, when treated with pressure and heat, and baked in the presence of lime, substantially in the manner described.

No. 20,047.—Edouard Deiss, of Paris, France.—*Improvement in Manufacture of Sulphuret of Carbon.*—Patent dated April 27, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first. The placing of the retorts over the principal flue, in order to obtain an intense heat at the base of the retorts.

Second. The earthen retorts in combination with the crucibles or pots, placed either within or outside the retorts, for the object and in the manner set forth.

Third. The grate C for supporting the charcoal, and tube E, or its equivalent, for feeding in the sulphur, in combination with the crucible or retort, forming a chamber for the purpose described.

No. 21,158.—Joseph Thompson, of North Wrentham, Massachusetts.—*Improvement in Cement for Roofing Purposes*—Patent dated August 10, 1858.—The inventor says: In the process of compounding my invention, I make use of silicates of potash, soda, or silicates of the alkaline earths, as an addition to tar, resin residues, oil residues, and resin and other oils, for the purpose of rendering the thickened compound elastic and resistant to extremes of natural heat or cold.

I do not claim any mixture of the various kinds of tar and oils, but adapt such materials to the intended use, being governed in choice by the consideration of price, and confine myself to the modification produced in such mixtures by the use of soluble silicates. I call my solid mixed compound Thompson's Improved Mastic Roofing, and my fabrics Thompson's Improved Felt.

Neither do I claim the broad ground of a combination of one or more alkaline or earthy silicates with one or more tarry matters.

But I *claim* the composition substantially as described, consisting of an alkaline silicate, oil or oils, coal tar, or pitch of coal tar, and naphtha, (water being added when necessary,) such being for the purpose or purposes set forth.

No. 20,985.—Abraham Brower, of New York, N. Y.—*Improvement in Water-proof Cements.*—Patent dated July 27, 1858.—By a compound of tallow, beeswax, resin, shellac, and glue, the inventor produces a water-proof composition. It causes the leather to remain soft and pliable, which will take polish and repel water.

The inventor says: I am aware that water-proof compositions for leather, consisting of tallow, suet, wax, rosin, tar, oil, and India rubber have been employed. These I do not claim of themselves, singly or combined.

I am not aware, however, of shellac or glue ever having been employed in unctuous water-proof compositions for leather; but these I do not claim of themselves in my composition, apart from the other ingredients, as all are required combined, to render it so excellent for the purposes set forth.

What I *claim* is, the composition composed of all the ingredients described, and in about the proportions for the purpose set forth; the same constituting an improved new and useful article of manufacture.

No. 20,758.—J. Burrows Hyde, of New York, N. Y., assignor to Anna M. Hyde, of said New York.—*Improvements in Converting Peat into Charcoal.*—Patent dated June 29, 1858.—After the peaty matter has been partially dried on the platforms, it may be passed through proper mills for reducing the size of the lumps; when it should again be exposed on the platforms, and when dried is in a state to be carbonized; or it is first passed through a mill to be ground, and before carbonizing, it is exposed to artificial heat; for further desiccation there is employed a drying chamber of brick, with a series of small iron doors. In the top of this chamber is an opening, conducting the excess of heat to other drying apartments.

Claim.—The process described of converting peaty matters into charcoal by previously submitting them to heat in a drying chamber, described and heated as set forth, and by carbonizing the material and subsequently cooling the same in the manner set forth.

No. 20,661.—E. Freeman Prentiss, of Philadelphia, Pa.—*Improvement in Solutions for Cleansing Woollens, &c.*—Patent dated June 22, 1858.—The claim will explain the nature of this solution.

The inventor says: I do not desire to claim the employment of silicate of soda as an ingredient in the manufacture of soap, as that has been tried before.

Nor do I claim any mode of making alkaline silicates, nor yet the solution of alkaline silicates with chlorine or chlorides for bleaching and finishing textile fabrics, as these do not possess the cleansing properties of my solution prepared and used as described.

But I *claim* the employment of silicate of soda solution by itself, when prepared and used substantially as described, for cleansing and softening the fabric in the fulling mill or wash tub as a wash mixture.

No. 20,697.—William Butcher & William A. Butcher, of Philadelphia, Pa.—*Improvement in Coating Metallic Surfaces.*—Patent dated June 29, 1858.—One gallon of linseed oil is taken, into which are put from eight to twelve pounds of crude India rubber, the quantity being thus varied as the coating is required to be of greater or less consistency; this is boiled in a suitable vessel until the rubber is entirely dissolved in and thoroughly mixed with it.

The inventors say: We do not claim the coating described, nor the application of a coating or varnish which is impervious to air, vapor, or water, to the surface of metals, to prevent the oxydation of said metals.

What we *claim* is the process of coating metallic surfaces described, consisting of heating the metal to be coated to about 350° of heat; inserting the metal while so heated into a bath or reservoir containing the mixture prepared as described; and in placing the metal to be coated in a baking oven heated to about 200° of heat, to harden the coating, all as set forth.

No. 21,797.—Selah Hiler, of Haverstraw, N. Y., assignor to John M. Berrian & Cornelius A. Berrian, of New York, N. Y.—*Improvement in Coating Metals.*—Patent dated October 12, 1858.—The nature of this invention consists in a new method of coating iron or steel with silver, copper, or brass, or any alloy where silver or copper is used, whereby the two metals become so united that they can be rolled, hammered, drawn, or otherwise worked without causing their separation.

The inventor says: I do not claim heating the iron or steel to be coated with brass, copper, silver, or other metals or alloys of metals, to a white or welding heat, that having been done before.

But what I *claim* is the coating iron or steel with copper, silver, or brass alloys, where silver or copper is used, by bringing the iron or steel, while in a melted state, into contact with the coating metal, and allowing them to remain until the two metals have become hard by cooling, substantially as specified.

No. 20,383.—Samuel Whitmarsh, of Northampton, Mass.—*Improvement in Composition for Artificial Leather.*—Patent dated May 25, 1858.—The claim describes the nature of this invention.

The inventor says: I do not claim broadly the saturation of cloth and other fabrics in linseed oil containing umber or other substances.

But what I *claim* is the fabric specified, composed of cotton or other fibrous substance in a woven or unwoven condition, saturated or coated with a compound of linseed oil and burnt umber, that has been prepared as described.

No. 19,778.—J. Burrows Hyde, of New York, N. Y.—*Improvements in Composition for Coating Telegraph Wires.*—Patent dated March 30, 1858.—The claim will explain the nature of this composition.

The inventor says: I do not wish to be understood as confining myself to the precise proportions set forth.

But I *claim* an insulating compound for telegraphic wires, formed by mixing boiled linseed, cotton seed, or rosin oil, with natural or artificial asphaltum, substantially in the manner as described.

No. 21,285.—Mark Tomlinson, of Birmingham, Connecticut.—*Improvement in Composition for Miniature Cases, &c.*—Patent dated August 24, 1858.—This invention consists of equal parts, by weight, of shellac, Breckenridge or cannel coal, and ivory black. The shellac and cannel coal are first finely pulverized separately, and the three ingredients then well mixed together and fed between a pair of steam-heated rollers, one of which rotates at a higher velocity than the other, and are thereby ground into a pasty mass, which, while still hot and plastic, is cut and divided by a spatula or other instrument into cakes of sufficient size to form the articles or pieces to be made.

Claim.—The composition for useful and ornamental articles, made of shellac, Breckenridge or cannel coal, and ivory black, in about the proportions and in the manner substantially as set forth.

No. 22,233.—Paul B. Goddard, of Philadelphia, Pennsylvania.—*Improvement in Composition for Purifying Gas.*—Patent dated December 7, 1858.—This invention is for the purpose of purifying illuminating gas by the use of dissolved lime.

a represents the retorts used in the above named process; *b* the tube or cell into which the purifying materials are placed; C the communicating pipe between the two; and *d* the pipe leading to the gasometer.

Claim.—The use of lime dissolved in a saccharine solution, whether combined or not with other substances, substantially as set forth.

No. 19,756.—Clinton Daniels, of Elk Horn, Wisconsin.—*Improvement in Compositions for Tanning Leather.*—Patent dated March 30, 1858.—The claim will explain the nature of this composition.

Claim.—The combination and use of cream of tartar and bicarbonate of soda with catechu in making a liquor, and using the same for tanning hides and skins, no claim whatever being made to the discovery and use of the catechu alone for tanning purposes by me.

No. 22,285.—William W. Gaige, of Rochester, New York.—*Improvement in Compositions for Tanning Leather.*—Patent dated December 14, 1858.—The nature of this invention consists in preparing and retaining the hides in a proper condition to receive the tan so as to gain about five-sixths of the time usually occupied for tanning the same weight of stock. Said process consists in the use of four separate liquors, named in the claim.

The inventor says: I do not claim to have discovered any new material for tanning except what is known more or less to the trade; but I do *claim* to have invented the use of salt and salsoda, in the proportion specified, for a preparatory liquor.

I also claim the combination of starch and catechu, in the proportion specified, for the second or first tanning liquor.

I also claim the combination of starch, catechu, and saltpetre, in the proportion specified, for the third liquor.

I also claim the combination of starch, catechu, and alum, in the proportion specified, for the fourth liquor.

No. 20,320.—Obadiah S. Boyden and Michael C. Frederick, of Newark, N. J.—*Improvement in Composition for Varnishing Leather.*—Patent dated May 25, 1858.—The inventor says: To make the paste we use about one pound of flaxseed to about every two gallons of water, and boil it until all the glutinous property has been exhausted from the seed. Of this paste we use in the compound a quantity about equal to that of the linseed oil, without any camphene or spirits of turpentine.

The proportions of oil, umber and lampblack, or other coloring for glazed or japanned leather, cloth, silk, and paper, are varied by different manufacturers. We, however, generally use one pound of umber for every twelve gallons of linseed oil, boil it from five to seven hours, and when cool add two pounds of lampblack for every gallon of oil, and the above specified quantity of paste. After stirring, the compound is ready to use.

Claim.—The employment in the compounds used in the manufacture of glazed, japanned, or painted leather, cloth, silk, and paper—either wholly or in part as a substitute for camphene or spirits of turpentine—of a paste made of the glutinous properties of flaxseed, substantially as and for the purposes set forth.

No. 20,569.—J. M. Legaré, of Aiken, S. C.—*Improvement in Ivory Frame Composition.*—Patent dated June 15, 1858.—The composition is made as follows: A caustic alkali is prepared by dissolving 1 part of sub-carbonate soda in 8 parts of water, and adding 1 part of quicklime slaked in 4 parts of water. Dissolve in 8 parts of this alkali, hot, 8 parts of transparent resin, and stir well until saponified or creamy in appearance. Then stir in 8 parts of kaolin or other neutral clay, adding 2 parts of resin, melted and mixed with ½ part of linseed oil; boil, remove from the fire, and stir in 4 parts melted glue. Finally work in by kneading 6 or 8 parts of kaolin, which will give the proper doughy consistency.

Claim.—The employment of any saponified material, in combination with a neutral clay, as a basis of my composition, substantially as set forth in the specification.

No. 19,802.—Joseph Thompson, of North Wrentham, Mass.—*Improvement in Mastic Composition.*—Patent dated March 30, 1858.—The claim will explain the nature of this composition.

The inventor says: I do not claim any particular oily residue, or mixture of tar, pitch, or bitumen as a component part of a mastic, but use each of them as are best adapted to mixing with the new material which serves as a basis.

Nor do I claim or use sand, brick dust, gravel, or any of the earths and oxides heretofore used in such mixtures.

I *claim* the right of using the naturally finely divided remains of silicious rocks, which have an alkaline action on test paper, as fuller's earth, instead of sand, gravel, or other solid material.

No. 22,246.—Andrew Stevens, of New York, N. Y.—*Improvement in Water-Proof Cork Composition.*—Patent dated December 7, 1858.—The nature of this invention consists in saturating, and thereby coating and impregnating, granulated cork with a solution which while it renders it less susceptible of absorbing moisture, and adapts it to the purpose of filling quilted linings for overcoats, jackets, &c., thereby converting them into life preservers, also emits an odor distasteful to bed-bugs and other vermin.

Claim.—As an improved article of manufacture, granulated cork, that is covered and impregnated with the composition specified.

No. 21,778.—N. C. Raymond, of Austin, Texas.—*Improvement in Composition used as Building Material.*—Patent dated October 12, 1858.—The nature of this invention consists in the production or formation of a material for building purposes, in the shape of an unburned brick, solid and durable, and possessing the power or quality of being unaffected by rain, as soon as the drying process fairly begins.

Claim.—The application of pasture-fed cow dung, either in substance or solution, together with lime, either slaked or unslaked, or

other powerful alkaline substance, and charcoal, to the common clays or soils of the country, for the purpose of producing a building material, substantially as described.

No. 19,710.—Charles Pauvert, of Targé, France.—*Improvement in Compounds for Hardening Iron and Steel.*—Patent dated March 23, 1858.—The object of this invention consists in purifying the iron, in combining it chemically with the carbon by cementation, and in converting it into cast steel of first quality.

The cementing substance is composed of the following ingredients: 33 parts of very finely powdered charcoal, 33 of highly aluminous clay, 33 of carbonate of lime or wood ashes, 1 part carbonate of soda, and 1 of carbonate of potash. The iron is stratified with the cementing substance, in an ordinary cementation oven, heated in the usual manner.

Claim.—The use of the ingredients described, compounded in the manner specified, for converting iron into steel.

No. 21,033.—William W. Taylor, of Dartmouth, Mass.—*Improvement in Compounds for Protecting Trees from Insects.*—Patent dated July 27, 1858.—The nature of this invention consists in discovering a peculiar acrid, saline liquid, exceedingly poisonous to insects, which will not dry up or become hard, and which will not freeze during the ordinary temperature of February and March, the months when insects climb fruit trees.

The inventor says: The construction of the trough A in two pieces, as described, has not been claimed in the present application, although it is believed to be new; but it is designed to claim it in a separate application.

I *claim* the application of the bitter water left in the manufacture of sea salt, or its equivalent, to destroy canker worms and other insects, in their attempts to ascend trees, as set forth.

No. 21,023.—Lyman Reed, of Baltimore, Md.—*Improvement in Compounds for Treating Potato Rot.*—Patent dated July 27, 1858.—In describing the liquid noticed in the claim, the inventor says: Take potash and fish oil, and other suitable ingredients to make and constitute hard oil soap. Dissolve thoroughly, or in proportionate quantities, one gallon of this hard oil soap in thirty-two gallons of water. This liquid, or any other material, compound, or composition of whatever name or nature, possessing similar qualities of alkalies, stringents, oils, or other chemical properties poisonous to the insects, however applied, hot or cold, and harmless to the germinating virtue of the tuber, may be used to destroy the insects.

The inventor says: I do not broadly claim the application of heat or oils, or poisonous substances, to destroy insect life, as this has been done before for other purposes.

But I *claim* the treatment of the potato, preparatory to planting, by the process set forth: first subjecting it to solar or artificial heat; and then to the action of the liquid described, or any other analogous or equivalent thereto.

No. 22,407.—Luther Atwood, of Brooklyn, New York—*Improvement in Apparatus for Destructive Distillation.*—Patent dated December 28, 1858.—This invention consists in the arrangement and combination of a vertical distilling tower A, or fire place and receiving vessel F with an exhausting steam blast, or its equivalent, combined in such a manner that a continuous and controllable current of air enters the top of the distilling tower, by reason of the pressure of the atmosphere induced by the exhausting produced by the action of the steam blast, maintaining the combustion of ignited fuel placed in the upper part of the distilling tower over the substance acted on; the products of combustion passing downward upon and through said substance, which is thereby progressively decomposed, the products of decomposition passing downward through the cooler portions of the mass imparting heat thereto, and the liquids condensed in the lower part of the distilling tower flowing into the receiver with which the exhausting steam blast is connected.

Claim.—The combination and arrangement of a "distilling tower" and receiving vessel, substantially as described, with a steam blast or its equivalent in the combination, for the purpose of producing an induced current, substantially in the manner and for the purposes set forth and described.

No. 21,693.—A. Normandy, of London, England.—*Improvement in Distillation of Fresh Water from Salt Water.*—Patent dated October 5, 1858.—This apparatus consists essentially of four parts: 1st, the evaporator; 2nd, the condenser; 3d, the priming box; 4th, the refrigerator; which four principal parts are securely bolted and fastened together. They are connected with four other accessories, namely: 5th, differential or equilibrium valve for regulating the pressure of steam; 6th, a water regulator; 7th, a steam trap; and 8th, a filter.

Claim.—The process set forth by which aerated and non-aerated fresh water are obtained by distilling sea water.

No. 22,408.—Luther Atwood, of Brooklyn, New York.—*Improvement in Apparatus for Destructive Distillation of Wood, &c.*—Patent dated December 28, 1858.—This invention consists in the use of the inner cylinder of metal V, which may be made of sufficient length to hold one, two, or three layers of cord wood packed endwise, provided with a perforated bottom G and a suitable bale or handle U. Also in the manner of protecting the material while in process of decomposition from ashes from the combustion chamber A^1, by the arrangement of the passages N leading from the annular passage E into the distilling tower.

The inventor says: I *claim*, first, the use of the inner case V, in the manner and for the purposes set forth.

Second, the described arrangement of the flues N leading from the annular passage E into the distilling tower A, substantially and for the purposes set forth.

Third, the combination with the distilling tower of the combustion chamber or fire place A^1, when so arranged as to supply products of

combustion by a downward draught throught the fire place, substantially as described.

No. 19,210.—George Seitz, of Easton, Pennsylvania.—*Improvement in preparing Mash for Distillation.*—Patent dated January 26, 1858.—In this invention two mash tuns are provided A and B, the one raised above the other, each furnished with rotary mixers D, so that when both the "corn chop" and the "rye chop" are thoroughly digested, they can be mixed together in the tun A.

Claim.—Steeping or infusing the maize and rye or other grain or malt separately, so that each may be subjected to the degree of temperature necessary for the proper separation or dissolution of their parts, and then uniting or mixing the two infusions, substantially as and for the purpose set forth.

No. 20,026.—David Alter and Samuel A. Hill, of Freeport, Pa.—*Improvement in Revolving Retorts for Distilling Coal, &c.*—Patent dated April 27, 1858.—This invention consists in giving a continuous rotary motion to cylindrical metallic retorts for the extraction of the volatile products of coal, bituminous shale, and other minerals, for the purpose of subjecting the contents of the retort to a more uniform heat than can be obtained where the retort is stationary, and also greatly expediting the process without in any way diminishing the amount of product from a given quantity of coal, &c.

The inventors say: We do not claim originality or novelty in the use of cylindrical metallic retorts for dry distillation, nor yet do we claim the use of such retorts, so constructed as to be capable of being shifted on their axes from time to time so as to expose a different portion of the retort to the action of the fire at each successive change, for the purpose of preventing the retorts burning out so soon, as seen in Gengembre's patent.

But we *claim* the use of retorts, so constructed, as before described, as to revolve continuously on their axes during the process of distillation, substantially in the manner and for the purpose set forth.

No. 20,562.—John Howarth, of Salem, Mass.—*Improvement in Apparatus for Distilling Oils.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, in combination with the still, the reservoir *f* placed above the level at which the oil is to be kept in the still, and the worm heated as described, or in any other manner whereby heated oil under pressure is fed into the still in such a manner as to keep the oil therein always at one and the same level, as set forth.

2d. The use of a pipe *k* communicating with the several vapor spaces within the still, as described, whereby the condenser is relieved from the incondensible gases that are generated in the still, and which prevent the effective condensation of the vapor.

3d. A cutter formed in the neck of the still, for the purpose specified.

No. 20,587.—Thomas D. Sargent, of Washington, D. C.—*Improvement in Retorts for Distilling Oils from Coal.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The use of the cylinder retort A made of clay, and so arranged as to revolve upon its axis during the process of distillation, or, in place of a whole revolution, making only three-fourths of a revolution and turning back again, thus producing an oscillating motion for a clay retort, in the manner and for the purposes set forth.

No. 21,143.—John McCue and W. B. McCue, of Freeport, Pa.—*Improvement in Retorts for Distilling Oils from Coal.*—Patent dated August 10, 1858.—The nature of this invention consists in constructing and operating cylindrical metallic retorts for the purpose of extracting the volatile products of coal, bituminous shale, and other minerals.

The inventors say: We are aware that there is a retort patented by Alter and Hill, which revolves continuously; we are also aware of Gengembre's patent. But both of these we disclaim, as our retort obviates difficulties which both of these patents are subject to.

But we *claim*, 1st. The employment of the connecting pipe C, located in the retort B in other than a central position, whereby we are enabled to conduct off the oleaginous products of the coal, while the said retort partially revolves backward and forward on its axis as is fully set forth.

2d. We claim providing the retort B with the longitudinal ribs *d d d*, for the purpose of agitating the coal, and preventing its sliding when the retort turns, as is fully described.

No. 20,371.—Daniel Reid, of Washington, N. C.—*Improvement in Apparatus for Distilling Spirit of Turpentine.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the melting and straining of the crude turpentine before its introduction to the retort.

But I *claim* the employment, in connexion with the still, of a steam box C, constructed with strainers *a b* of such form and capacity as to receive the barrels of crude turpentine, all substantially as and for the purposes described.

No. 20,465.—Leonard Bellingrath, Jr., of Fayetteville, N. C., assignor to Duncan McLaurin, William McLaurin, and James W. Strange, of said Fayetteville.—*Apparatus for Distilling Turpentine.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the enclosed air space between the alembic A and outer jacket or case B, when said air space is furnished with air passages and an indicator of heat, so that the enclosed air may be heated by conduction instead of by the direct application of the fire, as set forth.

No. 19,184.—Matthew Delany, of Clinton, Mass.—*Improvement in Apparatus for Dyeing Yarn in the Skein.*—Patent dated January

26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining with the vat A and the movable frame B two series of supporting rollers K K K L L L, the pressure rollers I I I, and the key-shafts C^1 C^1, and their gears or mechanism for rotating such supporting rollers when the skeins are lowered into the vats, the whole being made to operate together substantially as described.

I also claim combining with the supporting-rollers and their sustaining frames the mechanism for separating the skeins or keeping them separate and from overriding one another while they are in revolution.

I also claim the mode of constructing such skein-separating mechanism, viz: of a combination of crossed levers and two slide frames, arranged so as to operate together, substantially as set forth.

I also claim the mode of making the dipping-frame, viz: of a frame B and two twining frames M M, applied so as to operate together, substantially as described.

No. 19,701.—David B. Kerr, of New York, N. Y.—*Improvements in Dyeing Yarn parti-colored.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the method of arranging yarn in folds or loops of greater or less strength as a figure may require previous to the application of the dye, substantially as set forth.

I also claim the method of folding yarn as above set forth, in combination with the clamping of the same previous to the application of the dye, so as to preserve the integrity of the folds or loops, substantially as set forth.

I also claim the method of parti-coloring yarn by submitting it while clamped in folded loops of greater or less length to the action of the dye, substantially as set forth.

No. 20,034.—Dennis Brigham, of New York, N. Y.—*Improvement in Apparatus for Evaporating Brine.*—Patent dated April 27, 1858.—This invention has for its object the evaporation and purifying of brine. The engravings and claim will give an idea of its nature.

The inventor says: I disclaim all the separate parts of the described apparatus.

But I *claim* the arrangement of the steam-heaters N^1 N^2 N^3 N^4, with the boiler B B^1, pans c^1 c^2 c^3, and cistern D, respectively, in the manner set forth and for the purpose specified, so that the pans and cistern may be heated by one steam-pipe K^1 K^2 K^3, substantially as described.

No. 20,631.—D. M. Cook, of Mansfield, Ohio.—*Improvement in Pans for Evaporating Cane Juice.*—Patent dated June 22, 1858.—Fig. 3 represents a side view of the evaporator, with the heading *c c* resting on the rockers *f f f f*, together with the rubbers *g g*, the friction

segments *n n*, and the flues *o o*, which prevent the displacement of the rockers *f f f f* and the levelling-frame *p p* on which the rockers rest.

The inventor says: I do not wish to be understood as claiming the corrugation of sheet-metal into flanges and spaces, so as to form an evaporation with transverse partitions running from opposite sides, thereby producing a continuous and opposite current in the fluid evaporated, as such is a well known device.

But I *claim* the evaporator, in combination with fireplace and flue *k*, the rockers *f f*, the levelling-frame *p*, the rubbers *g*, and the flanges *o*, as described, and for the purposes set forth.

No. 20,687.—H. O. Ames, of New Orleans, Louisiana.—*Improvement in Arrangement of Steam Coils in Evaporating Vessels.*—Patent dated June 29, 1858.—This is an improvement in the arrangement of the steam radiating pipes, with pockets F F to collect the water of condensation, and pipes to return the same to a waste-chamber B C, whereby a uniform temperature is obtained over the whole horizontal area of the pan.

Claim.—The arrangement of the convolute curved radiating pipes E E, the pockets F F, the straight water-pipes G G, and the steam and water chambers B C, in the manner substantially as described.

No. 20,438.—Eli J. Manville and Samuel G. Blackman, of Waterbury, Connecticut.—*Improvement in Gas Apparatus.*—Patent dated June 1, 1858.—From the under side of the top of the condenser *d* there descends a cylindrical flanch *f*, which terminates in a series of teeth that pass a short distance beneath the surface of the water in said condenser *d*. The gas-conducting tubes *e e* pass from opposite sides of the retort *a*, out through the sides of the cylinder *c*, and then descend vertically and enter the top of the condenser outside of the toothed flanch *f*.

The inventors say: We *claim* the peculiar combination and arrangement of the fire-chamber, the retort, and the condensing chamber, substantially as set forth.

We also claim combining the descending toothed flanch *f* with the cover of the condensing-chamber, for the purpose of dividing said chamber into two compartments, which communicate with each other by means of a series of small induction apertures at the surface water, substantially as set forth.

No. 21,072.—August Hendrickx, of New York, N. Y., assignor to Victoria Hendrickx, of said New York.—*Improvement in Apparatus for Condensing and Purifying Gas.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a gas-condenser which has the junction between its upper and lower chambers B C accomplished by means of a water-channel G formed round the upper edge of the lower chamber *c*, and a flanch F formed round the bottom of the upper chamber B, in combination with stationary rods D D, which sustain the upper section and adjusting suspension screws E E, or their equiva-

lents, weights, cords, and pulleys, substantially as and for the purposes set forth.

Second. The specified arrangement of condenser and purifier on the same level and within the same chamber, substantially as and for the purposes set forth.

No. 21,142.—Henry Lyles, of Washington, D. C.—*Improvement in Apparatus for Generating Gas.*—Patent dated August 10, 1858.—The nature of this invention consists in the inner perforated chamber to be used for consuming solid matter, and this with the cock for the purpose of ascertaining the condition of the retort and the pipe for discharging continually the gas tar.

The inventor says: I do not claim any of the members of this apparatus singly or individually.

But I *claim* the peculiar arrangement of the perforated chamber A as constructed with the retort *a*, gauge-cock *e*, stop-cock *g*, and siphon pipe *f*, when they are constructed, combined, and operated in the manner and for the purpose specified.

No. 21,914.—Allen B. Wilson, of Waterbury, Connecticut.—*Improvement in Apparatus for Generating Gas.*—Patent dated October 26, 1858.—The object of this invention is to produce a generator or retort to be used in the mauufacture of grease or oil gas which shall obviate many of the difficulties now incident upon the use of such articles. The apparatus represented in the engravings will serve as an example of the principles of this invention.

The inventor says: I *claim*, first, the combination of a still with passages leading therefrom downward to a pipe, and so combined therewith as to protect the still from heat, the two being constructed and acting substantially as specified.

Second. I claim, in combination, a gas still, converting passages, and a valve, all combined substantially in the manner and for the purposes set forth.

No. 20,534.—John Aesterdam, of Boston, Massachusetts.—*Improvement in Apparatus for Manufacturing Gas.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim the naphthalizing boxes or contrivances made as described on pages 145 and 146 of Parnell's Applied Chemistry, or any other contrivance similar to them, my invention being different from such contrivances, as I employ, for the passage of gas, spiral or serpentine unobstructed passages made of cloth or any other fibrous or porous material, connected with shallow chambers or reservoirs, or their equivalents.

In carrying out my invention I do not employ a capillary material, which shall so fill the channel or gas passage as to materially obstruct the flow of gas through the same. And, furthermore, by my arrangement of the gas passage with reference to each chamber and its leading pipes, I effect such an extended circuit of gas in contact with the vaporizing surfaces as to enable me to bring the whole apparatus into

a very small compass, in comparison with others in use, and having the same amount of naphthalizing power.

I do not claim the apparatus made of metal or other suitable material merely, as such solid apparatus is merely the skeleton, to sustain the passages or tubes made of cloth, which line such solid chambers, accurately forming a tubular passage of cloth through which the gas, air, or saturated vapor is driven.

But I *claim* the arranging of tubular passages G made of cloth or other similar porous fabric, which elevate by capillary action the fluid in the chamber, allowing space sufficient for the passage of the aeriform fluid, and allowing complete saturation of the latter, in the manner and for the purpose specified.

No. 20,541.—William Beaumont, of Paterson, New Jersey.—*Improvement in Apparatus for Manufacturing Gas.*—Patent dated June 15, 1858.—The arch F has a series of small flues *g g g* through it, or through its abutments which lead into the side flues H H, which extend through nearly the entire length of the retort A, and turn up into the upper side flues J J, which return to near the front end of the retort, and then turn into the top flue K, which extends from front to rear of the retort. The small holes *m m m* allow the flame to play along the concave portion of the retort. The holes *n n n* allow the flame to act on the rear end of the retort.

Claim.—In combination with the retort, the series of longitudinal flues H J K and their communicating passages *g m n*, when arranged substantially as described.

No. 21,095.—Andrew Walker, of Clermont, N. H.—*Improvement in Apparatus for Purifying Gas.*—Patent dated August 3, 1858.—A is the horizontal box or washer, to which are attached pins or teeth *j j*, and on the top of which is placed the overflow or check box B, in the bottom of which is aperture H opening into the washer. The purifier or vertical washer C is attached to the check box B, extending about three-fourths of the distance across the box from each side, alternately passing each other, leaving shelves *b* the whole distance of the vertical box; near the top of said box is pipe G for the admission of water; the gas escapes at pipe E.

Claim.—The construction of the cover of the horizontal washer A, with teeth *j*, as described and for the purpose set forth.

No. 21,096.—John Waterhouse, of Little Falls, N. Y.—*Improvement in Apparatus for Purifying Gas.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* introducing the gas into the purifier underneath a table, or its equivalent, near the surface of the lime water, so that it (the gas) shall pass horizontally through the lime water a sufficient distance to effect its purification before it can rise to the chamber above, as set forth; by which means I obviate much of the pressure heretofore encountered in lime water purifiers, and get a better yield at a great saving of retorts, as stated.

No. 21,121.—W. F. Danowsky, of Allentown, Pa.—*Improvement in Apparatus for Purifying Gas.*—Patent dated August 10, 1858.—This invention relates to that class of gas works which use the dry lime process for purifying the gas, and consists in the use of a simple and economical apparatus for purifying gas, which obviates the necessity of keeping attendants of more than ordinary intelligence as laborers, and enables the operator to use not only bituminous coal, but any and all of the well known materials out of which gas is commonly made.

Claim.—The use of the purifier D, when arranged and combined with a gas-trap E, in the manner and for the purpose described.

No. 22,391.—Andrew Walker, of Claremont, N. H.—*Improvement in Apparatus for Purifying Gas.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination and arrangement of separate chambers opening into each other in such manner that a current of water or fluid may be made to flow through the series in thin falls or sheets, or from one chamber to the next in a thin fall or sheet, substantially as described, and a current of gas be made to pass upward and through the several chambers, and successively through and against the several falls or sheets of fluid, essentially as explained, the chambers being disposed one over the other in column, and the whole being to effect the purification of gas for illumination, as described.

No. 21,001.—August Hendrickx, of New York, N. Y.—*Improvement in Valves of Gas Apparatus.*—Patent dated July 27, 1858.—The nature of this invention consists in the application to the main pipe of gas retorts of a water valve with a loose cover, which is perforated round its sides or circumference with a series of small holes, and constructed so as fit into and rest upon the bottom of said water chamber or channel, and have its perforations closed by the water in the same, and allow communication between the retort A and the receiver.

Claim.—In the application of water valves to the main pipe of gas retorts, the use of a loose perforated cover C *a*, substantially as and for the purposes set forth.

No. 20,110.—Thomas Warker, of New York, N. Y.—*Improvement in Apparatus for Generating Carbonic Acid Gas.*—Patent dated April 27, 1858.—The object of this invention is to generate carbonic acid gas and charge liquids with the same in such a way that no gas can escape during the process.

The inventor says: I *claim* the bottle E and chamber D connected together, provided with the ball valve *g*, so that communication is obtained between the chamber D and bottle E by the tilting or inclining of the same, when these parts are combined with and applied to the receiver A in the manner and for the purpose substantially as specified.

No. 19,777.—John G. Hock, of Newark, N. J.—*Improvement in Gas Generators.*—Patent dated March 30, 1858.—This invention consists in certain provisions for vaporizing the tar from coal or other

gas, and returning it in a state of vapor to the retort to be decomposed and converted into gas.

The inventor says: I do not claim broadly to be the first inventor of retorts having perforated bottoms and chambers, nor do I claim the chambers B^1 C, separately considered, substantially as shown and described.

What I *claim* is the arrangement together of the main retort B, chambers B^1 C, and open space *c*, substantially as and for the purposes set forth.

No. 20,177.—William N. Taylor, of Philadelphia, Pa.—*Improvement in Gas Generators.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the combination of the retort with a series of movable partitions, connected so that all can be taken out together, and so arranged as to divide the retort into a series of chambers through which the gas circulates in its passage from the lower chamber to the discharge pipe, for the purpose described.

Second. Dividing these chambers by means of punctured diaphragms, or their equivalent, arranged as described, in order to retard the passage of the gas, and bring the entire volume in contact with the heated metal, for the purpose described.

No. 20,897.—George W. R. Seal, of Winchester, Virginia.—*Improvement in Gas Generators.*—Patent dated July 13, 1858.—A retort, divided into two chambers A and B, is employed, in one of which the substance to be converted into gas is made into vapor, and in the other the vapor is converted into permanent gas by passing through a packing of cellular character, so that it comes in contact with a great amount of heating surface. The invention consists in the employment of this cellular packing of shavings or scraps of copper or its alloys, by whose superior conducting powers the vapors are more rapidly decomposed than when pebbles or scraps of iron are employed to form cellular packing in the retorts. An extra diaphragm E is also employed in the second chamber to support a portion of the packing, and it is movable to vary the depth of the packing to suit the various materials that may be employed to make the gas.

The inventor says: I do not claim the use of scraps of iron, or of pebbles, or pieces of stone in a gas retort, to form an extensive heating surface.

But I *claim* the employment of a secondary movable diaphragm applied within the retort, so as to support a portion of the cellular packing, and to be capable of being raised and lowered with such portion of the packing, substantially as and for the purpose set forth.

No. 19,686.—Saunders Coates, of New York, N. Y.—*Improvement in Method of Cleansing Gas Generators.*—Patent dated March 23, 1858.—This improvement consists in admitting atmospheric air into the retort at its upper part when necessary to clean it, and at the

same time creating a draught in the retort by means of an opening from the upper part into the chimney, or into the fire under the retort, whereby the gaseous products of combustion will be drawn off and the air caused to enter.

Claim.—The mode of clearing the retort by the admission of atmospheric air at the top of said retort, in combination with the draught-pipe for carrying off the products of combustion; the whole being arranged in the manner substantially as set forth.

No. 22,463.—Charles N. Tyler, of Washington, District of Columbia.—*Improvement in Apparatus for Generating Illuminating Gas.*—Patent dated December 28, 1858.—The claim and engravings give an idea of the nature of this invention.

The inventor says: I *claim*—1st. The peculiar arrangement and combination of the retort for generating the hydrogen gas with the main retort for the generation of the illuminating gas, substantially as set forth.

2d. Elongating and contracting the rear of the main retort, in the manner and for the purpose substantially as set forth.

3d. Connecting the rear end of the hydrogen retort with the contracted end of the main retort, in the manner and for the purposes substantially as set forth.

No. 21,027.—J. Milton Saunders, of Cincinnati, Ohio.—*Production of Illuminating Gas.*—Patent dated July 27, 1858.—The nature of this invention consists in making an illuminating gas by passing the vapor of water and a hydro-carbon, previously mixed, into a retort containing carbon, and bringing said retort up to a high red heat, which produces the gas in question.

Claim.—Carrying the mixed vapors of water and hydro-carbon, formed in the manner described, into a retort B containing carbon at a high red heat, for the purpose of producing an illuminating gas.

No. 19,575.—David C. Knab, of Paris, France.—*Improvement in Manufacture of Gas.*—Patent dated March 9, 1858.—The coal is brought in wagons or cars *d* above the charge-hole C; then it drops into the distilling chamber, where it is spread over the sole by means of rakes, hoes, or any other suitable implements. The orifice C and the doors are hermetically closed, and the valve *g* is raised to allow the gas, tar, and ammonia to escape. The latter two products are condensed and carried off by means of a siphon tube into a cistern.

Claim.—The manufacture of gas and of coke, and other secondary products, in furnaces constructed and operated substantially in the manner set forth.

No. 20,453.—John L. Stewart, of East Boston, Massachusetts.—*Improvement in Manufacture of Gas.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* mixing the gases from the several retorts of a series alternating in one or other of them, and charging the retorts successively at stated intervals, as set forth, when the retorts are

arranged with valves and passages of communication with each other, whereby the gases of different qualities are commingled before being cooled, as described, for the purpose specified.

Second. I claim conducting the gas from one retort to the other through a non-conducting stopper, or other equivalent device temporarily inserted in the mouth-piece, as set forth.

No. 20,130.—Thomas Shaw, of Philadelphia, Pennsylvania, assignor to Himself and C. S. Patterson, of said Philadelphia.—*Improvement in Gas Metres.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of the oscillating drum B in such a manner as to contain the sealing fluid or seal W, with lever L attached to said drum; the whole for operating the valve G by the oscillation of the drum, as set forth, in combination with the inlet and outlet passages *y* and *z*, as described.

No. 21,663.—Joseph E. Fisk, of Salem, Massachusetts.—*Improvement in Gas Metres.*—Patent dated October 5, 1858.—A denotes the upper gas chamber or reservoir, B the valve seat, and *a b c d* the tubes or passages connecting the valve seat with the working parts of the metre. On the valve seat rests the valve C, secured by the square socket *s* to the crank-shaft D, which passes down through the valve and into the chamber E and through the partition K and into the chamber H, it being connected with the cranks *e* and *f* and the operative parts.

The inventor says: I do not claim the employment of two flexible bellows in two separate chambers.

Nor do I claim the mode of constructing the flexible bellows, as exhibited in the United States patent numbered 9,591, wherein such bellows is made of two metallic shallow dishes or partitions joined at their edges by a flexible connexion. This differs essentially from my invention, wherein a sack I or J, separate from and arranged within a flexible enclosing case M or N, is employed; as in my invention the sack alone constitutes the gas-receiving chamber, and can be readily removed from its flexible case whenever necessary without requiring the enclosing case to be removed from the metre.

I *claim* the described improved arrangement of the partition K and the shaft D, the cranks, valve C, and valve seat B, with respect to the chambers E H and A, and the pipes or passages *a b c d*, the same enabling one shaft D only necessary to the operation of the valve by the two sacks I and J.

I also claim combining with each flexible sack I J a flexible enclosing case M or N, arranged so as to operate therewith, as specified.

I also claim the arrangement and application of the pipe F with respect to the valve C and the case of the metre, the same being in manner and for the purpose as specified.

No. 20,680.—Charles C. Lloyd, of Philadelphia, Pa., assignor to William Hopper and Robert H. Gratz, of said Philadelphia.—*Improvement in Valves for Dry Gas Metres.*—Patent dated June 22,

1858.—This improvement relates to the mode of constructing and operating the valve of the dry metre so as to cause the valve to keep the valve seat *g g* free from deposit, and also to cause the rotary motion to be always imparted to it in the plane parallel to that in which it is to be rotated.

The inventor says: I *claim*, first, the construction of the rotary valve *e e*, with a series of breaks or edges as at *f p p* and *q q*, arranged and operating so as to scrape the upper surface of the valve seat.

Second. The drip K and valve seat *g g*, arranged and operating so as to collect and carry off any liquid deposit in the metre.

Third. The valve carriage D D, arranged and operating substantially as described.

No. 20,058.—H. P. Gengembre, of Rock Island, Illinois.—*Improvement in Liquids for Gas Metres.*—Patent dated April 27, 1858.—The nature of this invention consists in replacing the water used in gas metres by means or use of a fluid compound composed of deliquescent earthy and metallic salt or salts, at such a degree of saturation as will insure the fluidity of this solution at any ordinary winter temperature; and in keeping the upper strata of the liquor always in contact with a substance or substances which will maintain the chemical neutrality of the salt or salts employed.

The inventor says: I do not claim replacing water in wet gas metres by a liquid not affected by frost, as I am aware that alcohol has been employed for that purpose; nor do I claim keeping a salt solution neutral by the presence of a base or carbonate.

But I *claim* the use of an aqueous solution of deliquescent metallic and earthy salt or salts in gas metres, and the suspension in the upper strata of the liquid of a base or carbonate of the base of the salt or salts employed, substantially in the manner and for the purpose as set forth.

No. 22,267.—Robert M. Potter, of New York, N. Y., assignor to William McKenzie, of said New York, and said McKenzie having reassigned the same to said Potter.—*Improvement in Valves for Gas Metres.*—Patent dated December 7, 1858.—*a* is the inlet supply pipe; *b* is the eccentric sliding valve, constructed with a centre vent and circular gas canal, formed in the under side of the valve between two eccentric rings by a continuous groove making a complete circle; *b* is also constructed with a piston, which has a fixed point at bracket *c*. This piston is the centre of equipoise, equipollence, and semi-equal motion, and preserves *b* from the possibility of rotating or being displaced.

Claim.—The eccentric sliding valve *b*, when constructed, arranged, and operated substantially as described.

No. 20,625.—John H. Cooper, of Philadelphia, Pennsylvania.—*Improvement in Gas Regulators.*—Patent dated June 22, 1858.—The lid or cover H H with an air-hole *x* is secured to the casing A A by the screws *j j*. The gas enters first from the metre into the valve chamber E, thence through the valve openings *e e* into all the interior part of the instrument beneath the inverted cup G, making its exit through the nozzle C.

The inventor says: I am aware that gas regulators in which is an inverted cup loaded with weights and attached to a valve are in common use. This I do not claim.

But I *claim* guiding the inverted cup G by an arm P, when the latter is loosely jointed to the casing and to the cup in the manner specified.

I also claim combining the coupling screw D, the valve seat *e e*, chamber E, and the inclined outlet B with each other, for the purposes set forth.

No. 21,048.—Charles F. Holzer, of Philadelphia, Pennsylvania, assignor to William B. Smith and William Bromwell, of Philadelphia aforesaid.—*Improvement in Gas Regulators.*—Patent dated July 27, 1858.—This invention consists in certain arrangements of the working parts and of the passages, by which the spring *g* and guide for the valve *d* and cup B are protected from the injurious effects of exposure to the gas, and provision is made for the return through the inlet opening of the regulator of water, tar, or other foreign substance that may be condensed from the gas; thus obviating the necessity of a siphon or waste receptacle attached to the regulator.

The inventor says: I do not claim the combination of an inlet and outlet chamber, a valve, an inverted cup, and a spring, as I am aware that such combination is used in most gas regulators.

But I *claim* the peculiar arrangement, as described, of the inlet and outlet chambers, the valve, the inverted cup, the spring and guide pin, whereby the spring and the guide are effectually protected from contact with the gas, and provision is made for the return of all liquid matter through the inlet pipe, as fully set forth.

No. 21,022.—J. H. Powers, of Newark, New Jersey.—*Improvement in Gas Regulators.*—Patent dated July 27, 1858.—This invention relates to that kind of regulator whose valve is of the form of an inverted cup, with notches in its sides, and works in a seat of quicksilver; said valve having its opening controlled by the pressure of the gas upon an inverted cup floating in a basin of quicksilver. This invention consists in a certain arrangement of the quicksilver basin valve seat, inverted pressure cup valve, and inlet passage, whereby great simplicity of construction and effective operation are obtained.

The inventor says: I do not claim the inverted pressure cup, nor the grooved or notched inverted cup-shaped valve working in a seat of quicksilver; as the cup is specified in several patents, and the valve is specified in combination with the cup in my patent of September 1, 1857.

Nor do I claim any of the other parts of the regulator, as separately considered.

But I *claim* the arrangement of the annular pressure cup B C and regulating valve D in the double annular quicksilver basin *e f*, whose inner and outer channels *e* and *f* are arranged at a distance apart to form between them a passage *g*, through which a communication is

established between the interior of the cup and the atmosphere, all substantially as described.

No. 21,281.—W. G. Sterling, of Bridgeport, Connecticut.—*Improvement in Gas Regulators.*—Patent dated August 24, 1858.—The valve seat K is adjusted in its place by pressing the gasometer E down, the cross-bar L on the rod G H forces the valve seat K to its place, or the cross-bar may be attached to the valve seat, and the rod play through it, so as to press it to its place. The screw M holds it in its position.

The inventor says: First. I *claim* the described adjustable conical-shaped valve seat, with its cross-bar, or its equivalent, and valve attached.

Second. I claim the set screw in combination with the valve seat, or any other construction substantially the same.

Third. I claim the combination of the movable valve seat, valve, and cross-bar, attached in any manner whatever to a gasometer, disk, diaphragm, or other device, by which said regulator can be cleaned, without the least derangement to the machine, as described, or in any other form, or in any other way equivalent thereto.

No. 21,544.—Salmon Bidwell, of Chicago, Illinois, assignor to the New York Car and Steamboat Gas Company, of New York, N. Y.—*Improvement in Gas Regulators.*—Patent dated September 21, 1858.—The nature of this invention consists in the mode of operating the cock by the spring and diaphragm by the pressure of gas in the regulator.

A is the cylinder, B the top of the cylinder, C the inlet for admitting the gas to the cylinder through the cock; C^1 the outlet, D the pipe through which is inserted the spiral spring, and which is regulated by a screw; E the screw passing into pipe D, with rubber washer *e* to make it gas-tight.

Claim.—The cock F operated by the diaphragm *c*, rod *b*, and spring *a*, as described and set forth.

No. 21,765.—William Mallerd, of Bridgeport, Conn.—*Improvement in Gas Regulators.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim broadly the use of the rising and falling of the reservoir 2 for the purpose of regulating the pressure of the gas.

But I *claim* arranging the graduated lever 4 with the adjustable weight 17 in combination with the reservoir 2 and the valve 10 in such a manner that by raising the reservoir the valve is closed and the supply of gas stopped, so that the pressure of the reservoir can be regulated by adjusting the weight 17.

And in combination with the lever and reservoir I claim admitting the gas to the reservoir by means of a small tube 8, which is contracted toward its upper end so that impurities carried up by the gas are deposited outside of said tube without being able to interfere with the working parts of the gas regulator.

And I further claim arranging the stud 21 in combination with lever 4, rod 9, and valve 10, in such a manner that by depressing the stud 21 the supply of gas may be ascertained without raising the cover of the regulator.

No. 20,375.—I. T. Sloan, Volney Smith, Manuel Hoover, and R. M. Briggs, of Jackson, Cal.—*Improvement in Gas Retorts.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment, in the manufacture of gas from wood, of a cylindrical retort A placed horizontally, and having a door to close the opening for the reception of material, swinging upon hinges and shutting with a staple and eye to receive a wedge, the other end T being closed with a clamp and wedge.

No. 20,448.—Warren A. Simonds, of Chelsea, Mass.—*Improvement in Gas Retorts.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the invention of double-chambered retorts, whether the said chambers are placed side by side or separately. Nor do I claim a tubular retort connected at either end by joints and plugs.

But I *claim*, first, a common coal retort A, with a separated return chamber B above and outside, but connected at the back end with the lower chamber A, when the whole is made in one piece and forms a continuous retort, as set forth.

Second. I claim placing an escape pipe *b* directly under the stand pipe E, which conducts the gas to the hydraulic main, for the purpose of drawing off the tar and preventing it from returning to the retort B to crystallize and clog up the said retort.

No. 20,671.—Charles N. Tyler, of Washington, D. C.—*Improvement in Gas Retorts.*—Patent dated June 22, 1858.—This invention consists in so constructing the chamber in which the hydrogen is generated, arranging and connecting it with the other retort in which the dry distillation takes place, that the hydrogen shall be brought in contact with the carburetted hydrogen gas as it enters the passage that leads from the retort into the hydraulic main, at which point, immediately beneath the outlet of hydrogen retort, the main retort is formed with a cavity *a*, into which the heavy carbonaceous matter is precipitated by the force of the current of hydrogen from above.

The inventor says: I *claim*, first, the combination of the cavity *a* with the outlet *b* of the hydrogen retort, in the manner and for the purposes substantially as set forth.

Second. I claim elongating the end of the retort A, so that the cavity *a* may be arranged on the inside of the furnace for the purposes set forth.

No. 21,169.—Alfred Marsh, of Detroit Mich., assignor to himself, E. Hall Covell, John Q. Dudley, and Robert Holmes, of said Detroit.—*Improvement in Gas Retorts.*—Patent dated August 10,

1858.—The nature of this invention consists in the construction of apparatus for the manufacture of gas from resin or oils; in providing a vertical retort A, and placing within said retort a spiral column B supported upon feet, and having a tube or flue E passing through its entire length, being perforated with holes at right angles with the flue, and between the threads of the spiral column, the whole column being surrounded by an iron case J fitting close to the column.

The inventor says: I do not claim the retort only as in connexion with my arrangement, nor do I claim the mode of introducing the gas-making material into the retort as set forth, nor the exit of the gas as described, nor the conducting the fumes from a retort by a pipe, only in connexion with my arrangement as described; but,

I *claim*, in the construction of apparatus for the manufacturing of gas from resin or oils, the spiral column resting on feet, with the flue through the centre; and also the apertures between the threads of the spiral column in combination with the case, in the manner and for the purposes substantially as set forth.

No. 22,434.—William H. Laubach, of Philadelphia, Pa.—*Improvement in Gas Retorts.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Dividing the retort into an upper and lower chamber by means of a movable plate D, said plate being so constructed and arranged in respect to its flanches or projections in the retort, and being so weighted, that the amount of vapor admitted into the communication between the two chambers shall be proportionate to the rapidity with which it is generated, and that the vapor shall pass from the lower chamber in a stream so attenuated and so exposed to red hot surfaces as to insure its being converted into permanent gas on entering the upper chamber, as set forth.

No. 20,567.—William H. Laubach, of Philadelphia, Pa.—*Improvement in Retorts for Generating Gas.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the construction of the retort with a convolute passage made in two parts, fitting together in the manner substantially as described, whereby a great amount of heating surface is obtained for the conversion of the vapor into permanent gas, and provision is made for cleaning out the passage.

Second. Combining the movable cover G with the valve E of the charge by means of a T-shaped head on the valve stem and pins *g g*, inside the said cover, or their equivalent, to regulate the supply of fluid material to the retort while in operation by turning the said cover.

No. 19,655.—John W. Smith, of Washington, D. C.—*Improvement in Portable Gas Retorts.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim any apparatus which admits of the passage of gas between heated surfaces, when the passages are

only opened at intervals by the pressure of gas or steam, as such has been before described.

But I *claim* the combination of the horizontal retort B with the casing C, when the former is constructed with an open end, and so arranged in reference to the latter that a space shall be constantly left open for the passage of the gas between the retort and the casing, in the manner described and for the purpose specified.

No. 19,900.—David L. Weatherhead and James T. Henry, of Philadelphia, Pennsylvania, assignors to Themselves, John M. Smith, and William P. Campbell, of said Philadelphia.—*Improvement in Portable Gas Retorts.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The exterior horizontal cylinder B in combination with the interior horizontal perforated cylinder C, charged with pumice stone, when the cylinders are so constructed and arranged that the material from which the gas is to be made shall flow into the annular space between the two cylinders, and the gas when generated shall pass through the body of porous material for the purpose of purification in the manner described.

No. 21,887.—George W. Kraft, of Philadelphia, Pennsylvania.—*Improvement in Gasometers.*—Patent dated October 26, 1858.—*a* is the shell of the upper section, *b* the shell of the lower section, *c* angle iron legs, *d* angle iron rings of cup, *e* stay irons to strengthen cup, *f* bead iron on edge of cup, *g* plate ring of square cup, *h* the cup rim.

Claim.—The construction and application of the V-shaped cup or lute, whether as shown by the inner section figure 2, or by the inner or outer section figure 3; and this I claim whether it be accomplished precisely as described, or in any manner equivalent thereto, producing substantially the same result.

No. 20,988.—P. T. Burtis, of Chicago, Illinois.—*Improvement in Method of Counterpoising Gasometers.*—Patent dated July 27, 1858.—This invention is applicable to telescopic gasometers, or to gasometers in which the holder is single. It consists in a certain arrangement of the chains connecting the counterbalance weights of the holder or any of its sections, whereby any binding in the tank and uneven rising and falling, and the loss of gas, and other bad consequences thereby caused, are prevented.

Claim.—The arrangement of the chains *e e*, in combination with the weights *d d* and chains *a a*, substantially as described, whereby, when there is any tendency on the part of the holder, or the section thereof, to which said weights are applied, to work unevenly, the highest side is relieved from the counterbalance weights, and two of the said weights are brought wholly into action on the lowest side, substantially as explained.

No. 19,668.—Joseph Weisman, of Philadelphia, Pennsylvania.—*Improvement in using Graphite in Reducing Metals.*—Patent dated March 16, 1858.—The crucible is filled with the ore or metals to be

operated on, mixed and imbedded in powdered graphite, it is then luted over as secure as possible with graphite paste or clay, so as to exclude as much as possible the atmosphere. The crucible is then subjected to heat of a greater or less intensity, according to the nature of the materials it contains, for a period of from six to twenty-four hours.

Claim.—The use and mode of using graphite, plumbago, or black lead, for the purposes and in the manner set forth and described.

No. 21,761.—JOHN KEANE, of New York, N. Y.—*Improvement in Apparatus for Preserving Malt Liquors.*—Patent dated October 12, 1858.—This invention consists in a diaphragm or bag of India-rubber, of a size and form to constitute a lining to half of the vessel to which it is applied, secured by its edges all around the interior of the vessel near the middle thereof. This invention is particularly advantageous in its application to beer casks, but may be applied to vessels containing any kind of liquors.

Claim.—The diaphragm or bag of India-rubber, or other similar flexible material, of a form to fit simply to half of the cask or other vessel, and attached all round the middle of the same, so as to operate in the manner described for the purpose set forth.

No. 19,974.—CHARLES F. SPIEKER, of New York, N. Y.—*Improvement in Preparing Manure-Beds.*—Patent dated April 13, 1858; patented in England, August 19, 1857.—The claim of the inventor will give the reader an idea of the nature of this invention.

The inventor says: I disclaim distinctly the discovery of the fact that ammonia is absorbed to a small extent by oxyds of iron, or aluminous earth in its natural state, or that it is produced by the decomposition of animal substances in contact with air and water.

But I *claim* the use of the peculiar process by which I produce, condense, and fix ammonia, and change it into salts of ammonia, in ammonia-beds made of aluminous earth, silicates of alumina, or the oxyds of iron, sheltered from the rain and excessive temperature, and charged with diluted acids or weak solutions of such salts for the acid of which ammonia has a greater affinity than the base with which it was combined, in the manner and for the purpose set forth.

No. 21,835.—ISAAC G. JOHNSON, of Spuyten Duyvel, N. Y.—*Improvement in Bottles for Containing Mercury.*—Patent dated October 19, 1858.—This bottle is made of malleable cast-iron, as follows: A pattern is first made of the desired form, from which the exterior is moulded; but instead of so forming the core as to vent only at the top through the neck, the vent or core is passed clear through, leaving a small hole through the bottom of the bottle. The bottle thus cast is filled with a carefully prepared decarbonizing compound with which it is also surrounded, and is then submitted to a heated annealing furnace in the usual way.

Claim.—The mercury bottle formed and composed of malleable cast-iron, substantially in the manner and for the purpose set forth.

No. 22,152.—J. L. ALBERGER, of Buffalo, N. Y.—*Improvement in Kettles for Trying Oils.*—Patent dated November 30, 1858.—This invention relates to the construction and arrangement of a boiler or tank, surrounded by a steam jacket, or having steam introduced in its interior and made to revolve upon its bed or cradle, for the purpose of emptying it of its contents, and used with or without a condensing apparatus, the object being to boil or try fats, oils, &c., by direct or indirect action of steam.

Claim.—A horizontally placed cylindrical boiler or tank, surrounded by a steam jacket, or having the steam admitted directly into it, when said boiler or tank is capable of being turned over in its cradle and have all its contents run out at the man hole, as described; and this is claimed, whether said boiler be used in connexion with a condenser or without it, substantially as set forth.

No. 22,406.—LUTHER ATWOOD, of Brooklyn, New York.—*Improvement in Manufacture of Pyrogenic Oil.*—Patent dated December 28, 1858.—This invention is a new method of manufacturing oils from bitumens, resin, schist, and fatty bodies that yield pyrogenic oils, and that are soluble or in part soluble in the products of their decomposition, and that melt or intumesce during decomposition; also coal, peat, wood, and other substances yielding pyrogenic oils which may be worked by this process.

Claim.—Forming oleaginous vapors from substances yielding pyrogenic oils, by the action of the heat of a properly regulated current of products of combustion passing over and above the surface of the mass operated on, with or without the aid of external heat, substantially as described and for the purposes set forth.

No. 21,805.—LUTHER ATWOOD, of Brooklyn, New York.—*Improvement in Extraction of Volatile Oils, &c., from Coal.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the gradual and progressive formation at a comparatively low temperature of oleaginous vapors and oil from coal or other substances yielding pyrogenic oils, by the gradual and progressive action of the heat of products of combustion upon and through the mass substantially as described, and substantially for the purposes set forth.

Second. The immediate removal of the oleaginous vapors and volatile products of decomposition from the point of formation away from further action of the heat conducing to and resulting from their production, through the remainder of the mass and apparatus, by means of a properly regulated current of products of combustion, substantially as described.

Third. Condensing the liquid volatile products of distillation within the body of the distilling tower, and during the continuous distillation of the solid materials, substantially as described.

Fourth. Obtaining crude oil from coal and other solid substances yielding pyrogenic oils, by the combined and successive operation of the above-mentioned methods of treatment.

No. 20,205.—William G. Huyett, of Williamsburg, Pennsylvania.—*Improvement in Paint Compounds.*—Patent dated May 11, 1858.—To seventy parts of calcined iron ore are mixed twenty parts of burnt limestone and ten parts of clean charcoal, or mineral coal; they are all ground together into a fine powder; the powder is then mixed with linseed oil and reduced to proper consistency for painting, when it forms a beautiful brown-colored paint.

The inventor says: I do not claim the use of calcined iron ore, lime, or coal, except when compounded so as to form a paint as described by me. To the best of my knowledge and belief, no such paint compound has ever been known or used.

I *claim*, as a new article of manufacture, a paint compound composed of ground calcined iron ore, lime, and carbon, in about the proportions specified.

No. 19,014.—A. C. Church, of Union City, Michigan.—*Improvement in Paint Vehicles.*—Patent dated January 5, 1858.—The component parts of this invention and their proportions are as follows: Linseed oil, one gallon; soft soap, one gallon; distilled rain water, one gallon; oil of turpentine, four (fluid) ounces; gum mastic, one-fourth of an ounce; caoutchouc, one-eighth of an ounce.

The compound is made in the following manner: The oil of turpentine, gum mastic, and caoutchouc, are put into a well corked bottle, and well shaken or agitated together several times a day for three or four days, and then allowed to rest for a short time. When the compound liquid solution of gum mastic and caoutchouc has been thus obtained, the soft soap is to be mixed with the distilled rain water, and the mixture heated over a fire till it boils, stirring it well during the heating. The linseed oil is also placed on the fire and heated to the boiling point.

Claim.—The compound for mixing paints, composed of the within specified materials, combined in the manner substantially as and in about the proportions set forth.

No. 20,993.—J. S. D'Orsey, of New York, N. Y.—*Improvement in Paints.*—Patent dated July 27, 1858.—This paint is intended to be used as a substitute for oil paint in painting the plaster, walls, and ceilings of buildings, and other plaster work. The claim shows its composition.

Claim.—The paint, composed of carbonate of lead or oxyd of zinc, ground in oil, mixed with carbonate of lime, and reduced by the compound vehicle specified, either with or without the addition of pulverized sand or sulphate of baryta and sulphate of copper.

No. 21,810.—James H. Beardsley, of New York, N. Y.—*Improvement in Composition for Paints.*—Patent dated October 19, 1858.—The inventor says: To produce white paint I slake forty-six pounds of lime in ten gallons of water in a closed vessel, to exclude air. When the lime is slaked, which will take about two hours and a half, I remove the cover and add and thoroughly mix therewith seven pounds of bleached or fair brown sugar, preferring the former. After

this I add and mix one quart of the best New Orleans molasses, which should be previously boiled for ten or fifteen minutes, and this should be added while at or near the boiling point. I next add and stir in fifteen pounds of whiting and five pounds of dry oxide of zinc, both in fine powder. And, lastly, I add three quarts of salt and ten ounces of refined borax; and, when well stirred to incorporate all the ingredients, the whole is allowed to stand over night and then run through an ordinary paint mill. The composition then only requires to be reduced to the proper consistency with water to be used with the brush.

Claim.—The composition of matter, substantially such as described, to be used alone as a white paint, or in admixture with pigments for colored paints, as set forth.

No. 22,015.—Thomas G. Chase, of Philadelphia, Pa.—*Improvement in Rendering Paper and other Fabrics Incorrodible.*—Patent dated November 9, 1858.—The nature of this invention consists in the application of paraffine and naphtha to paper and other similar fabrics, by which they are rendered proof against the corrosive action of caustic alkali.

Claim.—The inventor says: I am aware that other compositions of matter have been used to protect caustic alkali from the action of air and moisture, such as resin and beeswax, for which a patent was obtained by George Thompson, October 21, 1856. I do not claim any of these, and am also aware that a patent has been granted in England to William Benson Stones, for the use of paraffine to render textile materials impervious to wet (volume 55, page 339, Mechanics' Magazine). I do not claim the use of it for this purpose.

But I claim the application of paraffine, either alone or in combination with naphtha, for the purposes described, as set forth, so as to secure paper and other fabrics from the corrosive action of caustic alkali, in order that it may be put up securely in small parcels.

No. 19,657.—Anson Taylor, of Brooklyn, New York.—*Improvement in Preparing Silk for Use with Felting Substances.*—Patent dated March 16, 1858.—The nature of this invention consists in exposing silk fibres to sufficient heat to partially destroy their strength and tenacity, and render the same adapted to use with fur, wool, or other felting material in the carding, picking, bowing, or blowing operations in preparing the fibrous material, and to the subsequent operations of shrinking, planking, and finishing the felted goods.

The inventor says: I do not claim the use of steam or a moderate degree of heat in the operation of preparing fibrous materials for carding, the same operation simply to soften the fibres temporarily.

But I *claim* the method described of preparing silk fibres for use with fur or other felting material, substantially as and for the purposes specified.

No. 22,185.—Nathan B. Marsh, of Cincinnati, Ohio.—*Improvement in Preservation of Flesh for Food.*—Patent dated November 30, 1858.—The nature of this invention consists in the process, or any essential part thereof described, for converting live stock, such as beef

cattle, hogs, and sheep, or the hams or rounds thereof, into cured and smoked meats for the market, so that such live stock may be slaughtered in any numbers, in any climate, in any season of the year, in a much improved style.

The inventor says: I *claim*, first, preparing carcasses for injection, and injecting the same in the manner set forth.

Second. I also claim injecting or transmission of the saline solutions at a temperature below or above the freezing point, or thereabout, as set forth, so that the flesh may be cooled from within outward.

Third. I claim the injection of portions of the carcasses, as well as the whole beast, with the solutions indicated, in the manner set forth.

No. 22,132.—Charles Francis Leopold Oudry, of Paris, France.—*Improvement in Preserving Surfaces of Cast or Wrought Iron.*—Patent dated November 23, 1858.—The claim explains the nature of this invention.

The inventor says: I *claim*, firstly, the employment of a varnish, or of successive varnishes, insulating, metallizing, and intermediary between the object to be coated with copper (whether the same be metallic or non-metallic) and the protecting copper itself, all or part of said varnishes being composed of certain metallic substances, united with fat or essential oils, and with gummy, resinous, bituminous, or asphaltic substances, substantially as described and for the purposes set forth.

Secondly. The coating of all kinds of objects with copper, by the employment of one or several varnishes in succession, previous to the galvanic coppering obtained directly in a bath of sulphate of copper, *i. e.* without the intervention of a bath of cyanide of copper, substantially as described.

No. 22,249 —John Warren Harnett, of Cincinnati, Ohio.—*Improvement in Preventing Incrustation of Steam Boilers.*—Patent dated December 7, 1858 —The nature of this invention consists in introducing into the steam boiler oleaginous matter in a fluid state. For this purpose any suitable oil is used. It further consists in a novel method of using the oil in the boiler to prevent its forming a dense coating retarding the evaporation, and to facilitate removal of deposit from the boiler at any and frequent intervals without arresting work, or stopping continuous generation of steam.

Claim.—The means and manner specified of injecting oil or other fatty matter, in a liquid state, into the boiler, for the purposes set forth, whereby the said oil or fatty matter is fed to the boiler simultaneously and in connexion with the water, as described.

No. 19,036.—Nicholas Mary Ainé, of Philadelphia, Pennsylvania.—*Improvement in the Process of Dyeing Silk, &c* —Patent dated January 5, 1858.—This improvement consists in first submitting the silk in the piece to the action of steam, and then passing it over a series of rollers D E F and A N covered with felt, which revolve partially immersed in troughs, and which contain a solution of dye

heated by steam; and then passing the goods into or through a chamber, where it will be submitted to the action of steam again. The piece of goods is kept distended or stretched laterally during the entire operation by rollers, and the felt-covered rollers are given such a velocity of revolution that they shall rub against the goods at a velocity from two to four or five times greater than the velocity at which the fabric or piece of silk moves.

Claim.—Submitting the fabric to the combined action of steaming and to that of friction-rollers, during or after the dyeing process, as described.

No. 19,948.—John Preston, of Dorchester, Massachusetts.—*Improvement in Process of Extracting Fat Oils from Seeds.*—Patent dated April 13, 1858.—The nature of this invention consists in, or is based on, the principle of engaging the other proximate principles with which the oils and fats are naturally associated in a solvent for which they exert a superior attraction.

Claim.—The employment of either molasses or a sugar syrup under circumstances and in manner substantially as set forth.

No. 20,048.—Edouard Deiss, of Paris, France.—*Improvement in Processes for Extracting Fatty Matters.*—Patent dated April 27, 1858.—Patented in France, November 13, 1855.—A represents a vessel containing the sulphuret of carbon; it is made of metal, and is provided with two stop cocks, one at the bottom *a*, and the other on the top *b*. This vessel is tightly closed by means of the cover E; through the cover passes the pipe K, reaching to the bottom of the vessel. This pipe is cut out somewhat at the lower end, and communicates through the upper part with the still B. The pipe F, provided with a stop cock, is designated to supply the amount of sulphuret lost during the operation. From the cover E rises a pipe G, with a stop cock *f*, which communicates with the air-pump; next to tube G is another pipe H, and stop cock *g*, to carry off the air from the reservoir A.

The inventor says: I declare that I do not in any way confine myself to the particular construction and arrangement of apparatus in connexion with my invention.

But I *claim* the extraction of oils, grease, fats, and resins from wool cloth, bones, oleaginous seeds, refuse, and other substances containing the same, whether naturally or artificially impregnated, by passing through them mechanically sulpuret of carbon, in the manner substantially as described.

No. 20,353.—Silas P. Knight, of New York, N. Y.—*Improvement in Production of Electrotpye Plates.*—Patent dated May 25, 1858.—The wax mould or matrix is made in the usual manner and coated with plumbago; it is then placed upon a table with the face upward, and a saturated solution of blue vitriol or sulphate of copper is sprinkled upon it, moistening nearly the entire surface. Upon this is scattered from a fine sieve, or muslin bag, metallic dust or fine powder. The dust, being sifted upon the plate, is then dis-

tributed as uniformly as possible over its surface by means of a flat camel's hair brush. The mould is then cleansed by immersion in pure water, or by allowing the water to flow over it. It is then placed in the battery and the connexion made as usual.

The inventor says: I do not claim the deposit of a thin metallic coat or film upon the moulds previous to immersing them in the battery.

But what I *claim* is the treatment of the plumbago-coated moulds with a solution of the sulphate of copper and the dust of iron, by which a metallic film is produced as described.

No. 20,760.—Ethan Campbell, of Cambridgeport, Massachusetts, assignor to Henry Thayer, of said Cambridgeport.—*Improvement in Apparatus for Rectifying.*—Patent dated June 29, 1858.—The nature of this invention consists in so arranging and combining a distillatory apparatus as to perform all operations of distilling, rectifying, and evaporating, in a simple manner and in a vacuum, thus gaining in lessened expense for heat, in rapidity of production, and purity of product.

The inventor says: I do not claim that the pan, condenser, column, or receivers are of my invention.

But I *claim* the general combination of the different parts, with the attachment of the air-pump, so as to produce the effect desired.

I claim combining with the rectifying column B the vertical discharge pipe *j* and the series of horizontal pipes which connect it with the column B, as set forth.

No. 20,967.—Gardner Waters and John W. Harnett, of Cincinnati, Ohio.—*Improved Apparatus for Rectifying.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not of course claim the principle of continuous distillation, nor any of the various modes by which Pistorius, Derosne, Coffey, and others have rendered its practical application more and more simple and easily regulated. Neither do we claim the beer and spirit columns, or the general arrangement and mode of operating Coffey's apparatus.

But we *claim*, first, the use of solid plates *a*, with bent pipes *e*, or their equivalents, instead of perforated plates in the beer column, in the manner and for the purposes set forth.

Second. The use of the exhaust steam regulator in distillation, by this or other apparatus, whereby steam of any degree of tension may be taken from the boiler and reduced to any less desired uniform pressure, and whereby the exhaust steam from engines may be regulated in like manner, using the exhaust steam from boilers, together or separately as may be desired, in the manner and for the purposes set forth.

Third. The combination of the beer and spirit columns A and B with the exhaust steam regulator, with or without the whistle valves, acting as described and for the purposes set forth.

No. 20,938.—Gustavus Cuppers, of College Point, New York.—*Improvement in Manufacture of Hard Rubber Goods.*—Patent dated July 20, 1858.—In describing his improvement the inventor says: In the first place I prepare the India rubber or gutta percha for hardening in the usual manner, and place it in the mould made of tinfoil, or in tin or cast brass, or pressed tin, or any other material which moulds are made of. I then subject the same to the action of steam or hot air, or heat of any kind, during a period of from one-half an hour to three hours; the length of time will depend upon the proportion of sulphur mixed with the India rubber.

The inventor says: I wish to have it distinctly understood that I do not claim as my invention the heating or curing process, as it is called, nor the combination of India rubber and gutta percha with sulphur, nor any other combination already patented and described.

But I *claim* the improvement in the hardening or curing process of caoutchouc or India rubber and of gutta percha, by which articles, wares, goods, and merchandise may be manufactured into any desired size, form, or shape, substantially as described.

No. 22,265.—Hiram L. Hall, of Beverly, Massachusetts, assignor to The Beverly Rubber Company.—*Improvement in Manufacture of Vulcanized Rubber Goods.*—Patent dated December 7, 1858.—The claim explains the nature of this invention.

Claim.—The improvement in the manufacture of rubber goods of every description, which consists in combining fibrous materials with waste vulcanized rubber rendered soft and plastic, in the manner described, whether such fibrous materials be such only as are found in old or waste vulcanized goods or fabrics, or new fibrous materials added to the rubber compound.

No. 22,218.—Thomas J. Mayall, of Roxbury, Massachusetts, assignor to Himself and George N. Davis, of Boston, Massachusetts.—*Improvement in the Manufacture of Hard Rubber.*—Patent dated November 30, 1858.—In this invention one pound of India rubber is incorporated by grinding with 5 ounces sulphur, to which is added gradually, as the grinding proceeds, 1 ounce of olive oil, the whole being thoroughly mixed and vulcanized in the usual manner.

Claim.—The use of olive oil, when incorporated with other materials, in the manufacture of hard vulcanized rubber, as described, for the purpose specified.

No. 19,172.—Hiram L. Hall, of Beverly, Massachusetts, assignor to The Beverly Rubber Company.—*Improvement in Restoring Waste Vulcanized Rubber.*—Patent dated January 19, 1858.—The claim of the inventor explains the nature of this invention.

Claim.—Boiling waste vulcanized rubber in water, after it has been reduced to a finely divided state by grinding, for the purpose of utilizing the same, by restoring it to a plastic state, fit to be again used in the manufacture of India rubber fabrics, as set forth.

No. 20,678.—Francis Baschnagel, of Beverly, Massachusetts, assignor to Himself and The Beverly Rubber Company.—*Improvement in Restoring Waste Vulcanized Rubber.*—Patent dated June 22, 1858.—The claim will explain the nature of this improvement.

Claim.—The application of heat from 150° to 600° Fah. to waste vulcanized rubber, with or without immersing it in cold water or any other cooling fluid, as specified, for the purpose of restoring the same, so that it may be used again in the manufacture of India rubber goods and substances; hereby expressly disclaiming all and every right to the application of artificial heat to new rubber vulcanized or not vulcanized, and to the application of heat to rubber in any manner and for any purpose except as above set forth.

No. 22,217.—Hiram L. Hall, of Beverly, Massachusetts, assignor to The Beverly Rubber Company.—*Improvement in Restoring Waste Vulcanized Rubber.*—Patent dated November 30, 1858.—The claim explains the nature of this invention.

Claim.—The method of restoring waste vulcanized rubber by grinding it to a fine or powdered state, or otherwise, then submitting the same in a close or proper vessel to the action of steam direct upon the rubber, or in connexion with water, for the space of forty-eight hours, more or less.

No. 20,242.—Hiram L. Hall, of Beverly, Massachusetts, assignor to The Beverly Rubber Company.—*Improvement in Utilizing Waste Vulcanized Rubber.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim.

The inventor says: I do not claim the mixing of asphalt, coal tar, resin or shellac, or other similar substance with native rubber, nor with vulcanized rubber previously dissolved by means of essential oils or other solvents.

But I *claim* the restoring of waste vulcanized rubber by grinding it and mixing it with asphalt, coal tar, resin, pitch, shellac or other similar substances, so that it can be used again in the manufacture of vulcanized rubber fabrics, and be as serviceable, or nearly so, as when the fabrics are made with the use of the native rubber.

No. 22,038.—Richard Solis, of New Brunswick, New Jersey.—*Improvement in Machinery for Manufacturing Shirred Goods.*—Patent dated November 9, 1858.—This invention relates more particularly to improvements in machinery for making that kind of elastic fabric known as shirred goods, in which threads or strips of india rubber in a distended state, are inclosed between two lamina of cloth, coated with india ruber or other cement, and cemented to the elastic threads or strips, and to each other between the said threads or strips.

The inventor says: I *claim*, in combination with the rollers or equivalent means for cementing the two lamina of cloth, and the rollers or equivalent means for keeping the united lamina distended, and for moving them as described, the employment of a bar, or the equivalent thereof, over which the united lamina are drawn to form the turned or lapped selvages, as described.

And I also claim, in combination with the selvage bar, or its equivalent, and the means described for moving and keeping the lamina distended, or equivalents therefor, the employment of pins for turning the edges in forming the turned or lapped selvages, as described.

No. 22,330.—William H. Manning, of Owego, New York, assignor to Himself and Lucius H. Olmsted, of said Owego.—*Improvement in Machines for Cutting Soap.*—Patent dated December 14, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The machine described for converting block and slab soap into bars and cakes, consisting substantially of the frame or series of cutters, the guiding and supporting bars, and the presser or follower.

No. 19,754.—Dalrymple Crawford, of Toronto, Canada.—*Improvement in Manufacture of Soap.*—Patent dated March 30, 1858. The claim will explain the nature of the composition.

The inventor says: I do not claim mixing flour, corn meal, starch, or vegetable matter generally with soap.

I do not claim making soap with a fat or oil and an alkali, with or without rosin.

But I *claim* mixing with soap the refuse from Indian corn after it has been subjected to the action of alkali in extracting the starch, as substantially set forth.

No. 19,667.—Campbell Morfit, of Baltimore, Maryland.—*Improved Process of Making Soap.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim.

Claim.—The saponification of red oil, or red acid oil and fat acids generally, by means of powdered or dry carbonates of soda, as kelp, troma, sal-soda, soda ash, bi-carbonate of soda, &c., and converting them into toilet and laundry soaps, in the manner substantially as set forth in the specification.

No. 19,960.—C. D. Van Allen and Samuel Avery, of Baldwinsville, N. Y.—*Improvement in Soda Fountains.*—Patent dated April 13, 1858.—The inventor says: In order to make soda-water, we put a solution of supercarbonate of soda in one of the reservoirs J, and tartaric acid in solution in the other. We then cause the piston B of the pump to rise, which draws both of the solutions into the pump chamber P. On depressing the piston rod B, the solutions are prevented by the valve M from returning to the reservoirs J J, and are forced through the pipe O and E into the fountain or generator F, and prevented from returning to the pump by the valve N.

Claim.—The apparatus described—that is to say, the combination of the reservoirs J J, (the one an acid, the other an alkali, in separated solutions,) pipes K K, valve M, pump chamber P, elastic cover C, aperture O, valve N, valve cap D, pipe E, and generator F, when these several parts are constructed and relatively arranged with respect to each other as set forth for the purpose specified.

No. 20,382.—E. D. Wheeler, of Murfreesboro, Tennessee.—*Improvement in Portable Soda-Water Apparatus.*—Patent dated May 25, 1858.—The object of this invention is so to charge the generator

with the substances producing the carbonic acid gas that the gas shall be slowly and progressively evolved, and be passed into the fount gradually, in combination with a peculiar construction of apparatus, whereby a purifier is dispensed with.

Claim.—Inclosing the charge in a long fibrous case or bag A, when said case or bag is used in combination with a soda-water apparatus, constructed and operating as described.

No. 22,460.—Samuel T. Stratton, of Philadelphia, Pa.—*Improvement in Manufacture of Starch.*—Patent dated December 28, 1858.—This invention consists in steeping corn or other material, whole or crushed, in an alkaline or caustic alkaline liquor, at the strength of one or more degress alkaline hydrometer, and at a temperature of from seventy to one hundred and thirty degrees Fahrenheit.

Claim.—Steeping the material from which starch is extracted (either whole or crushed) in an alkaline or caustic alkaline liquor, of a suitable strength, and artificially heated to a temperature of from seventy to a hundred and thirty degrees Fahrenheit thermometer, as specified.

No. 20,966.—J. Von Schwarz, of Nuremberg, Bavaria.—*Improvement in Manufacture of Steatite Articles.*—Patent dated July 20, 1858.—The claim will explain the nature of this invention.

Claim.—Preparing gas burners or other articles of manufacture from the natural substance known as steatite, in such a manner as to give said articles an intense degree of hardness, and also a capacity to resist high temperature, substantially as set forth.

No. 22,126.—Louis Lefebvre, of New Orleans, Louisiana.—*Improvement in Furnaces for Evaporating Sugar Juices.*—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—In combination with the fluted outer surface of the kettle, forming the masonry constituting the opposite face of the flue with corresponding fluting or corrugations, so as to surround the kettle with an undulating passage for the products of combustion, substantially as and for the purposes set forth.

No. 22,307.—F. Roy, of Parish of St. Bernard, Louisiana.—*Improvement in Furnaces for Evaporating Sugar Juices.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim broadly and of itself the open setting of kettles.

But I do *claim* the setting of sugar kettles with the system of radial braces *i i*, so situated as to divide the space around the kettle into two apartments, communicating by the openings *o*, when these upper chambers communicate with each other and by flues X, with a common flue *g*, the whole operating substantially as and for the purpose set forth.

No. 19,515.—Honoré Roth, of Iberville Parish, Louisiana.—*Improvement in the Method of Setting Sugar Kettles.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Setting the kettles known as the "battery" and "flambeau" over separate furnaces, in communication respectively with the kettles denominated the "syrup" and "propee," and both communicating with the "grande," or first kettle of the series on opposite sides of a division wall reaching nearly to the bottom of said kettle, substantially as and for the purpose set forth.

No. 21,786.—J. C. Tucker and L. Lanzweert, of San Francisco, California.—*Improvement in the Manufacture of Sugar.*—Patent dated October 12, 1858.—The nature of this invention consists in clarifying with the hydrate of alumina in that particular state of precipitation, which state alone yields to animal coal its special properties, and which differs in effects from the precipitates obtained in the usual known manner.

The inventors say: We do not claim the hydrate of alumina as usually found in the trade, in nature, as claimed to be prepared dry by the Messrs. Oxyland, or precipitated by ammonia.

But we *claim*, in the process of decolorizing and defecating saccharine liquid and vegetable juices, the use and application in the manner described of hydrated alumina (cream of alumina) prepared as set forth.

No. 20,347.—Theodore A. Hoffmann, of Beardstown, Illinois.—*Improvements in the Manufacture of Dextrin and Sugar.*—Patent dated May 25, 1858.—The claim explains the nature of this invention.

The inventor says: I disclaim the separate action of steam and acids for converting starch, corn, or other grain into dextrin or sugar and alcohol therefrom, by the usual boiling point of one atmospherical pressure.

But I *claim* the combination of steam and acids for converting starch, corn, or other cereals into dextrin gum or sugar, when said grain is subjected to the action of diluted acids, and the temperature of the mass is elevated to 225° or 300° Fahrenheit.

No. 19,743.—C. E. Bertrand, of Williamsburg, N. Y.—*Improvement in Sugar-Mould Carriages.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The sugar mould carriage constructed and arranged to operate substantially in the manner described, that is to say, the platform in combination with stationary pins, supported by two wheels and a caster, the standard of which bears against and pivots in the upper or brace plate, the latter being composed of semi-circular arms, holding, in connexion with guard chains or bars, the conical moulds, in the manner and for the purposes set forth.

No. 20,655.—Alfred Monnier, of Camden, N. J.—*Improvement in treatment of Metallic Sulphurets.*—Patent dated June 22, 1858.—The substance mentioned in the claim is composed as follows: Pul-

verize the native sulphuret or arsenic-sulphuret of iron; and mix it thoroughly with 33 to 75 per cent. of its weight of either caustic soda, carbonate of soda, sulphuret of sodium, sulphate of soda, or with corresponding compounds of potash, sulphate of iron, sulphate of baryta, sulphate of strontia or zinc. To this compound water is added to keep it moist, and it is kept moist eight or ten days, when it is moulded into blocks; these blocks must be heated before use to expel the water.

Claim.—The process of obtaining oxides of iron, copper, cobalt, nickel, zinc, or other oxides, from their native sulphurets, or arsenic-sulphurets, by mixing them in a state of powder with the substance as described, in order to expel all or nearly all the sulphur and arsenic.

No. 19,991.—Isaac Gattman, of Philadelphia, Pa.—*Improvement in treatment of Sulphuretted Ores.*—Patent dated April 20, 1858.—The claim explains the nature of this invention.

The inventor says: I am aware that caustic carbonate and sulphate of potash or soda, have been used before in the working of the native metallic sulphurets, and I therefore do not claim their use as such exclusively.

But I *claim* the use of sulphuric acid in connexion with the hydrate, carbonate, or sulphate of potash or soda, or with any compound thereof, in the mode of working the native metallic sulphurets, substantially in the manner set forth and for the purpose specified.

No. 19,729.—Damon R. Averill, of Pulaski, N. Y., assignor to Himself and James F. Davis, of said Pulaski.—*Improvement in Composition for Varnishes.*—Patent dated March 23, 1858.—The claim will explain the nature of the composition.

Claim.—The described composition of matter, consisting of water and acetate of lead, with spirits of turpentine and coal tar, for the purpose of making a cheap, quickly drying, and superior varnish, substantially as set forth.

No. 21,284.—John Trageser, of New York, N. Y.—*Improvement in Apparatus attached to Steam Coils in Vats.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Providing ratchets *l l* on the peripheries of the couplings and palls *j j* attached to the stationary supply and escape pipes *a b*, to prevent the working loose of the coupled joints by the swinging of the coil.

No. 19,771.—Henry Hannen, of Dubuque, Iowa.—*Improvement in Apparatus for Manufacturing White-Lead.*—Patent dated March 30, 1858.—The nature of this invention will be understood from the claim and engravings.

Claim.—The pipe G, with its branch pipes J and stop cocks *n*, the pipes C and E, and the diffusing pipes B and *a*, and their respective stop cocks *s* and e^1, in combination with the valves or stoppers *g* and *l*, the whole being arranged and operated in the manner substantially as described, for the purpose of exposing the metal to the action of the different agents employed, alternately and successively.

No. 20,731.—Robert Rowland, of New York, N. Y.—*Improvement in Apparatus for Manufacturing White-Lead.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combined manufacture of vinegar and white-lead, and for the purpose of carrying on both simultaneously and without injury to the one or the other, namely, fitting the tops of vinegar vats D (when said vats are placed in a room below the corroding room) to the floor C of the corroding room, substantially as above described, in combination with covers E, provided with openings *a* and valves *d*, or any equivalent means for regulating the supply of acid, or altogether closing up the communication between the interior of the vats and the corroding room whenever necessary, all substantially as described and represented in the drawings.

No. 22,036.—Benjamin F. Smith, of New York, N. Y.—*Improvement in Manufacture of White-Lead.*—Patent dated November 9, 1858.—This improvement has for its object to prepare the metallic lead in a better form for the action of the acids and at the same time to simplify and expedite the process. The claim and engraving will give the reader an idea of the nature of this invention.

The inventor says: I *claim* preparing the metallic lead for the purposes of perfect corrosion, by exposure to the action of acids or other substances, in "spangles" of the size and configuration substantially as described.

I also claim preparing the metallic lead for the purposes of perfect corrosion by exposure to the action of acids or other substances, by causing melted lead to drop in a finely divided stream or streams upon a corrugated cylinder, or its equivalent, revolving or moving so as to throw off solid "spangles" of more or less the form and thickness described.

No. 21,915.—John Wilkins, of Troy, New York.—*Improvement in Apparatus for Cooling Worts.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is the cooling apparatus as described, with their metallic operating plate placed horizontally and fastened so as to be easily removed for the purpose of cleaning, together with the specific arrangement of ribs and joists, or their equivalents, operating as and for the purposes set forth.

Second. I claim the distributing and collecting troughs, with their respective ice water and waste water troughs at the ends of the operating plate.

Third. I claim the combination of the said parts, namely, the operating plate with its joists, ribs, modes of fastening, troughs at each end, and regulating valves as described, or of parts substantially the same, when they are employed as a cooling apparatus in the manner set forth.

V.—CALORIFICS.

No. 20,304.—Willard G. Ruggles, of Worcester, Mass.—*Improved apparatus for Baking and Cooking.*—Patent dated May 18, 1858.—Box A^1 is constructed of either cast or sheet metal, from half an inch to two inches deep, or more, according to the size of the oven to which it is to be applied, and about as wide and long as the oven that is to receive it. This box or flue A A^1 is to be furnished with partitions D, which may be varied in making the flue as may be found best calculated to spread the heated current to every part of the flue. In one side of the oven are formed openings E, furnished with slides or gates C to close them; these openings agree with the openings F left in the sides of the flues. G represents the opening between the top of the stove and top of the oven where the heated air &c., from the fire enters.

Claim.—I claim the arrangement of the flue or flues with the slides and openings, when constructed as described.

No. 19,636.—Joseph Hollely, of New York, N. Y.—*Improvement in Blow-Pipes.*—Patent dated March 16, 1858.—The boiler or generator B is placed on the frame A, so as to admit the application of a lamp C beneath it, for the purpose of heating the liquid therein, in order to produce the steam. On another part of the stand another lamp D is so situated as to receive the jets of steam through its flame to create the necessary heat. To insure safety and the desired variation of pressure, a safety valve E is required to be attached to the boiler.

The inventor says: I disclaim all arrangements of blow-pipes substantially different from that above described.

But I *claim* a blow-pipe provided with a faucet I, spigot L, and jet pipes M N, constructed and arranged as described, in connexion with safety valve E, arranged and operating in the manner set forth for the purposes specified.

No. 20,546.—C. S. Buchanan, of Ballston, N. Y.—*Improvement in the mode of Heating Rotary Boilers.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* combining and surrounding a cylindrical boiler made to revolve upon its axis, with one or more stationary envelopes, made of fire brick or any other equivalent material, arranged at such distance from said boiler, as to allow the fire and other products of combustion to pass around the boiler, in the manner and for the purposes specified.

I also claim arranging the stationary envelopes around a rotary boiler, in such a manner as to leave both the ends and the middle of the said boiler uncovered, for the respective purposes of protecting the journals at the ends of the boiler from heating, and of allowing access to the man-hole as specified.

Also, in combination with a boiler constructed and operating in the manner described, I claim two furnaces arranged as described symmetrically in relation to the boiler, whereby the heating of said boiler can be effected in a more economical and uniform manner.

No. 21,085.—William Resor, of Cincinnati, Ohio.—*Combined Broiling Furnace and Cooking Stoves.*—Patent dated August 3, 1858. The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the described arrangement of the grates A and B, passages C F G, and damper *c*, or their equivalents, operating as set forth, to temporarily connect the charcoal grate with the main fire so as to ignite its contents and afterwards disconnect them so as to burn independently.

No. 21,297.—H. W. Harkness and William A. Terry, of Bristol, Connecticut, assignors to Themselves and Joseph Sigourney, of said Bristol.—*Improved Apparatus for Broiling, Toasting, &c.*—Patent dated August 24, 1858.—The nature of this invention consists in constructing a rotary support to hold meat, bread, &c., operated by mechanical movements, so as to continually revolve or change the surface before the fire.

Claim.—The above described broiling and toasting apparatus, consisting of case C, clock movements D, arms B, spindle A, and pins *c*, arranged and operating substantially in the manner and for the purpose set forth.

No. 20,305.—Charles W. Smith, of Evans, New York.—*Improved Devices for Regulating by Electricity the Issue of Gas from Burners.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I wish it to be understood that I do not claim the use of the attraction and repulsion of temporary and permanent magnets, to obtain an increased force for actuating the supply cock.

Neither do I claim the use of a pawl or ratchet, or their equivalents, for the purpose of controlling the supply of gas, and consequently the size of the flame.

But I *claim* the combination and use of a permanent and temporary magnet, or of two temporary magnets, one fixed and one vibrating, with a pawl and ratchet, situated substantially as described upon the supply cock of a gas burner or series of burners.

I claim also the use of a thin slip of metal, or its equivalent, to deflect a portion of the jet of gas upon an ignited platina coil, situated entirely without the jet, as described.

No. 21,893.—Alonzo M. Mace, of Springfield, Massachusetts.—*Improved Hydro-Carbon Vapor Burner.*—Patent dated October 26, 1858.—The nature of this invention consists in providing siphon-shaped vaporizing tubes with a chamber connected and communicating with the upper part of the tube and over the flame of a burner, the heat of which produces the evaporation.

Claim.—The use of the chamber A connected with vaporizing tubes

at the crown or upper part over the flame, the same being constructed substantially in the manner and for the purpose set forth.

No. 20,558.—Levi L. Hill, of Greenport, New York.—*Improvement in Manufacture of Burning Fluids.*—Patent dated June 15, 1858.—A full description of the compounds would require too much space to be given here.

The inventor says: I do not claim the mere mixture of tar and crude turpentine, nor the above method of making caoutchousine, nor any peculiarity in the form of my apparatus.

Neither do I claim the use of benzole or naphtha for carbonizing air or gas; for benzole alone, and benzole mixed with alcohol, has been used for air, and naphtha for gas.

But I *claim* first, the use of caoutchousine for imparting greater volatility, as well as greater stability, to my compounds.

I wish to be distinctly understood as claiming the use of caoutchousine only in combination with the liquids described.

Second, I claim the liquids described as neubian oils A B C D, having the composition and properties set forth, to be used singly or in such relative proportions and admixtures as may appear necessary to accomplish the purposes set forth.

No. 21,987.—Samuel Slocomb, of Cambridge, Massachusetts.—*Improvement in Candlesticks, &c.*—Patent dated November 2, 1858.—From the socket A descends a metal rod D which passes through the shank and into the base, being secured into the latter by a washer *f* and nut *g*.

Claim.—As a new article of manufacture, a lamp stand having a metal socket, a glass shank, and a marble base, the whole being secured together by the rod D, as set forth.

No. 21,884.—Bernhard Kihlholz, of St. Louis, Missouri.—*Improvement in Chimney Caps.*—Patent dated October 26, 1858.—The inventor says: This machine prevents the wind from blowing the smoke back into chimneys and rooms. The cylinder shelters the cap and flange, and the smoke-pipe is again sheltered by the cap above and by the flange below, so that the wind will pass the so protected smoke-pipe without being able to penetrate into the interior and drive the smoke down the chimney. The cap being smaller than the flange, the wind will on the contrary promote the discharge of the smoke.

Claim.—The above described chimney smoke-regulator, consisting of the pipe F, deflector E, and cap D enclosed in cylinder C attached to cover A, the whole constructed and arranged substantially as and for the purposes set forth.

No. 22,112.—Charles Douglas, of Cleveland, Ohio.—*Improvement in Chimney Caps.*—Patent dated November 23, 1858.—A A A B is a frame of sheet iron, in the base of which there is an opening W, equal in size to the flue of the chimney on which it is to be placed. *c c* are valves hung on pivots *a*, at each end. D is a cap suspended on pivots *b*, attached to each end of which there is a hanger *d*. The tops of the valves *c c* are linked to the hangers *d* with wires *e e*, in such a manner that when the valves move to the right or left the cap D is caused to rock over to the right or left.

Claim.—The frame A A A B, the valves C C, and the plan of linking the valves and cap together to give them their proper relative positions; all substantially as described, and for the purposes set forth.

No. 21,115.—Frederick M. Butler, of New York, N. Y.—*Improved Wind Guard for Chimneys.*—Patent dated August 10, 1858.—This invention consists in the combination of a peculiar hood *f* with radial guards *d*, and an inner disk *e* with or without a flange, around the flue *a* to be ventilated, in such a manner that there is always more space for the escape of gases than there is for the ingress of wind or currents of air, no matter in what direction said air may strike the guard or cap.

The inventor says: I do not limit myself to the size or shape of my wind guard, whether round or polygonal, although I prefer the former or an oval.

What I *claim* is, the arrangement of the pipe *b*, radial guard *d*, inner disk *e*, and hood *f*, when in substantially the proportions and for the purposes specified.

No. 20, 662.—Levi H. Proctor, of East Saugus, Mass.—*Improved Apparatus for Sifting Coal-Ashes, &c.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the application of the sieve C to its vibrating frame in manner so as to enable such sieve to be tilted or turned over laterally, so as to discharge out of it such contents or matters as may not be small enough to pass through its meshes.

But I *claim* the arrangement of the inclined partition or chute R, and the two discharging openings K L, with respect to the sieve C, made capable of being revolved in manner substantially as set forth.

I also claim in combination with the discharging passages K L, arranged so as to lead out of the sieve chamber as described, a flap or valve M, so combined or connected with the turning sieve C as to operate with respect to the two discharging passages K L substantially as described, during the rotary or tilting movements of the sieve.

No. 19,481.—Aquila Bolton, of Port Carbon, Pa.—*Improvement in Machines for Breaking Coal.*—Patent dated March 2, 1858.—This invention consists in breaking coal and discharging it as fast as broken, by means of the combined action of a shaft or roller B, armed with teeth or cutters *d d*, and revolving in one direction, and a perforated hollow conical cylinder C, furnished with vertical slotted ribs or partitions *e e e e*, and revolving in an opposite direction to that of the shaft or roller B. This arrangement avoids grinding or crushing the coal as in other machines which have one breaking surface stationary and the other moving.

Claim.—The arrangement shown, consisting of the perforated, internally ribbed or toothed conical chamber C *e*, C^{1} *e*^{1}, revolving in one

direction, and the toothed shaft or roller B *d*, revolving in an opposite direction, for the purpose of breaking coal, as specified.

No. 19,429.—JOHN H. LYON, of Baltimore, Md.—*Improvement in Machines for Splitting Coal.*—Patent dated February 23, 1858.—The manner of operating this machine is as follows: Power is applied to the shaft B, and communicated to the operative parts by means of the lever C, which meshes into bevelled gearing on cam D. This cam is loose on rod F, and revolves upon it. As it revolves, it forces cam E to rise when cam E falls, and with it rod F and pick stock G, giving the required blow. The coal to be broken is fed on to the endless belt K, and supported above its surface by the spikes H^2.

Claim.—The arrangement for joint operation, in the manner and for the purposes described, of the spiked endless belt K and the picks H H^1, driven by percussion, substantially as specified.

No. 21,559.—JOSEPH P. EVANS, of Borough of Hazleton, Pennsylvania.—*Improvement in Machines for Washing Coal.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First. I *claim* forming a series of slits D^1 at the lower end of the corrugations C^2, next to the triangular openings C^3, so as to enable the thin pieces of slate to discharge themselves automatically through them, substantially as described.

Second. I claim the combination and arrangement of a tappet or tappets E^1 with and in the relation to the corrugated bottom C^2 of the chutes C and the slits D^1, and triangular openings C^3, at the lower ends of the same, over which they are suspended, as set forth; the said tappet or tappets being provided with adjustable weights G to regulate their resistance to the coal, substantially in the manner and for the purpose before described.

Third. I claim the arrangement of the upright pipe N and right angled perforated pipe P, at its lower end, in relation to the corrugated bottoms of the chutes described; said perforations being formed on the lower portion of its periphery, as stated, for subjecting the coal to a thorough washing in its descent, as set forth.

No. 19,175.—GEORGE E. HOYT and FREDERICK NISHWITZ, of Brooklyn, New York, assignors to GEORGE E. HOYT aforesaid.—*Improvement in Coal Screens.*—Patent dated January 19, 1858.—The coal to be screened and separated by this invention is placed upon the upper screen C, and a vibratory motion, lateral or otherwise, is imparted to the box A.

The upper screen C contains the lump coal, which is conveyed by its spout G into a proper receptacle, while the smaller coal and dust pass through the screen C and fall upon the screen D and dust screen *b*, a portion of the dust and fine matter passing through the dust screen to the ground.

The screen D retains and delivers the next size to "lump," known as the "egg" coal. The next screen contains the "nut," and its successor the "chestnut" size, while the lowest fire screen contains the "pea" size.

The inventors say: We do not claim any form of rotating coal screen, neither do we claim any arrangement which requires the dust to pass through a succession of screens before being finally separated from the coal.

But we *claim* preventing the dust and dirt which have been once separated from the coal from again mingling with it, by means of the arrangement before described of the inclined screens C D E F, in combination with the dust sieves *b*; the whole constructed, arranged, and operating substantially in the manner set forth, and applied to the purposes specified.

No. 20,000.—ARCHIBALD MCNEILL, of Washington, D. C.—*Improved Combined Coal-Scuttle and Ash-Sifter.*—Patent dated April 20, 1858.—This invention consists in so constructing a coal scuttle that it can be converted into and used as a sifter of coal cinders and an ash pan.

The inventor says: I do not claim any of the parts described, separately.

But I *claim* a coal scuttle A provided with the extended scoop-shaped piece D, slide C, screen E, and cover G, all arranged and operating substantially and for the purpose as set forth and described.

No. 19,768.—T. GARRETSON, of Pottsville, Pennsylvania.—*Improvement in Machines for Slating Coal.*—Patent dated March 30, 1858.—This improvement consists in a certain construction of the sides of a rotary screen, and of the openings in these sides, which encourages and permits the escape through these openings of pieces of thin flat form, like the pieces of slate in broken coal.

Claim.—The construction of the sides of the screen and the openings *a a* therein, substantially as described, to bring the said openings outside of the guard bars B B, and give to the said openings a tangential direction and to form tangential or nearly tangential conductors C C, leading to the said openings, as set forth.

No. 19,249.—JAMES HOW and CHARLES W. COPELAND, of Brooklyn, New York.—*Improvement in Damper Regulators.*—Patent dated February 2, 1858.—The inventors say: We are aware of the facts that elastic diaphragms, properly connected, have been used as dampers for regulators; that an elastic metallic vessel, of peculiar formation, has been employed for the same purpose; and also that a bent highly elastic metallic tube has been and now is used as a steam-gauge, but in that instance the pressure does not alter the cross-section of the tube, but the degree of curvature in the length of the tube. And we also know that it has been proposed to employ a coil of tube as a gasket for a stuffing-box packing, such a tube being distended by fluid pressure. We therefore lay no claim to any such contrivances.

But we *claim* a flexible or flexible and elastic tube, closed at both ends, and in connexion with a steam generator, in combination with a presser-block and a bed-plate, constructed as a whole, substantially

in the manner specified, and applied to regulate the quantity of air delivered to a furnace, or as a pressure-indicator.

No. 22,144.—Charles A. Haskins and George Macardle, of New York, N. Y., assignors to Joshua A. French and Eliza C. Tyrrell, of Jersey City, New Jersey.—*Improvement in Grain and Fruit Dryers*.—Patent dated November 23, 1858.—The nature of this invention consists in the travelling-pipes, with adjustable connecting drums, through which the hot air is compressed and distributed over and through the grain or other substances; also the carriage and seats upon which the adjustable drums are supported, raised, and carried.

Claim.—The travelling-pipes and adjustable drums, and the form of the drums through which the hot air is compressed and distributed over and through the material to be dried. Also, the carriage and seats upon which the drums are adjusted, supported, raised, and carried, in combination with the pipe-journal H, gear-wheel O, and chamber G, substantially as described.

No. 19,358.—Jacob J. Folts, of Buffalo, New York.—*Improved Fire-Box and Grate*.—Patent dated February 16, 1858.—In figs. 1 and 2, A represents a cylinder with open ends, with a flange *a* turned on its inner perimeter at both ends of the cylinder; B are supports upon which the journals *b b* of an elliptical-shaped fire-box C rest and turn; the crank D is connected to one of the journals for this purpose; *d d*, &c., are the grate-bars, which are of a curved form, so that the flanges *c c* on the fire-box shall turn in close proximity to it.

The inventor says: I am aware that cylinders with grates attached to their ends, and revolving basket-grates, have been used. These I do not claim.

But I *claim* a revolving or turning fire-box, which is open at its opposite sides or ends, when used in combination with a fixed grate, substantially in the manner described and represented.

No. 22,162.—Lysander Button and Robert Blake, of Waterford, New York.—*Improvement in Fire-Engines*.—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: What we *claim* as our improvements in fire-engines is placing the cylinders diagonally to the line of the rock-shaft, substantially in the manner and for the purposes set forth.

We do not claim contracting the air vessel at its base, or its point of attachment to the water-ways or channels of fire-engines.

But we do claim combining with horizontal water-way or channel *i* the air-chamber *d*, divided into two compartments by the contraction *r*, at or about one-half the height of said air-chamber above its base or point of attachment to said water-way, substantially in the manner and for the purposes set forth.

We claim, in combination with the hour-glass contraction of the air-chamber, the ring enlargement *s* of the rock-shaft, as set forth.

No. 20,867.—John N. Dennison, of Newark, New Jersey.—*Improvement in Force-Pumps for Fire-Engines*.—Patent dated July 13, 1858.—The nature of this invention consists in giving greater efficiency to the engine by increasing its capacity near the end of the stroke of the arms.

A is the pump-cylinder; B the main piston; C is an additional ring-piston, operating in the enlarged end of cylinder A; *e e e e* are spiral springs under the piston C; *f* is the bed-plate; *g* the valve; *h* a port; and *o* an air-barrel.

Claim.—Increasing the capacity of the pumps of fire-engines near the end of the stroke, by the expedients described, or their equivalents.

No. 20,875.—Joseph H. Grimsley, of New Lexington, Ohio.—*Improvement in Fire-Escape Ladders*.—Patent dated July 13, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the wheels turning on the axles at the ends of the wings or steps, for the purpose set forth, of providing a space between the ladder and wall for the feet and hands of the individual when descending, to enable and aid the ladder to reach the ground; said wheels being placed at the axle at the ends of the rungs, especially for this important purpose and object, viz: that with the wheels so placed, it is of no consequence or difference which side of the ladder is uppermost when thrown out, making no difference which side of the same rests against the wall.

Also the strap which, placed substantially as set forth, combined with a ladder of the necessary strength and weight as small, enables a person of ordinary strength to rescue the aged, infirm, young, and those too timid to descend alone, by lowering them to the ground by the hand.

No. 22,324.—John Withers, of Collinsville, Ill.—*Fire-Escape Ladder*.—Patent dated December 14, 1858.—The nature of this invention consists in combining a fire "shoot" with a pair of folding ladders and a yielding bed or bottom, and in mounting the said combination upon a pair of wheels whereby the said machine may be transported, and also in so arranging the said ladders that they may be unfolded and placed against the side of a burning building for the escape of the inhabitants.

The inventor says: I *claim*, first, the combination of the canvas bag or shoot K with the ladder A, in the manner described, for the purpose specified.

Second. The combination of a bed J and its frame, as shown and described, arranged to open and close, as set forth.

Third. The arrangement of the two ladders A and B with each other in the manner set forth, and also the means of adjusting the ladder B, substantially in the manner described.

No. 21,094.—William R. Warden, of Boston, Mass.—*Improvement in Fire Places*.—Patent dated August 3, 1858.—The nature of this invention consists in inserting and securing in fire places a metallic

frame D, within which is placed a vertical plate F, perforated for the reception of the stove pipe, and capable of being raised and lowered to accommodate the opening to the stove pipe in such a manner as to form an ornamental front, which shall entirely close the fire place and be capable of easy attachment and detachment.

Claim.—The combination and arrangement of the ornamental metallic frame D and vertical slide F, containing smoke pipe opening within the fire-place, in the manner and for the purpose described.

No. 22,410.—William A. Bradley and Jacob Bigelow, of Washington, D. C.—*Improvement in Manufacture of Artificial Fuel.*—Patent dated December 28, 1858.—The nature of this invention consists in pulverizing the crude coal as it comes from the mines and mixing it with certain substances named in the specification, and then compressing it into blocks for use as fuel.

When the coal is so pulverized by any suitable powerful machine, it is placed in vats or pans of fire-proof material and heated to a sufficient degree, when it is mixed with certain inflammable material, which is varied according to the character of the coal used.

Claim.—The manufacture of artificial coal made from refuse bituminous coal, anthracite, or charcoal, as set forth, combined with the substances described, the whole made in the manner and for the purposes set forth.

No. 19,942.—James McCracken, of Bloomfield, N. J.—*Improvement in Furnaces.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the employment of hollow grate-bars for the passage of air through them, as such have before been known and used.

Nor do I claim supplying air to the gaseous products of combustion, for the combustion of the inflammable gases evolved from the fuel.

Nor do I claim the heating of the air to be supplied to the inflammable gases.

Nor, finally, do I claim the use of a shield plate to protect the bottom of the boiler and prevent it from being overheated; as all these have long been known.

But I *claim* the employment of hollow grate-bars in combination with a closed ash pit, in the manner substantially as herein described, so that the air which passes through the said grate-bars shall be discharged into the ash-pit, and thence pass up between the said grate-bars to supply the blast or draught to the fire on the grate-bars as set forth.

I also claim the use of tubular bearers for supplying heated air to the inflammable gases at or near the fire bridge, substantially as described, in connexion with a shield plate, substantially as described, and interposed between the fire and boiler or other body to be heated, constructed and arranged as specified, to maintain the inflammable gases at a high temperature until after they are supplied with heated air for their ignition as described.

No. 20,836.—B. H. Washington, of Hannibal, Missouri.—*Improvement in Furnaces.*—Patent dated July 6, 1858.—This invention consists in using, in connexion with the two cones E E, what may be termed air conductors F F, placed within the furnace below the grate B, and so arranged as to diffuse the air equally over the surface of the grate, causing a more perfect combustion of the fuel with a milder flame than usual.

The inventor says: I do not claim the cones or funnels E E; for they have been previously used, and were formerly patented by me.

But I *claim* the air conductors F F placed below the grate bars B, constructed as shown, and used in connexion with the cones or funnels E E, substantially as and for the purpose set forth.

No. 19,781.—T. Dwight Ingersoll, of Monroe, Michigan.—*Improvement in Air-Heating Furnaces.*—Patent dated March 30, 1858.—This invention consists in arranging the radiators B and dampers H I of a furnace in such a way that the dampers may be made to perform the double function of dampers and scrapers, and the radiators thereby kept clean.

Claim.—Constructing the radiator B, and arranging the dampers H I within it, substantially as shown, so that the dampers may perform the double function of dampers and scrapers, as set forth.

No. 20,640.—John P. Hayes, of Philadelphia, Pennsylvania.—*Improvement in Air-Heating Furnaces.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: First, I *claim* admitting hot air to the upper surface of the fire for the combustion of the gases arising therefrom, by making the fire tiles or lining of the fire chamber in numerous vertical sections, with the depressions *u y* in the adjoining sides of the same, so that when the said sections are placed together side by side in the fire chamber, air spaces or flues *u y* will be produced between, so as to heat and discharge currents of air into the upper part of the fire chamber in the manner described, the said sections being constructed and arranged together substantially as set forth.

Second, I claim making a direct communication between the said air flues *u y* and the ash pit D, by means of the openings *w w*, or their equivalents, in the foundation plate upon which they rest, substantially as described.

Third, I claim forming the top and side plates of the furnace body A so that each of its said two top and side plates *l* and *l*^{1} may be combined with a row of pipes *m m*, opening at each of their ends, upon the same side of the plate, as described, and produce hot air flues *m m* through the body A of the furnace, when the said plates are united together at their upper edges, all substantially as and for the purposes set forth and described.

No. 22,353.—Felix Daunoy, of Carrollton, Louisiana.—*Improvement in Bagasse Furnaces.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of bagasse furnaces having the exit flue

F located in the interior of the furnace with the openings K to admit the gas from combustion, when in combination with the wood or coal chamber having a skeleton crown, and the grates B on which the bagasse is consumed, when made and arranged substantially as and for the purpose set forth.

No. 22,382.—Evan Skelly, of Plaquemine, Louisiana.—*Improvement in Boiler Furnaces.*—Patent dated December 21, 1858.—The operation of this improved furnace is as follows: The flame and heated gaseous products of combustion escaping from the fire chamber into the flue H under the boilers, the greater portion of them are caused by the arrangement of the bridges F F and G G to have a tendency to escape in the circuitous direction indicated by the arrows, through the passages *c c;* and the different currents thus produced, meeting other, cause a circulation under every part of the boiler, while the whole of the gaseous products of combustion pass steadily toward the rear end of the flue, whence they pass into the chimney.

Claim.—The combination and arrangement of the gradually contracted fire chamber C with the bridges F F G G, as shown and described, for the purposes set forth.

No. 20,591.—Evan Skelly, of Plaquemine, Louisiana.—*Improvement in Furnaces for Burning Bagasse, &c.*—Patent dated June 15, 1858.—This invention consists in a certain construction of the furnace and arrangement of air passages *c d d*^{1} *e* for heating and supplying air to the fire, whereby a very perfect combustion of the small or refuse fuel is obtained with the use of a small quantity of wood.

Claim.—The angular internal projections *a a*, central cone *b*, and air passages *c d d*^{1} *e f g*, combined and arranged substantially as described to operate as set forth.

No. 22,067.—G. B. Deppen and E. Levengood, of Myerstown, Pennsylvania.—*Furnace for Burning Coal Dust.*—Patent dated November 16, 1858.—The nature of this invention consists in the manner in which the several parts of the furnace are arranged and combined, so as to adapt it to the successful and economical burning of coal dust.

Claim.—In combination with a fan-blower to promote combustion, the arrangement of the fire chamber, ash-box, perforated plates, combustion and exit chambers, communicating with each other and with the air trunk leading from the fan-blower, substantially in the manner and for the purposes described.

No. 22,424.—Thomas R. Hartell, of Philadelphia.—*Improvement in Furnaces for Burning Lime.*—Patent dated December 28, 1858.—This invention consists in forming the bed of a reverberatory furnace of a series of fire-proof platforms, the projecting edges of which fit into recesses in the side walls, for the purpose of cutting off all communication between the cold air of the lower part of the furnace and heated air in the upper portion of the same.

Claim.—Providing a recess in the side walls in which a corresponding projecting edge of the fire-proof travelling platform fits, in

the manner described, for the purpose of cutting off all communication between the heated upper chamber and the cool lower chamber, at the same time presenting no obstruction to the forward movement of the truck and platform.

No. 21,724.—John Plant, of Washington, D. C., assignor to Himself and George H. Plant, of said Washington.—*Improvement in Furnaces for Heating Buildings.*—Patent dated October 5, 1858.—The inventor says: The nature of my invention consists in the manner in which I have arranged and combined the flue passages with the fire box, for the purpose of causing the heated products of combustion to commingle or pass through different portions of the flue space, and thus uniformly heat the surrounding air in the air chamber; and, as incidental to this arrangement, the greatly increasing of the radiating surface of the furnace.

Claim.—The mixing of all the heated products of combustion both below and above the fire cylinder by an arrangement of diving and ascending flues leading into common chambers, where they cross each other, and are forced to commingle substantially as described and represented.

No. 20,616.—Gideon Bantz, of Frederick, Maryland.—*Improvement in Furnaces for Heating Steam Boilers, &c.*—Patent dated June 22, 1858.—This invention consists, 1st. In two or more arched fire chambers A A, with throats *e*, of less area than their capacity. 2d. An auxiliary combustion reservoir or chamber C, with *cima reversa* shaped bottom and side draught door. 3d. A series of reverberatory chambers D D, with side draught doors *h*, and passages at top for communicating with each other, and a diving or direct flue leading into the chimney or smoke stack.

Claim.—The arrangement of the fire chambers A A, contracted throats *e e*, auxiliary combustion reservoir C, provided with a *cima reversa* bridge plate *m n*, and door *h*^{1}, reverberatory chambers D D, with doors *h h*, and the diving or direct flue E, substantially as and for the purposes set forth.

No. 19,277.—O. W. Bayley, of Boston, Mass., assignor to the Boston Locomotive Works.—*Improvement in Furnaces for Locomotives.*—Patent dated February 2, 1858.—In describing his improvement the inventor says: I construct my boiler with a tight water space bottom A, in the centre of which is inserted a water space cone B, through which pass a number of tubular passages *a*, for the admission of the draught to the fire box. That there may be a circulation through the cone B, to prevent the accumulation of steam therein and its consequent destruction, its apex is continued up to the crown sheet by means of the tube C, which is secured to the crown sheet L, and opens at the bottom into the interior of the cone, and at the top into the upper part of the boiler.

Claim.—The water space perforated cone, as connected with the crown sheet, and in connexion with a tight furnace bottom, operating in the manner substantially as set forth.

No. 20,926.—Joseph Wharton, of Philadelphia, Pa., and Nathan Bartlett, of Bethlehem, Pa., assignors to Joseph Wharton, of Philadelphia, aforesaid.—*Improvement in Furnaces for Manufacturing Oxide of Zinc.*—Patent dated July 13, 1858.—This invention consists in an improved arrangement and construction of furnaces for the manufacture of white oxide of zinc, for the purpose of attaining an increased economy in the process and purity in the results.

The inventor says: I *claim*, first, the construction and arrangement of the furnaces of double the usual length, without any separating end wall, and with a charging door to each extremity, in the manner and for the purposes set forth.

Second. The construction and combined arrangement of the conduit L L^1, the damper or valves *d* and e^1, and the chimneys *g g g*, in the manner and for the purposes substantially as set forth.

Third. The series of tweers, opening into the conduit L L, arranged and operating as described.

No. 22,257.—William McFarland, of St. Louis, Missouri.—*Improvement in Furnace for Melting Iron.*—Patent dated December 7, 1858.—The object of this invention is to prevent the collecting of the melted metal in the bottom of the furnace, and thereby keep the furnace free and in good melting order. It consists in attaching a reservoir to the surface to extend below the level of the bottom for the purpose of receiving the metal as fast as it is melted.

Claim.—The combination of a reservoir A with a cupola furnace B, so as to collect the metal as fast as melted, substantially as and for the purposes set forth.

No. 21,828.—Perry G. Gardiner, of New York, N. Y.—*Improvement in Furnaces for Tempering Steel.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the heating of steel for the purposes of preparation for hardening, tempering, or annealing in a closed chamber or oven of fire-brick, or other suitable material, impervious to the flame, smoke, and gases of combustion; the smoke, flame, and gases of combustion being distributed over the exterior surface of the floor, roof, and rear of the heating oven, by means of vertical and return or reverberatory flues between the fire chamber and chimney, as described

Second. I claim the perforated air tube *b*, placed at the foot of the vertical descending flues on the side of the bridge wall opposite the fire place, in combination with the fire chamber and flues, and between the fire chamber and oven, operating in the manner set forth.

No. 22,041.—Joseph Thomas, of New York, N. Y.—*Improved Furnace for Tempering Steel.*—Patent dated November 9, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* arranging a plate B in an upright furnace, with a central passage *a* in such a manner and in such relation to a tank D containing water or other suitable liquid, that a piece of steel wire or a strip of sheet-steel may be heated and hardened without coming in immediate contact with the fire, by passing the same through the passage *a* and through the liquid contained in the tank D, the whole being arranged substantially as specified.

And I also claim arranging the two furnaces A and E and the tank D in such relation to each other that a piece of sheet wire or a strip of sheet steel may be hardened and tempered by one operation, by passing the same through the plate B in the furnace A, and through the liquid contained in the tank, and from thence between the plates F and G, which are heated by the fire in the furnace E, the whole being arranged and constructed substantially as described.

No. 20,316.—Albert J. Allen & William S. Hudson, of Paterson, N. J.—*Improvement in Furnace Grates.*—Patent dated May 25, 1858.—This invention consists in a certain mode of applying the bars C C of a furnace grate to provide for a limited upward and downward movement thereof, in which each bar ascends as the next one on either side of it descends, and *vice versa*, which movement serves to break up the "clinkers," or other foreign or residuary matters that collect upon the grate and tend to choke the draught between the bars, and to cause such matters to work down between the bars into the ash pit more effectually than by any other movement of the grate, and also serves to effect the even distribution of the fuel over the grate.

Claim.—The combination together of the vertically moving furnace bars C, furnished with projections *l*, when arranged and operating substantially as shown and described.

No. 19,239.—George Darby, of Augusta, Me.—*Improvement in Hot-Air Furnaces.*—Patent dated February 2, 1858.—A represents the furnace constructed with a single fire-chamber. B C is the fire-grate, D the chimney flue, and D^1 the damper of the same. E is the cold air pipe; it communicates by its front end, which passes through the front of the furnace, with the open atmosphere, and by its rear end, which is bent up at right angles, with the draught or pipe flue D. H H are two deflecting radiating plates, connected together by vertical bolts so as to stand one above the other and leave an open space between them for the flame and heated gases to circulate through, and escape into the cold air auxiliary flue.

Claim.—The combination of a hollow cold air auxiliary draft-flue E, two deflecting radiating plates H H, and a pivoted perforated damper D^1, all arranged and operating substantially as and for the purposes set forth.

No 19,683.—John Child, of Elyria, Ohio.—*Improvement in Hot-Air Furnaces.*—Patent dated March 23, 1858.—The nature of this invention consists in so constructing the stove for a furnace heated by wood that boiler iron shall be sufficiently stiff for the purpose, and so dividing the large chamber around the stove into air passages and chambers as to more thoroughly heat the air and increase the current and quantity passing through the furnace.

The inventor says: I do not claim the gradual heating of air in its approach to the fire chamber of a furnace.

But I *claim* the arrangement whereby I effect the gradual heating and an active circulation of air by the arrangement of the horizontal prolonged passage A B and C D, surrounding the fire chamber and the rarefying chambers E E and F above the fire chamber, constructed and operating as set forth.

No. 20,454.—Jacob Stuber & Frederick Frank, of Utica, N. Y.—*Improvement in Hot-Air Furnaces.*—Patent dated June 1, 1858.—The nature of this invention consists of separate and distinct radiators B, communicating with the air chamber G, and which radiators may be made of cast or wrought iron; each radiator acting independent and giving out as much heat as a stove of the same capacity.

Claim.—The arrangement of radiators B, constructed as described, connected at the lower end with the chamber G, and by the pipes C with the perforated plate F, and the cleaning box D with funnel *e*, all constructed and operating substantially as set forth.

No. 22,173.—John R. Fergusson, of Brooklyn, New York.—*Improvement in Hot-Air Furnaces.*—Patent dated November 30, 1858.—A is the boxing under the floor plate; B is the fire-door and boxing of same; C C is the lower part of the register pipes; *c c* shows the tooth-points to same; D shows the gas-tight joint; E is the partition and second division plate; *f* denotes the flanges; G the small cones; *g* the bands around the cones upon which the flanges *f* are put; H the smoke-chamber; *h* the descending smoke-pipe; h^1 draughter to smoke-chamber; I fire-box and grate; *i* smoke-pipe; J partition around fire-box; K cold air descending-pipe; L water-pan; *l* openings in same; M air chamber around fire box; N inside cylinder; O outside cylinder; *o* openings between cylinders for air to descend; P volatile liquid box; *a* end of smoke-pipe with cover; *b* pipe to lead off volatile liquid; *d* pipe to lead off volatile liquid from smoke chamber; Q ash-drawer; *e* openings in same; R outside partition; *r* openings in same; S supply water-pipe; *s* ball and faucet attached to same; T shows line of first division plate; *x* are standards, with screws and nuts *z*.

Claim.—The combination and arrangement of the various parts as described, for the purposes specified; also, the evaporation-pan L in the hot-air chamber of the furnace, when made adjustable vertically, for the purposes specified and set forth.

No. 19,502.—James W. Geddes, of Baltimore, Maryland.—*Improvement in Registers for Hot-Air Furnaces.*—Patent dated March 2, 1858.—This invention consists in a peculiar construction of the hot-air registers of furnaces for warming buildings, for the purpose of protecting the building from fire. A represents the floor of an apartment into which the hot air from the furnace is conducted through the flue B and register D. The register is set in a cap E of soapstone or other equivalent non-conducting incombustible material. This cap is penetrated freely with numerous vertical passages F, which communicate with the open or ventilated casements H. These casements are made of bright tinned iron, and their floor K is perforated similarly to the cap E.

The inventor says: I am aware that it is a common practice to surround stove-pipes, where they pass through the walls and floors of buildings, with collars in "flue pots" of earthenware, and also with metallic jackets, and I lay no claim to such devices.

But I *claim* the mode set forth of constructing the fire-proof settings for registers for hot-air furnaces, the same consisting in the employment of one or more ventilated casements surrounded by a perforated cap of non-conducting incombustible material, as described.

I also claim the flaring tubular terminations F^1 of the passages H, for the purposes set forth.

No. 19,678.—Ebenezer Barrows, jr., of Brooklyn, New York.—*Improved Self-adjusting Damper for Hot-Air Furnaces.*—Patent dated March 23, 1858.—This invention consists in placing in the lower part of each hot-air conducting pipe C a valve or damper F, hung on an axis in nearly an equilibrated state, so that when the register of the pipes is closed, and the draught through them consequently stopped, the dampers will close by their own gravity and shut off the pipes from the air-heating chamber.

The inventor says: I do not claim broadly the employment or use of valves or dampers placed in the hot-air conducting pipes of air-heating furnaces, for they have been used for similar or analogous purposes.

But I *claim* placing the valve or damper F in the lower part of the hot-air conducting pipe C, when said valve is so hung or arranged to operate as and for the purpose shown and described.

No. 21,644.—James Alcorn, jr., of Charlestown, Massachusetts.—*Improvement in Steam Boiler Furnaces.*—Patent dated October 5, 1858.—This invention consists in a novel arrangement of passages for the purpose of causing the return from the back part of the furnace and from the lower part of the smoke-stack to the ash-pit of considerable portions of the smoke and inflammable matters escaping from the fire-box, and the consumption of these matters, by causing them to pass through the fire on the grate, with the fresh air admitted to produce the combustion of the fuel on the grate.

The inventor says: I do not claim returning a portion of the gaseous products of combustion to the fire.

But I *claim*, first, the arrangement of the chambers C^1 C^2 C^3, with their respective passages I C^4 C^4 I^1 I^1 communicating with the smoke-stack, and the passages T G G and the chamber B communicating with the ash-pit, substantially as and for the purpose set forth.

Second. The arrangement of the cone-pipe D, with its deflecting cover V, and the pipe H, in combination with the chamber B, arranged in rear of and communicating with the ash-pit, substantially as and for the purpose described.

No. 20,667.—Silas T. Savage, of Albany, New York.—*Improvement in Furnaces for Boilers and Stoves.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not wish to be understood as making claim to the use of a perforated air chamber to supply atmospheric air in small jets to inflame the gaseous products of combustion, as I am aware that this has long been known and tried in various forms, but not, as I verily believe, substantially in the manner or with the results specified.

What I *claim* is, the arrangement of the air chamber, substantially as described, with the perforated bottom of a conical or equivalent shape placed in the upper part of the fire chamber, with the concave surface downward toward the fire and with a central aperture leading to the chamber of inflammation, substantially as and for the purpose specified.

No. 20,351.—William D. Jones, of Hagaman's Mills, New York.—*Improved Apparatus for Separating the Combustible from the Incombustible Gases or Products of Combustion in Furnaces, &c.*—Patent dated May 25, 1858.—This invention consists in the construction and arrangement of the parts of an apparatus for separating, to a certain extent, the combustible from the incombustible gases of combustion, in such form as to make the apparatus applicable to all steam boiler or other furnaces or to stoves.

The inventor says: I do not claim the returning of the combustible portion of the volatile or gaseous products of combustion to the fire.

Nor do I claim, broadly, the separation of the combustible from the incombustible products by the difference in their specific gravity.

But I *claim* the box A, with its inlet *a*, separating diaphragm *b*, chambers B and C, pipe or passage *f*, and two fan blowers D and F, arranged in the manner substantially as described and operating as set forth.

No. 19,720.—Dennis Sullivan and Michael McIntyre, of Cincinnati, Ohio.—*Improvement in Gas-Burners.*—Patent dated March 23, 1858.—A is the base by which the burner is attached to the pipe; B is the cap or exterior part of the burner attached to the base by means of a screw joint at *a*; C is a plug or stem screwed into the base A, and extended centrally within the burner to near the tip *e*; *c c* are slots in the foot of the plug C, through which gas passes to the heating chamber *b*.

Claim.—The construction and arrangement substantially as described of the plug C, regulating the flow of gas to any extent desired.

No. 19,959.—William Tallman, of Cincinnati, Ohio.—*Improvements in Gas-Burners.*—Patent dated April 13, 1858.—A is the base of the burner, by which it is attached to the pipe. The gas passes upward through holes *a* into the lower chamber *b*, against the walls of which it is deflected by an imperfect disk C, fixed concentrically within said chamber, and of such size that a slight chink *c* intervenes all around between the disk and the walls of the chamber, through which chink the gas passes in the form of a hollow film, uniting again above.

The inventor says: I am aware that disks have been employed

within gas-burners to act on the principle of valves, I therefore do not claim such.

But I *claim* the construction and arrangement, substantially as described, of the disk *c*, fixed concentrically within the burner, so as to leave around it a contracted annular passage *c*, for the purpose explained.

No. 20,584.—Amos H. Ray, of Boston, Massachusetts.—*Improvement in Gas-Burners.*—Patent dated June 15, 1858.—D is a hollow fluted or corrugated cone, which fits into the ring *a*. The cone is closed at the bottom and open at the top, and its interior thus forms a continuation of the chamber F; into this chamber, and nearly to the bottom of the cone D, projects the tube G, which descends from the tip or jet H and passes through a hole in the part C to which it is brazed.

Claim.—The described gas-burner, consisting essentially of the chamber F, heating tube G, and the cone D, or its equivalent, operating in the manner substantially as set forth.

No. 20,626.—Robert Cornelius, of Philadelphia, Pennsylvania.—*Improvement in Gas-Burners.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* constructing fish-tail gas burners with an interior annular space *g g* extending to the commencement of the holes of discharge e^1 and d^1.

I also claim the auxiliary holes $l\ l^1$, or 1 2 3 4, in combination with a fish-tail burner, arranged and operating substantially as described.

No. 21,076.—Frederick Charles Krause, of New York, N. Y.—*Improvement in Gas-Burners.*—Patent dated August 3, 1858.—This improvement consists in the manufacture of gas-burners for heating purposes of a composition made by mixing pulverized burnt clay with powdered glass, carbonate of soda, or some other flux or substance of similar character, which may be boxed with the clay at a low red or white heat, and by its fusion at such heat serve to unite the particles of fine clay, but yet make with it a composition of a very porous character, which is sufficiently refractory to enable the gas to be burnt on its surface and to bear the repeated heating and cooling to which a gas burner is subject.

The inventor says: I do not claim to be the first inventor of a porous gas burner, as I am aware that they have been constructed of wire gauze, and by making beds of such material covered with broken pumice stone, and of some other substance.

But I *claim* the manufacture of gas burners, or those parts of them from which the gas is to be emitted, of the porous composition produced by the union of the substances specified, in the manner set forth.

No. 21,229.—William Wright, of St. Louis, Missouri.—*Improvement in Gas-Burners.*—Patent dated August 17, 1858.—The nature of this invention consists in the peculiar construction of the burner, whereby the flow of gas through it is regulated, and whereby the

direction of the current is changed and the gas forced against the heated sides of the burner, thus rarefying it and purifying it and preventing it from blowing through.

The inventor says: I lay no claim to any of the devices used in the inventions of C. H. Johnson, or E. P. Gleason, or A. H. Ray, or J. C. Walsh, as such.

But I *claim* the adjustable valve *g*, in combination with the chamber *s* in which the said valve seats, and the adjusting nut *c* around the said valve, whereby the joint is made tight in any given position, for the purpose specified.

No. 21,497.—Lucien E. Hicks, of New York, N. Y.—*Improvement in Gas-Burners.*—Patent dated September 14, 1858.—This invention relates to the construction of gas-burners which have caps made with a crown concave internally applied to them. And it consists in making the outer surface of the crown of the cap flat or nearly flat, and the orifice through which the gas escapes of circular form horizontally and with its edge curved in the path of two vertical circles, as delineated in the sectional view of the drawing.

The inventor says: I *claim*, in the construction of gas burners which have caps made with a crown concave internally applied to them, making the outer surface of the crown of the cap flat or nearly flat, and the orifice *d* through which the gas escapes of circular form horizontally and with its edge curved in the path of two vertical circles as delineated in the sectional view of the drawing, for the purposes set forth.

No. 21,586.—A. H. Wood, of Boston, Mass.—*Improvement in Gas-Burners.*—Patent dated September 21, 1858.—This improvement consists in a novel arrangement of devices, by which the width of the flame is increased, and the heat from the flame conducted to a height above the orifice of the burner.

Claim.—The combination with a gas burner of metallic flanges or spreaders, arranged near and above the orifice of the burner, as described, for the purpose of spreading the flame and consuming the impurities of the gas, whereby the orifice is kept clear, as set forth; and this I claim, whether the conducting rods be used or not.

No. 21,728.—Junius F. Tozer, of Binghamton, N. Y., assignor to George W. Gregory, of said Binghamton.—*Improvement in Gas-Burners.*—Patent dated October 5, 1858.—The nature of this invention consists in providing a stop-cock to pass through the base or thick part of the burner, which has two or more gauge-holes, or orifices, through which the gas is admitted into the supplementary chamber, so that by turning it a given distance it will vary the amount of gas to be consumed from a two feet to that of a four or six feet burner.

Claim.—The application to the common gas-burner of the two or three way turning cock, for the purpose set forth.

No. 21,733.—Yarnall Bailey, of Philadelphia, Pa.—*Improvement in Gas-Burners.*—Patent dated October 12, 1858.—This invention consists in so constructing and arranging the generator of self-generating gas-burners in connexion with the tube and burner, that the said heater may be adjustable in such a manner that when the heater is extended it will present more surface to the flame, which consequently generates more vapor or gas, and the extent of the light is increased; by lowering the heater less surface is exposed to the flame, and the opposite results are obtained. By this arrangement the extent of the flame may be increased or diminished at pleasure.

Claim.—The mode of producing a flame the extent of which may be increased or diminished at pleasure, by means of the adjustable heater D, in connexion with the tube B and the burner *b*, substantially as described, or any equivalent to the same.

No. 20,604.—William W. Batchelder, of New York, N. Y., assignor to William J. Townsend, of said New York.—*Improvement in Argand Gas-Burners.*—Patent dated June 15, 1858.—This invention consists in surrounding the central ring of flames by an additional ring *a*, composed of lesser jets, which are placed equidistant from the central one, as well as from each other.

Claim.—Surrounding the cylindrical flame of an argand burner with supplemental jets, placed at such distances from each other and from the central flame that they shall neither intermingle with each other nor with said flame, and of such number as will produce the effects described.

No. 21,090.—Joseph E. Stanwood, of Malden, Mass.—*Improvement in Argand Gas-Burners.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the argand burner as constructed with two chambers connected by tubes so arranged as to allow the air to flow between them into the space surrounded by the upper or annular chamber.

But I *claim* the improved argand burner, as made with its several supporting tubes C C C of its annular chamber extended down within the lower or receiving chamber and around its entrance hole or passage, substantially in manner as described, and for the purpose of preventing noise or singing of the flame when the burner is in operation.

I also claim the combination and arrangement of the described perforated partition *f* with the annular or upper chamber of the burner, and having its perforations or spaces between the same disposed with respect to the mouths of the inlet tubes, substantially as specified.

No 22,331.—Calvin Pepper, of Albany, N. Y., assignor to Himself and John G. Treadwell, of said Albany.—*Improvement in the Method of Applying Gas for Heating and Illuminating Purposes.*—Patent dated December 14, 1858.—The nature and object of this invention will be understood by an examination of the claim and engraving.

The inventor says: I do not claim to be the first inventor of a porous gas-burner, as I am aware they have been constructed of wire

gauze, and by making beds of such material covered with broken pumice stone, and by a composition of matter patented by F. C. Krause, and by some other substances other than silicious sand; and I do not claim the burning of gas in such way, except through silicious sand in a state of division; and I do not claim to be the inventor of passing gas through sand for the purpose of purifying the gas; I make no claim for burning gas for illuminating purposes only, after having passed through the sand and separate from the same; I make no claim in this application for the use of gas or sand in a separate state; and I make no claim for the ventilating arrangement described, or for the admixture of gas and atmospheric air before burning.

What I *claim* is passing coal or other inflammable gas alone, or in admixture with atmospheric air, through a stratum or mass of silicious sand, without aggregation of particles to be inflamed at the surface, substantially as described, for heating purposes, and also for illuminating, as incident thereto, as described.

No. 19,185.—Patrick S. Devlan, of Camden, New Jersey.—*Improved Gas Heating Apparatus.*—Patent dated January 26, 1858.—A represents a supporting frame or base for the apparatus. To this frame is attached a reservoir or tank B for containing water, a steam generator C, and a radiator D, which parts, with their connexions, form the main elements of the apparatus. The apparatus is mainly designed to be used with gas as a heating medium, because the common illuminating gas may be divided into small jets, and by introducing more oxygen into it, it becomes a highly heating gas, losing its illuminating property in the same ratio, and is thus peculiarly adapted to lighting and heating, as it may be required for either purpose, and changed from one to the other.

Claim.—The arrangement of the tank, generator, and radiator, with each other and with a gas-burner, substantially as set forth, and for the purpose of making a gas heating apparatus for warming rooms, chambers, &c., as described.

No. 22,134.—Silas T. Savage, of Albany, N. Y.—*Improvement in Grate Bars.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of the bar *a* when provided with a series of flanges which form an arc above the bar, and which taper from the extremities of the cord of said arc to or near the bottom of the bar, thus supporting the coal in arches above the bar, and at the same time strengthening and sustaining the bar by the tapering sides of the flanges, substantially in the manner specified.

No. 21,157.—Joseph H. Thomas, of Newark, New Jersey.—*Improvement in Folding Gridiron.*—Patent dated August 10, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not claim the invention of double or folding gridirons.

But I *claim* the application to a folding gridiron of the hinge joint, formed by the slotted stands *b b*, and the projecting bearings on the ends of the back cross-bar *a*, or their equivalents; the jointed handle *e* and slotted standard *f* or their equivalents; the whole forming an adjustable folding gridiron, substantially as described.

No. 20,939.—Chauncey A. Dickerman, of New Haven, Connecticut.—*Improved Steam Heater.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the chest of steam-heating flues I I I I I I, mutually parallel, and inclined as described, in combination with similarly inclined and parallel air flues K heated thereby. Both the steam and the air, having passed once through its flue or passage across the chest, is at once discharged to its final destination in the manner and for the purpose set forth. The arrangement or combination as thus described and represented I claim as an efficient and cheap apparatus.

No. 19,197.—John C. Hoadley, of Lawrence, Massachusetts.—*Improvement in Heaters or Coolers.*—Patent dated January 26, 1858.—The nature of this invention consists in forming heaters or condensers, or sections, by constructing an outside case with heads, having tubes *e e* joining and connecting the heads within the space enclosed by them and the case *c*, so that there will be no joints between the case and heads, or between the tubes and heads.

Claim.—Constructing heaters or coolers by forming the tubes, tube sheets, and case thereof of homogeneous metal and without joints uniting said parts.

No. 22,109.—William H. Churchman, of Janesville, Wisconsin.—*Improved Apparatus for Heating and Ventilating Buildings.*—Patent dated November 23, 1858.—The nature of this invention consists in arranging within the double walls of a furnace, placed in a suitable part of a building to be heated, a series of peculiarly formed rarefying metallic drums, to which a moderate degree of heat is imparted; and causing said drums to communicate by suitable pipes at the upper and lower parts with ventiducts or flues, extending to the apartments to be heated, in such a manner as to produce a continuous draught of air from the apartments through the drums and thence back again to said apartments in a heated state.

Claim.—The peculiar arrangement and combination of the induction and eduction flues or ventiducts K K^1, the continuation flue of the ventiduct K^1, the damper *j*, and the registered openings *f g h i*, whereby any number of the rarefying drums D, with their accompanying ventiducts K K^1 may be used at pleasure, either for warming or ventilating alone, or for both at the same time as described.

No. 19,775.—Francis L. Hedenberg, of New York, N. Y.—*Improved Heating Apparatus.*—Patent dated March 30, 1858.—The nature of this invention consists in the manner of arranging within the case A the fire-box B, combustion spark or draught chamber J, and the gas and air pipes M N, so that they shall be surrounded by

water space, the object being to regulate draught and to make available all the heating surfaces possible.

Claim.—The arrangement within the case A of the fire-box B, spark or draught chamber J, and the flue and air pipes M N, the whole being surrounded by water space, and connected and arranged substantially in the manner and for the purpose set forth.

No. 21,185.—Henry G. Bulkley, of Kalamazoo, Michigan.—*Improved Steam-Heating Apparatus.*—Patent dated August 17, 1858.—This invention consists in heating air for warming houses, &c., by causing it to pass through pipes, passages, or chambers, which are wholly or partly surrounded by, or which surround, a chamber containing super-heated steam of a very limited pressure.

The inventor says: I do not confine myself to any particular construction of the furnace or apparatus employed in carrying out my invention.

But I *claim* the surrounding of the air passages by a steam atmosphere, to which heat is applied after the steam is generated, for the purpose of increasing the temperature of the steam without high pressure for making a rapid, safe, economical, and wholesome heat, substantially as specified.

No. 20,917.—J. H. Chester, of Cincinnati, Ohio, assignor to M. A. Chester, of Cincinnati aforesaid.—*Improved Radiator for Heating Buildings, &c., by Combustion of Gas or Alcohol.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The radiator constructed with a central opening C C in its bottom, to receive the flame and heated products of combustion from the burner, and with the surface of said bottom inclining downwards from said opening towards two openings *d d* at the ends, and with the wire gauze cylinders or their equivalent *l l k k* between the slides, by which means combined provision is made for the condensation and free escape of the water of condensation, together with such carbonic acid as may be absorbed by it.

No. 21,195.—Adolph Hammer, of Reading, Pa.—*Improvement in Apparatus for Heating Mash Tubs.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that Bessemer's apparatus for warming saccharine liquids both warms the contained liquid and washes the molasses from the crystalline sugar; but this apparatus is in no way adapted for producing and extracting from malt the required saccharo-mucilaginous matter which with water constitutes wort. I therefore do not claim anything appertaining to said apparatus.

But I *claim* the arrangement on the outside of the mash tun described, and in combination therewith, of a steam heater, in such a manner that any suitable quantities of the fluid extract of the malt may, at the discretion of the operator, be withdrawn from the tun through the said heater, so as to be warmed by the latter as it passes through the same to any suitable receiver provided for the purpose, that it may immediately afterward be returned into the tun for the purpose of raising the temperature of the mash therein to the degree required as described; the said heater being connected with the interior of the tun, and the said pipes being provided with cocks, substantially in the manner set forth and described.

No. 20,767.—Joseph P. White, of Philadelphia, Pa., assignor to Himself and Francis Fox, of said Philadelphia.—*Improved Apparatus for Heating Tires.*—Patent dated June 29, 1858.—This invention consists in so combining a casing B, having a lid and a revolving grating C, with a fire chamber S and a blowing apparatus R; and in so arranging the whole, that a flame of intense heat may be forced into the casing and take a course round the same, thereby imparting to the tire placed on the grating a uniform heat throughout.

Claim.—The casing B, with its revolving grate and lid, in combination with the fire chamber S and fan R, or other equivalent blowing apparatus, when the whole are arranged for joint operation, substantially as and for the purpose set forth.

No. 20,856.—John J. Bate, of Brooklyn, N. Y.—*Improvement in Kettles for Rendering Lard.*—Patent dated July 13, 1858.—The object of this invention is to provide means by which a passage is made from the exterior to the interior of the central heater of a double steam kettle, so that the contents of the kettle and heater can communicate with each other for the more ready clearance of the contents of the heater, and for the purpose of expediting the process of rendering.

Claim.—Providing a means of communication between the exterior and interior of the heater C, by the apertures D D^1, so that the contents of the kettle and the heater can communicate with each other, as and for the purpose set forth.

No. 19,266.—John Stuber & Richard Hughes, of Utica, New York.—*Improvement in Lamps.*—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claims and engravings.

The inventors say: We *claim* so constructing and arranging the upper half of the feed pipe *j* of a spring or mechanical lamp, that the lower half will be free to slide to the top, or nearly so, of the wick tube for the purpose of lessening the height of the latter and of rendering the lamp more compact, substantially as set forth.

Second. The arrangement and combination of the elastic strip *p*, pin *q*, and slot *y*, with the rods *t* and loops *u*, the whole being constructed and operated in the manner substantially as set forth, for the purpose of forming an elastic piston for a lamp.

No. 19,896.—Pascal Plant, of Washington, D. C., assignor to Himself and Peter Hannay, of said Washington.—*Improvement in Lamps.*—Patent dated April 6, 1858.—The nature of this invention consists in forcing through the lower part of the flame a current of

fresh air, so that the oxygen therein contained shall be brought immediately in contact with the carbon the moment the degree of temperature of the latter is sufficiently high to promote combustion.

Claim.—Forcing a current of air through the lower or blue part of the flame by means of a cap-piece, constructed and arranged in relation to the wick-tube in the manner and for the purposes substantially as set forth.

No. 19,898.—Robert Steinmann, of Boston, Massachusetts, assignor to Himself and N. S. Wax, of said Boston.—*Improvement in Lamps.*—Patent dated April 6, 1858.—The object of this invention is to produce a lamp in which grease and fats of inferior quality can be burned without danger of choking up the lamp and without producing the disagreeable smell which usually accompanies the use of such materials; and by heating the air which supplies the combustion of the oil or melted fat, before it comes in contact with the flame, to produce a more perfect combustion, and thus give a clearer flame and avoid smoke and dirt.

The inventor says: I *claim*, first, the arrangement of the elevated reservoir I, with its filter K and passages of communication G and H, operating in the manner substantially as set forth.

Second. In combination with the reservoir I, the passages G and H, and the oil chamber D, I claim the bent tube *n* operating in the manner substantially as described.

Third. And in combination with the elevated hot oil reservoir I, I claim the plate L for the purpose of regulating the temperature of the fat or oil, as specified.

No. 20,159.—Edward F. Jones, of Boston, Massachusetts.—*Improvement in Lamps.*—Patent dated May 4, 1858.—This invention consists in holding the deflector, as well as the chimney, fast to the cap B of the lamp by means of a spring *e*, so that the chimney and deflector or either of them may be readily removed by merely pressing back a spring. The spring *e* is formed of thin metal, having short bends at 1 and 2 to catch over the lip or base of the chimney.

Claim.—Securing the chimney to the removable cap, and both of them to the lamps, by means of a spring operating in the manner substantially as set forth.

No. 20,134.—L. Bailey, of Charlestown, Massachusetts, and R. Thayer, of Boston, Massachusetts.—*Improvement in Lamps.*—Patent dated May 4, 1858.—This invention consists in a peculiar construction of the lamp, whereby the reservoir containing the burning material is kept in a cool state, and the flame supplied with a large amount of oxygen commensurate with its requirements to produce a perfect combustion. The light is readily graduated and wholly extinguished, when necessary, without the emission of smoke or any disagreeable odor.

The inventors say: We *claim*, first, the arrangement of the annular reservoir G within the case C, as shown, so that both the inside and he outside draughts of the flame may be supplied up through the base and pedestal, and in their passage cool all sides of the reservoir, substantially as set forth.

Second. The button L, when made of concavo-convex form and of the proper dimensions, so as to throw the air that passes up through the central passage H down on the flame, and at the same time permit the flame to rise vertically, instead of spreading it laterally as usual.

Third. The combination of the revolving cap E, wick-tube I with or without the button L, and the annular reservoir G, arranged relatively with each other and used in connexion with the case C, the hollow pedestal B, and base A, substantially as described and for the purpose set forth.

No. 21,069.—William Fulton, of Cranberry, New Jersey.—*Improvement in Lamps.*—Patent dated August 3, 1858.—The object of this invention is to adapt a lamp for burning equally well all the different substances used for illuminating purposes, however much they may vary in the amount of carbon they contain. This object is obtained by applying a register to the cap of the lamp, and using in connexion therewith a perforated plate or air distributor.

Claim.—The register formed of the perforations *e* in the top A and the perforated plate *f* placed within the top, in combination with the perforated or air-distributing plate A, the whole being arranged substantially as and for the purpose set forth.

No. 21,344.—James P. Kenyon and Ellen Kenyon, of Brooklyn, New York.—*Improvement in Lamps.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, constructing and arranging the wick tubes so that the orifice of the air passage at the upper ends of said tubes may be expanded or contracted without the necessity of changing the relative position or location of the lower ends of said tubes to each other, substantially as and for the purposes set forth.

Second. The band D provided with the ears E, applied to the wick tubes C C, and used with or without the central strip N, for the purpose specified.

No. 21,576.—Christian Reichmann, of Philadelphia, Pennsylvania.—*Improvement in Lamps.*—Patent dated September 21, 1858.—The nature of this invention consists in the slotted open bell-shaped cap, that is, a cap which admits of the external air passing in between its outer margin and the chimney, and which also allows the light to be reflected downward or towards the flame as well as above it.

Claim.—In combination with the lamp, the slotted open bell-shaped cap *m*, when so constructed, arranged, and operating, as to allow light to be deflected downward, substantially in the manner and for the purpose set forth and explained.

No. 21,627.—William H. Racey, of St. Augustine, Florida.—*Improvement in Lamps.*—Patent dated September 28, 1858 —The object of this invention is to obtain a lamp by which the flame may be supplied with a large or requisite amount of oxygen, without the employ-

ment of the glass chimney which has hitherto been used for such purposes. This lamp although applicable to any of the materials or substances now used for illuminating purposes, is more especially designed for burning coal oil and similar substances that are rich in carbon, and which consequently require a large amount of oxygen to support proper or perfect combustion.

Claim.—The case G provided with a cap L, and used with or without the external case T, the case and cap being placed relatively with the frame M, as described, so as to operate as and for purpose set forth.

No. 21,617.—William Mulholland, of Brooklyn, New York.—*Improvement in Lamps.*—Patent dated September 28, 1858.—This invention consists in having a central air tube placed within the lamp, and a wick tube placed at each side of its upper end, and a register at its lower end, the above parts being used in connexion with a perforated cylindrical cap, provided with deflectors at the centre of its top plate, whereby the flame may be supplied with a large volume or amount of oxygen, and the same regulated as occasion may require.

Claim.—The arrangement of the central air tube B extending through the body A of the lamp, and communicating at its lower end with the rack *a*, provided with a register C and perforated plate *a*, with the wick tubes *c c* placed at opposite sides of the air tube B, and the perforated cap D provided with the deflector *f*, the whole being constructed and operating as and for the purpose set forth.

No. 22,327.—Nathaniel Cradit, of Ripley, Ohio, assignor to Chester G. Robinson, of South Reading, Massachusetts.—*Improvement in Lamps.*—Patent dated December 14, 1858.—This invention relates to the class known as circular wick lamps, and consists:

1st. In an arrangement of draught passages to maintain an equable flow of air to the interior and exterior of the flame, respectively, and to effectually consume volatile matters rising from the oil; and,

2d. In an arrangement by which the wick may be inserted and regulated in height with equal facility to a flat wick.

The inventor says: I *claim*, first, the described or equivalent arrangement of draught passages *b* 1 3 communicating with the oil reservoir, and central tube Q conducting the air and gases from thence to the interior of the wick, as explained.

Second. The box M P Q and shell H in the described combination with two rectilinear sets of wick-elevating pinions, or their equivalents, by which two flat wicks are converted into one circular wick, as set forth.

No. 22,409.—William W. Batchelder, of New York, N. Y.—*Improvement in Lamps.*—Patent dated December 28, 1858.—This improvement consists in the use of tapers, or wick tubes, placed below and on both sides of a flat wick tube, or main illuminating burner, in combination with a suitable cap, thus supplying sufficient oxygen completely to burn the oil without a chimney, and also without raising the cap so as to obscure a large portion of the main frame.

Claim.—The small tapers or wick tubes D placed on both sides of the flat burner or wick tube C, in combination with the cap A, when the said tubes and cap are used without a chimney, substantially as set forth for the purposes described.

No. 20,289.—Oscar F. Morrill, of Boston, Massachusetts.—*Improvement in Aero-vapor Burners for Lamps.*—Patent dated May 18, 1858.—The particular object of this invention is to enable a person to use the aero-vapor or ero-vapor to good advantage in a stove furnace, and easily regulate the amount of the production of hydro-carbon vapor as circumstances may require.

The inventor says: I *claim* the arrangement and application of the bent tube E with the wick-holder or vaporizer provided with one or more heat conductors, or equivalent devices, the same being to enable the production of vapor to be regulated in manner and conducted into the mixer, as specified.

I also claim the mode of applying the rod of the wick-tube slider to the generator, viz: by carrying it through a tube extending through the reservoir of the generator, as set forth.

No. 19,885.—William W. Wade, of Longmeadow, Massachusetts, and Charles Burnham, of Springfield, Massachusetts.—*Improved Lamp Attachment.*—Patent dated April 6, 1858.—A is a wick or tube; B is a spindle, having ratchet surface wheels fixed thereon, working into the wick tube for the purpose of raising or depressing the wick; *c* is the base, which is fitted or secured to the lamp; D is a deflector; E E are series of perforated holes, so as to allow a free admission and circulation of air; F is a groove in the chimney band; G is a flange on the deflector, of such size as to allow it to slide loosely down the inside of the chimney band into the groove F; J is a wire spring for the purpose of holding the band secure to the shell.

The inventors say: We are aware that deflectors or chimney bands have been used; also that chimney bands have been attached to the top of the shell by hinges projecting outward; and also that openings have been used as fasteners for various other and different purposes than described. Such we do not claim.

But we *claim* securing the deflector G in the groove of the chimney band J, the said band being hinged to the lamp cap, the whole constructed and operating in the manner set forth.

No. 20,178.—Ralph Thomas, of Hoboken, N. J.—*Improved Lamp Attachment for Preventing Smoke, &c.*—Patent dated May 4, 1858.—This invention consists in attaching to the burner of lamps a movable metal cap, so constructed as to fit upon the burner and closely attaching itself to the same, by which the consumption of the oils or fluids is in proportion to the amount of light the lamp is calculated to give this; it regulates the flame, and thus, by producing checks upon the upper tier of ventilating holes, prevents excessive smoke.

Claim.—The movable cap provided with a schreved screen top A and base piece C, when applied to lamps, constructed and operated as set forth and described.

No. 20,977.—Mark Safford, of Boston, Mass., assignor to Himself and George P. Kinney, of Boston, aforesaid.—*Improvements in Burners and Wick-Tubes of Vapor Lamps.*—Patent dated July 20, 1858.—The claims and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the auxiliary wick with a lifter or rod, or with the same and extinguisher, so as to enable such wick to be moved in its tube in manner and for the purpose essentially as specified.

I also claim, in combination with the vapor generator and its auxiliary wick tube *f*, a closing cap or extinguisher *a*, and one or more conduits *n n*, applied in the wick tube, substantially in manner as specified, the whole being to produce effects as stated.

I also claim a foraminous wick tube, or its equivalent, in its combination with a main wick and an auxiliary wick applied to it, and to operate with it, substantially in manner as explained.

No. 22,253.—Josee Johnson and Frederick Bailey, of New York, N. Y.—*Improvement in Burners for Lamps.*—Patent dated December 7, 1858.—The two metal tubes *a a* connected at their upper extremity by the circular retort F, which joins to said tubes at point *x x*. The tubes *a a* are made of very thin metal, and the retort F is made of thick metal, so that the one may retain the heat, and the other will not; *m n* are two ordinary tubes, situated on each side of the tubes *a a* and *d*. The tubes *m n* and *d* are provided with wick, which extends up in them only to that point where the retort joins them, there being no wick in the retort.

Claim.—The combination in a lamp of the tubes *a a d m n*, glass tubes *c c c*, and barrel B, the same being constructed and operated substantially in the manner and for the purpose set forth.

No. 22,230.—M. B. Dyott, of Philadelphia, Pa.—*Improvement in Burners for Lamps.*—Patent dated December 7, 1858.—This invention consists in so constructing the lamp top of a gas generating lamp, that the light of said lamp may be regulated by raising and lowering the heater and pin while the head of the burner remains stationary, or raising or lowering the head of the burner with the heater and pin. And it also consists in the valve on the pin, and the valve seat in the side of the tube or burner, for the purpose of opening or closing entirely or partially the passage through which the vapor or gas passes from the wick to the opening or openings at which the gas burns.

The inventor says: I *claim*, first, regulating the light of a gas lamp by raising and lowering the heater and pin connected to it, while the head of the burner remains stationary, substantially as described.

I also claim, in combination with the heater and burner, the valve or projection *n* on the one, and the valve seat *o* on the other, when the said valve and seat are located between the top of the wick and the openings at which the gas is burned, substantially as described.

No. 20,232.—Thomas Varney, of San Francisco, California.—*Improvement in Burners for Vapor Lamps.*—Patent dated May 11, 1858.—This invention relates to the construction of burners for burning the vapor of benzole or other hydro-carbons that can be burned in vapor lamps, in such a manner that the admixture with the vapor of the necessary quantity of air, supplied in such a manner by a blowing apparatus as to make it burn with a brilliant flame, shall be effected within the burner, instead of within the reservoir.

Claim.—The arrangement of the tubes *a b e f* and the passages between them, the burner tip, the wick, and the pipes B C, substantially as set forth.

No. 20,296.—John K. O'Neil, of Kingston, New York.—*Improvement in Burners for Vapor Lamps.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the burner beneath the vaporizing tube or chamber in such a manner as to be movable or adjustable to different distances therefrom, whereby the amount of light produced and of vapor generated may be exactly and in all degrees regulated simultaneously, and be mutually dependent on each other, in the manner specified.

No. 20,498.—C. B. Loveless, of Syracuse, New York.—*Improvement in Burners for Vapor Lamps.*—Patent dated June 8, 1858.—The nature of this invention consists in a crescent-shaped generating chamber *d* situated at the crown of a siphon-tube chamber *c*, and in communication therewith, the said chamber being directly above the burner, which is at the extremity of the short branch of the tube; the long branch furnishes the supply of fluid.

The inventor says: I do not claim of itself the burner and chamber on which it is situated.

But I *claim* the crescent-shaped generating chamber *d*, as described, and its arrangement with the siphon-tube chamber *c* and burner *f*, substantially as and for the purposes set forth.

No. 21,053.—George W. Randall, of Boston, Massachusetts, assignor to Reuben J. Todd, of Boston, aforesaid.—*Improvement in Burners for Vapor Lamps.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application of the valve and its seat to the generator A and the button C, or heat absorber, the same consisting in making such valve B and seat tapering, and arranging them in the generator, and maintaining them in contact by the action o' a spring E, and connecting the valve with a separate button in such manner that the button, besides performing its office of absorbing heat from the flame, may serve, with the spring, to maintain the valve in place against its seat, and to rotate the valve as specified.

No. 21,116.—Frederick Heidrick, of Philadelphia, Pennsylvania, assignor to C. F. Clothier, of said Philadelphia.—*Improvement in Burners for Vapor Lamps.*—Patent dated August 10, 1858.—This improvement consists in the employment of a loose washer acting in conjunction with the usual wick tube, hollow burner, and button of this class of lamps, in order that the escape of vapor may be regulated

with exactitude and facility, and that its escape may be entirely cut off when the flame is extinguished, thus preventing the escape of fluid.

The inventor says: I lay no exclusive claim to the hollow burner F, the spur H, or to the introduction of the non-conducting material between the tubes A and B; but,

I *claim* the employment of the self-adjusting washer I, in connexion with the burner F, button G, and wick tube D, in the manner and for the purpose set forth.

No. 22,270.—E. M. Williams, of Philadelphia, Pennsylvania, assignor to Himself and John Gabel, of said Philadelphia.—*Improvement in Burners for Vapor Lamps.*—Patent dated December 7, 1858.—This invention consists in the use of a sliding wick tube fitted in the cap of the lamp, and placed in close relation with one or more vapor tubes, whereby the latter, by the adjustment of the former, may be heated to a greater or less degree, and an illuminating flame of a greater or less degree of brilliancy obtained, as may be desired.

The inventor says: I am aware that vapor lamps have been constructed in which a supplemental flame has been employed for volatilizing the fluid; but I am not aware that a sliding supplemental wick tube, arranged as shown and described, has been employed for the purpose of graduating the heat employed for volatilizing the fluid within the lamp, and thereby regulating the power of the illuminating flame, as may be desired. I do not claim, therefore, broadly the employment or use of a supplemental flame for volatilizing the fluid within the lamp.

But I *claim* the supplemental sliding wick tube D, arranged relatively with one or more vapor tubes C, to operate substantially as and for the purpose set forth.

No. 22,465.—Sigourney Wales, of Boston, Massachusetts.—*Improvement in Burners for Vapor Lamps.*—Patent dated December 28, 1858.—The inventor says: I *claim*, when the wick is supported on and around an inner wick tube, and within an outer wick tube, and the jet cap is made separate from, and so as to screw or fit on, the outer wick tube, as described, the application of the rod F to the movable jet cap D and the inner wick-tube E, in such manner as to be fastened to the cap D, and extend into and fit the bore of the tube E, so as not only to enable the jet cap to be raised and supported above the wick, in manner to allow such wick to be inflamed, and the flame thereof to heat the said jet cap and rod, but to serve as a means of conducting heat from the jet cap into the inner tube, by which such heat may be conducted into the wick, in order to aid in vaporing the liquid contents thereof.

No. 20,153.—C. A. Greene, of Boston, Massachusetts.—*Improvement in Vapor-Lamp Burners.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a ring or collar having holes through it, turning upon the outside of a shoulder having corresponding holes through it, to form a regulator for a fluid lamp, as this is an old device and cannot be made to operate successfully.

But I *claim* the combination of the hollow spur, susceptible of being turned in either direction, and having slits or apertures formed in it, with the cap *d*, through which similar slits or apertures extend, as described, and for the purpose of regulating the jet or jets of flame by the turning of the said spur.

No. 20,324.—Daniel H. Carpenter, of New York, New York.—*Improvement in Vapor-Lamp Burners.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the device set forth of regulating the quantity of air to be mixed with hydro-carbon vapor, consisting of the screw stop placed in the tube *a*, at such distance below the exit aperture as shall leave the requisite space for the mixing of the gases before reaching said aperture.

I also claim the described improvement in the construction of the valve c for the vapor passage, whereby the said passage is kept free at all times, without increasing the size thereof, substantially as set forth.

No. 20,648.—A. M. Mace, of Springfield, Massachusetts.—*Improvement in Vapor-Lamp Burners.*—Patent dated June 22, 1858.—In the engravings A is a fountain for containing burning fluid. Near the burner is attached a stop or valve G, having a packing box F, and its seat E, and spindle D, made nearly straight where it passes through the diaphragm, to regulate the flow of liquid in minute quantities.

The inventor says: I do not claim a packing of wire cloth, cotton, or any analogous material.

Neither do I claim the use of asbestos, when used as a wicking to act by capillary attraction.

But I *claim* the use of the heating and vaporizing tube or retort charged with asbestos and fluid, in the manner and for the purpose set forth.

No. 21,239.—Solomon Andrews, of Perth Amboy, N. J.—*Improvement in Vapor-Lamp Burners.*—Patent dated August 24, 1858.—As a description of this invention is too long for a place in this report, the reader is referred to the claim and engravings.

The inventor says: I *claim*, 1st., as my invention, the combination of the wick tube, the gas chamber, and the caloric conductors in a gas lamp, as described, or its equivalent.

2d. I claim a cotton or other fibrous wick made hollow by a wire gauze tube, or its equivalent, for the uses and purposes specified.

No. 20,746.—Hiram Todd, of Columbus, Ohio.—*Improvement in Burning-Fluid Lamps.*—Patent dated June 29, 1858.—The nature of this invention consists in surrounding the wick tubes B C with a water chamber D, to the end of which is attached a safety-valve F and tube E, surrounding entirely the wick and tubes, thereby preventing any

heated metal, substance, or fluid, from coming into contact with the fluid in the main body of the lamp.

The inventor says: I do not claim the application of a water chamber around the wick tubes of lamps, to apply water to the wick to extinguish the light, or any such device.

But I *claim* the arrangement of the water chamber D with the tubes B C and wick tube I, constructed and operating as and for the purposes set forth.

I also claim the arrangement of the safety-valve F and tube E with the wick tube I, in the manner and for the purposes specified.

No. 20,641.—ELIAS J. HALE, of Foxcroft, Me.—*Improvement in Camphene Lamps.*—Patent dated June 22, 1858.—The nature of this invention consists in an improvement whereby the solar cap D is made adjustable with respect to wick tube B, stationary in its relation to the wick C that may be within it, the adjustment being such as to cause the distance between the top of the wick tube and the orifice in the upper part of the solar cap to be either increased or diminished to such extent as may be desirable in order to prevent the blaze on the wick from smoking.

The inventor says: I do not claim merely making a wick adjustable with respect to a solar cap.

But I *claim* an improved lamp having its wick tube made adjustable and movable with respect to its solar cap, or having the latter made adjustable with respect to the wick tube, the whole being substantially in manner and so as to operate as specified.

No. 20,748.—WILLIAM W. WADE, of Longmeadow, Mass.—*Improved Method of Fastening the Wick Tubes in Lamp Caps.*—Patent dated June 29, 1858.—The spindle B B, by which the wick is raised or depressed, is fastened by being extended from side to side of the shell through holes of suitable size made for the purpose. The wheels for raising the wick working into the tube through an aperture K K, made for the purpose, prevent the spindle from slipping out of place.

The inventor says: I *claim* the method of fastening the wick tube and spindle for raising and depressing the wick in lamp attachments, without the use of solder, in the manner described.

I claim no other part of the attachment.

No. 22,099.—IRVIN A. WILLIAMS, of Utica, N. Y.—*Locomotive Lamp Case.*—Patent dated November 16, 1858.—The nature of this invention consists in enclosing the flues of locomotive lamp cases by a combination of casings and deflecting caps for preventing downward draught.

Claim.—The combination of casings B and C with the chimney A, as described, the plates p and p^1 alternating, and the construction and arrangement of the several parts, substantially as set forth.

No. 20,255.—HENRY M. COLLIER, of Binghamton, N. Y., & HENRY N. BAKER, of New York, N. Y.—*Improved Electric Lamp.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim the feeding together of the electrodes in an electric lamp by means of floats, springs, or other mechanical appliances, nor the mechanical pole changer as heretofore used, but only as applied to an electric lamp in the manner described.

But we *claim* the employment in an electric lamp of an open seat i, contained in a stationary bridge plate c, or its equivalent, and receiving the electrode in such a manner as to allow the point only thereof to protrude through it the distance required, and permitting the advance of the said point so fast only as it is oxydized and reduced by the electric current, substantially as described.

We also claim the combination of the loaded tube b carrying the upper electrode c, the open seat i, and the mercury tube f, in which floats and is secured the lower electrode c^1, substantially as described; so that while the upper tube b feeds the upper electrode down to the open seat as fast as it is reduced, the lower electrode c^1 is also fed up as fast as reduced and kept in its proper position with reference to the upper electrode c.

No. 20,373.—GEORGE RIMMINGTON, of South Brooklyn, New York.—*Improvement in Lamps for Burning Coal-Oil, &c.*—Patent dated May 25, 1858.—A perforated cap in two parts, and used in connexion with two flat wick tubes placed at a suitable distance apart, is used in this lamp, in order that the flame may be supplied with a sufficient quantity of oxygen to support proper combustion without the aid of a chimney. It is especially applicable to lamps in which coal-oil is burned.

Claim.—The cap B formed of two parts a b, perforated as shown, and used in connexion with the two tubes e e, the several parts being arranged relatively with each other and applied to the lamp so as to operate as and for the purpose set forth.

No. 20,573.—CHARLES MCINTOSH, of Jersey City, New Jersey.—*Improvement in Lamps for Lighting Gas.*—Patent dated June 15, 1858.—The nature of this invention consists in forming a flared opening in the base or reservoir of the lantern, in such a manner and in such relation to the flame as to enable the flame to draw a stream of gas from the burner, and ignite the same by simply passing the lantern over the burner.

Claim.—I am aware that openings have been formed in the lower portions of lamps for producing draught and supplying air to the flame, and therefore I lay no claim to this device.

What I *claim* is constructing the lamp with a vertical or nearly vertical passage H through it, when used in connexion with a lantern, substantially as and for the purposes set forth.

No. 19,287.—ROBERT R. CROSBY, of Boston, Massachusetts.—*Improvement in Hydro-Carbon Vapor Lamps.*—Patent dated February 9, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I do not claim applying a separate wick tube and wick to a main reservoir and its wick tube, such being for the

purpose of vaporizing the fluid in the wick of the main reservoir by flame generated by combustion of any of the fluid contents of the said reservoir.

But I *claim*, in a hydro-carbon vapor lamp, combining an auxiliary and separate reservoir H with the main reservoir A and its main and auxiliary wick tubes D D G, so that, while a fluid rich in carbon may be used in the main reservoir, alcohol, or a fluid having less or very little carbon, may be used in the auxiliary reservoir, and be burned on the wick thereof extending through the auxiliary wick tube.

I also claim arranging the separate auxiliary reservoir H, of the auxiliary wick, within and separate from the main reservoir, as specified.

I do not claim applying to the auxiliary burner-chamber a closing slide to rotate on the wick tubes D D and regulate the amount of air to be admitted into the said chamber for the ordinary purposes of the flame on the wick.

But I claim the arrangement and application of a flame guard K, constructed substantially as described, to the auxiliary wick-tube chamber, so as to extend and slide around the upper part of said chamber, have such chamber open beneath it, and operate to spread the heat uniformly against the under side of the vaporizing vessel E, substantially as specified.

No. 19,158.—Thomas Shanks, of Baltimore, Maryland.—*Lamp or Candlestick and Match-Box combined.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am well aware that match-boxes, or safes, and tinder receptacles, have been applied, connected to, and arranged with, illuminating apparatus; and also that candlesticks have been formed with depressed receptacles; consequently such attachments and formations I do not claim.

But I *claim* the construction of, and providing lamps or candlesticks with, a hollow base or pedestal part *a a a a*, said hollow base being combined and provided with a sliding self-closing drawer-like arrangement or receptacle *b b b b*, having compartments *c c c d d d*, enclosing chamber *e e e*, constructed, arranged, and operated by the springs *k k k k* and catch-rod *h h*, substantially for the purposes set forth and as described.

No. 22,311.—William F. Shaw, of Boston, Massachusetts.—*Improvement in Lamp-Shade Supporters.*—Patent dated December 14, 1858.—In the improved construction of this lamp-shade supporter, the whole is formed of one piece of metal, the supporter C being struck up into form in dies. The bottom of the cup which is thus formed, instead of being cut out, as shown by the space *f*, is stamped out, as shown in fig. 3, leaving the portions 1 2 3 4 5 6 of it attached to the rim. The alternate strips 1 3 5 are bent up as shown in fig. 2, forming the upper springs; and the other strips 2 4 6 are bent down, forming lower springs, the two sets together answering the same purpose as the springs D.

Claim.—As a new article of manufacture, the lamp-shade supporter C, with its upper and lower springs constructed of a single piece of metal, in the manner substantially as specified.

No. 20,283.—Horatio N. Macomber, of Lynn, Massachusetts.—*Improvement in Vapor Lamps*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware of the devices represented in letters patent of the United States dated May 10, 1844, and numbered 3,582; and therefore I do not claim the same.

But I *claim* making the ascending and descending air-passage of the lamp of a series of chambers each connected with the other, and the whole opening out of and into the reservoir of the lamp, substantially as set forth.

No. 20,386.—Horatio Bateman, of Boston, Massachusetts, assignor to William F. Bateman, of Harvard, Massachusetts.—*Improvement in Vapor Lamps.*—Patent dated May 25, 1858.—This invention relates to an improvement in that class of lamps in which gas is generated by heat imparted to a wick which does not come in contact with the flame, the wick being heated, for the purpose of generating the gas, by means of a spur or tongue extending into the wick.

Claim.—Constructing the spur or tongue *e* with a suitable eye for the insertion and retention of the wick, as set forth.

No. 20,649.—A. M. Mace, of Springfield, Massachusetts.—*Improvements in Vapor Lamps.*—Patent dated June 22, 1858.—The nature of this invention consists in providing heating and vaporizing tubes or retorts B A, used for vaporizing hydro-carbon liquids by the heat burners supplied with vapor generated within the tube or retort, with a heat-retaining cover or cap H, so connected to the retort as to retain or reflect the heat upon or around the surface opposite the flame.

The inventor says: I do not claim the use of a heat-retaining cap, connected with a retort of a particular construction, as such a patent was granted to me, April 22, 1856; but generally it may be applied to any form of chamber or retort producing the same results.

Neither do I claim the elevated reservoirs, except in connexion with parts mentioned.

Neither do I now claim expanding the vaporizing tube into a chamber, as I intend applying for a separate patent for that device.

What I *claim* is: First. Combining the cap or heat-retainer H with vaporizing tubes or retorts, constructed substantially as described, when so arranged over the flame as to operate in the manner set forth.

Second. I also claim the combination of the heat-retainer H and vaporizing tube, connected substantially as described, with the elevated reservoir, the whole arranged and operating with respect to the valve C[1] and burner K as set forth.

No. 20,729.—William H. Racey, of St. Augustine, Florida.—*Improvements in Vapor Lamps.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The employment or use of a tube H and burner K arranged

with a lamp or fountain as shown, or in any way so that the flame which is fed direct from the burning material within the fountain may serve as gas-generator to supply the illuminating flame M that issues from burner K; and this I claim irrespective of any particular means which may be employed for supplying the illuminating flame with oxygen.

No. 20,952.—NICHOLAS MASON, of Chelsea, Massachusetts.—*Improvement in Vapor-Burning Lamps.*—Patent dated July 20, 1858.—The essential features of this invention are a cylindrical sheath *k*, whereby the lighting of the lamp is facilitated, and the safety tube whereby the gas generated in the lamp itself is conducted directly, and without obstruction, to the point of combustion, thus obviating all danger of its collection and explosion within the lamp.

The inventor says: First. I *claim* the two holes *q q* in the wick tube, for the purposes set forth.

Second. I claim my cylindrical sheath, arranged and operating substantially in the manner and for the purposes set forth and described.

Third. I do not claim cutting off the gas by means of rolling valves, as this is common in steam engines, and in gas and water cocks and other lamps.

But I claim the double row or series of rolling valves contained within the mouth-piece of the burner, arranged and operating in combination with each other, and with the throat-piece of the wick tube, substantially in the manner set forth and described.

No. 21,890.—JAMES Y. LESLIE, of Brooklyn, N. Y.—*Improvement in Lamp Wicks.*—Patent dated October 26, 1858.—This improved wick is made by enchaining a series of loops in a single yarn. A loop is first formed, as indicated by 1; and then a second, indicated by 2, is formed without being taken through the first. The third one formed is taken through the first, the fourth through the second, the fifth through the third, and so on indefinitely, as illustrated in fig 11, where the loops are numbered in their order of formation.

Claim.—A lamp wick composed of a single yarn as double looped, as shown and described.

No. 20,783.—JOHN FLEMING, of Pittsburg, Pennsylvania.—*Improved Method of Attaching Lamps to Lanterns.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the spring D with the clips E E and the ring F, for the purpose of effecting the attachment and detachment at the lamp of a lantern, all substantially in the manner described and shown.

No. 19,207.—JACOB H. REIGHARD, of Birmingham, Pennsylvania.—*Improvement in Lanterns.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Attaching the top and bottom trimmings of lanterns to the globe by means of lugs, fitting on a bead around the upper and lower neck of the glass globe, so that they may be more readily

attached or removed, or a new globe inserted when necessary, in the manner described.

No. 19,897.—JACOB H. REIGHARD, of Birmingham, Pennsylvania, assignor to Himself, JOHN BAIRD, and DAVID CHALLINER, of said Birmingham.—*Improvement in Lanterns.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the coating of the external surface of a portion of the glass globe of lanterns with silver or other metallic substances, for the purpose of giving a reflecting surface.

But I *claim* making a circular convex projection in the side of the globe of the lantern cast or moulded in one piece with the globe, (which is to be silvered externally as a reflector,) the edge of which circular projection is slightly raised from the surrounding surface of the globe, so as to permit of the convenient attachment of a cap or covering to protect the silvered surface of the reflector from injury.

No. 19,845.—A. H. GOLDEN, of Lafayette, Indiana.—*Improvement in Lanterns.*—Patent dated April 6, 1858.—This lantern is so attached to the person carrying it, that he has perfect control of both arms and hands, and, at the same time, has full benefit of the light.

Claim.—The bow or bail B, pivoted to the upper part of the lantern A, and provided with the plate or shield C, and clamp constructed as shown, whereby the lantern may be readily secured to the arm of the person desiring its use, and the person have the control of both arm and hands, and, at the same time, have the full benefit of the light.

No. 21,521.—STILLMAN C. SPAULDING, of Rutland, Wisconsin.—*Improvement in Lanterns.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that patents have been already granted for attaching guards to lanterns without solder, and also for constructing the corner-pieces so as to hold the glass sides without solder, and I disclaim these as any part of my invention.

But I *claim*, first, constructing a lantern by folding the edges of the several parts over wire frames, as described, so that it can be compressed and packed in a small space on removing the glass sides, and in the way set forth, and so that solder is not needed to secure the pieces composing the top and bottom.

Second. The use of a coiled wire in the manner mentioned, to retain the glass sides in their place.

Third. Attaching the lamp of a lantern to a hinged bottom, and connecting the latter to a spring in the top, so as to keep the lamp securely in its place when in ordinary use, yet admit of ready access to it, as described.

No. 21,485.—JOSEPH C. CARY, of New York, N. Y.—*Improvement in Lantern Attachment to Caps.*—Patent dated September 14, 1858.—This invention consists in a peculiar manner of constructing and attaching a lantern to an elastic or adjustable skull-cap, whereby the

lantern is perfectly adapted to the cap, and allowed to burn equally as well as if held by the hand, and the cap made to fit varying sized heads, the whole forming a perfect device for railroad conductors, miners, and others who, at certain times, require a light and the free use of both hands.

Claim.—The lantern C constructed as shown, to wit: the fountain C and lamp D, connected by the tube *f*, and enclosed within the case d^1, which is provided with the handle or bail, and straps *i j* for the purpose of being attached to the cap A.

No. 21,209.—Max Miller, of Brooklyn, N. Y.—*Improved Lantern for Burning Coal Oil.*—Patent dated August 17, 1858.—The object of this invention is to dispense with the usual draught chimney which has been hitherto necessarily used in lanterns for burning coal oil, by so constructing and arranging certain parts that the usual glass globe or cylinder, which has hitherto only served to protect the flame, serves the double purpose of protector and draught-creator, whereby a more even and steady flame than usual will be obtained.

Claim.—The inverted cup H, provided with the perforated band *m*, and placed over the lamp D, the band *m* encompassing the wick-tube cap *o*, in combination with the glass cylinder C and the tube G, or its equivalent, the whole being arranged substantially as and for the purpose set forth.

No. 20,302.—Adolph Roesler and Charles Frey, of Warsaw, Ill.—*Improved Self-Lighting and Extinguishing Lanterns.*—Patent dated May 18, 1858.—This invention consists in providing the lantern with a box filled with matches, a slider fitted in the lower end of said box, and two arms and springs, and a rod provided with a knob, that extends above the top of the lantern.

The inventors say: We *claim*, first, the box C, provided with spring *d*, as shown, plates L L, springs *i i*, and arms E E.

Second. We do not claim the slide *f*, separately.

But we *claim* the slide F, the rods *k k* and *g*, in combination with arms E E, substantially arranged as described.

Third. We do not claim the extinguisher *p*, separately.

But we *claim* the supporters R R, plates T and U, catch *s*, rod *q*, in combination with the extinguisher *p*, the whole being arranged as described, and for the purposes specified.

No. 19,044.—Albert C. Richard, of Newtown, Conn.—*Improved Attachment for Lighting Lanterns.*—Patent dated January 5, 1858.—This invention consists in having a match socket *c* attached to a spring E, which is secured to the inner side of the door B, and retained or held back by the side of the door by a catch.

Claim.—The spring E, provided with the sockets *c*, and the rod F, provided with the catch *g*, in combination with the rod *i* and corrugated plate *j*, the whole arranged and operated in the manner and for the purpose set forth.

No. 20,404.—William P. Chadwick, of Edgartown, Mass.—*Improved Mantel Bar.*—Patent dated June 1, 1858.—The sloping bottom *b* has applied to it an adjustable smoke chute or guard B, which consists of a plate *d* and two triangular projections or plates *e e*, extended downward from such plate *d*, and near its two ends. The ends extend under lips *f f*, projecting from the mantel bar A, the lips serving to connect the chute and the bar in a manner to allow the chute to be slid along.

Claim.—Making the mantel bar A with an inclined back or bottom, as explained, and combining therewith a sliding or adjustable smoke chute, to operate therewith substantially in the manner as specified.

No. 21,271.—E. Graves Otis, of Yonkers, N. Y.—*Improvement in Ovens.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—First. The construction of ovens, with the floor upon which the baking takes place running spirally around the inside of the oven, substantially as set forth.

Second. The rotary cylinder D, constructed, arranged, and operating, substantially as and for the purposes set forth.

Third. Placing the spiral chamber in which the baking is performed in communication with the hot air chamber W above the fire chamber, by means of the chamber G and the openings controlled by the dampers *h*, for the purpose of regulating the temperature in the several portions of the said spiral chambers, substantially as set forth.

No. 21,147.—William Pettet, of New York, N. Y.—*Improvement in Bake Ovens.*—Patent dated August 10, 1858.—The nature of this invention consists in so arranging and constructing an oven that it may be heated by an exterior furnace that will also heat the apartment in which it is placed, or by one arranged in such a manner that its heat will be almost imperceptible in the room. Also in so arranging and constructing the lining of the oven that it may be entirely removed to give free access to the flues in every part for the purpose of cleaning, to insure the perfect circulation of the heat from the furnace.

The inventor says: I *claim*, first, the arrangement and construction of an oven with two furnaces, the one being located on the exterior and the other on the interior of the oven, each communicating with the same series of flues so that either one may be used at pleasure, whereby the heat may be retained within the oven or diffused through the apartment, substantially as set forth.

Second. I claim so constructing the interior of the described oven and its flues that the entire lining may be removed, for the purpose of clearing the flues, and replaced, substantially as described.

No. 21,620.—William R. Nevins and Joseph J. Yates, of New York, N. Y.—*Improvement in Bakers' Ovens.*—Patent dated September 28, 1858.—Patented in England September 28, 1858.—The nature of this improvement consists in arranging the endless apron for the conveyance of the biscuit or other articles to be baked within a horizontal chamber or oven having a metallic top and bottom above and below, which are horizontal flues, communicating at their ends for the passage of the heat, &c., from the furnaces below, and dividing the said lower flues

and furnaces by a transverse bridge wall in such a manner as to enable the heat to be conveyed below the oven in both directions from the furnaces in the centre to the ends, and thence again through the upper flue to the centre exit pipe or chimney, thereby imparting to the upper and lower plates of the oven an equable degree of heat during the intermittent progressive motion of the cutting machine apron, to which said apron may be geared if desired, and preventing ashes, dust, smoke, and other extraneous and injurious matters coming in contact with the biscuit or other bread stuff being baked.

Claim.—The combination and arrangement of the endless apron H[1] and hexagonal rollers H, to which an intermittent progressive motion corresponding with the motion of the apron of the cracker or biscuit-cutting machine is given, horizontal flues K K[1] and bridge-wall B, between the lower flues K and furnaces R, substantially in the relation to each other described, and for the purpose set forth.

No. 21,610.—HAMILTON LYON, of Cincinnati, Ohio.—*Improved Method of Heating Ovens by Steam.*—Patent dated September 28, 1858.—This invention relates chiefly to the preservation of a constant, equable, and controllable heat in an oven, and consists in certain modes of availing and applying super-heated steam or air circulating within an enclosing shell or jacket.

Claim.—The combination of the pipes F E G and H, chambers B and C and exhaust I or their equivalents, arranged and employed substantially in the manner and for the purposes set forth.

No. 19,591.—THOMAS T. TASKER, of Philadelphia, Pa.—*Improvement in Hot Water Radiators.*—Patent dated March 9, 1858.—A represents a single series of tubes of the radiator composed of a number of tubes *a*, joined together and having free communication with each other by means of the tubes C D and the end of the terminal sections E. These sections are fitted to each other by the shoulder and flange joints F F and are bound firmly together by the "through-bolt" H, which passes through all the sections, and tightened by the nuts K.

The inventor says: I am aware that sections of tubes with and without flange and shoulder joints have been secured together by through-bolts, and I lay no claim to this mode of securing parts of a tube together.

But I *claim* the mode of securing together the several divisions or systems of radiator tubes, as set forth, the same consisting in the employment of the four terminal sections E to each division, the whole being held together by the through-bolts H, as set forth, thereby affording great facility in setting up the radiators and in taking them apart.

No. 22,289.—JOHN H. HOLT and JOSIAH H. GEROULD, of Chicago, Ill.—*Improvement in Steam Radiators.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the wire-gauze burner B and its vapor hood D, applied to the self-acting boiler C, above described, connected,

as described, with the steam condensing cylinder I and its reservoir J, air-cocks and safety and vacuum valves and its tubes and radiators M, with their ends open in the apartment to be heated, and all of which are particularly described and governed by the gas regulator H, as described; which combination produces a new and improved self-acting and self-regulating apparatus for raising the temperature of any given apartment in which it may be set up by radiation from surfaces heated by condensation of steam generated by the flame of combustible gas.

No. 20,132.—CHARLES WILLIAMS, of Brooklyn, N. Y., assignor to Himself and CHARLES J. SHEPERD, of said Brooklyn.—*Syphonic Radiator.*—Patent dated April 27, 1858.—This invention consists in the use of an inverted syphon, composed of a descending and ascending limb so proportioned to each other that the superior force of the air in the ascending limb, or limbs, shall cause a downward circulation through the descending limb.

The inventor says: I do not claim a hot air chamber or retort placed in a furnace over the fire and supplied with air by a pipe, or pipes, placed nearly horizontal, as such have before been used. Neither do I claim inducing a downward circulation of the products of combustion, as this has heretofore been used, both in the flues of chimneys, furnaces, &c.

But I *claim* the syphonic circulating and radiating pipes formed of two or more vertical or nearly vertical limbs, attached at their upper ends to the shell or casing of the furnace, and connected at their lower ends to each other, and operating substantially as and for the purposes specified.

No. 20,064.—A. HENDRICKS, of Morisania, N. Y.—*Improved Combination Cooking Range and Gas Generator.*—Patent dated April 27, 1858.—This invention consists in an arrangement embracing a cooking range, which has two fire chambers, two draught flues, and suitable dampers, when used in connexion with a gas retort, which opens on the outside of the room in which the range is located. The fire chamber, which heats the retort, can be used at stated periods in order to generate gas and at the same time heat the range, and the other fire chamber can be used daily for simply heating the range, and without acting on the retort.

Claim.—The arrangement embracing a cooking range, which has two fire chambers B B[1], two draught flues D D[1], and appropriate dampers, when used in connexion with a gas retort opening on the outside of the room, substantially as and for the purposes set forth.

No. 21,608.—CHARLES KANE, of New York, N. Y.—*Improvement in Combined Cooking Range and Heating Apparatus.*—Patent dated September 28, 1858.—This range is constructed with a fire grate in the centre of the front E, with ovens D D D, on each side of it. The direct draught *a a a*, from the fire box, or grate, is so arranged that it may be closed by dampers. The direct draught being closed the heat passes over the top *b b b*, of the ovens in the direction of the arrows, thence down the outsides of the ovens through flues *c c c*,

between the ovens and the walls of the range, thence through flues or spaces *d d d*, under the bottoms of the ovens; thence down and under the ovens in flues or spaces *e e e*, immediately under the last named flues to the back of the range, and thence into the smoke pipe or chimney *g g g*.

Claim.—The arrangement of an air chamber C, under a whole range, with a flue or flues B B, connecting it with the hot air chamber A, together with the double flues *d d d d*, *e e e e*, in double tiers between the air chamber C, and the bottom of the ovens D D, through and in which last mentioned flues the combustible gases and smoke circulate before reaching the smoke flues *g g*, the whole constructed and operating substantially as and for the purposes above set forth.

No. 22,120.—Joshua Harrison, of New York, N. Y.—*Improvement in Cooking Ranges.*—Patent dated November 23, 1858.—The nature of this invention consists in so constructing and arranging of the range that nearly the whole heat from the fire shall be retained in the range, thus rendering a much smaller fire sufficient to perform a given amount of work or cooking; and in so constructing and proportioning the top plate of the range that vessels can be kept constantly boiling and cooling without soiling or injuring them.

The inventor says: I *claim* the arrangement and combination of the flues *c* and F with the breaks or parts G, 1, and 2, substantially as described, and the damper *f*, in connexion with the main flues F F, directly underneath the fire, for the uses and purposes set forth.

I claim also the arrangement of the broiling grates H H, with the flue *c*, for the purpose of applying the heat of such fires directly to and making it effective in heating that part of the range most distant from the principal fire.

I claim also the construction and arrangement of the top plate D, as described, by which the front and back rails *o o*, are made a part of the body of the range, while the central part of such plate is made in separate sections, the back rail being also a base or foundation for the mason work, as set forth.

No. 19,368.—James Ingram, of New York, N. Y.—*Improvement in Water Backs for Ranges.*—Patent dated February 16, 1858.—The nature of this invention will be understood from the claim and engravings.

The inventor says: I *claim* arranging the water back and parts connected with and supporting the same in substantially the manner specified, so as to allow the said water back to be moved away from the fire or be brought in contact with the same without disturbing the pipes and connexions, substantially as and for the purposes specified; and in combination with said movable water back I claim the lever *k* and weight 9, to move the intervening soap-stone or fire-brick, substantially as specified.

No. 21,702.—Joseph Schmadel, of Dayton, Ohio.—*Improvement in Cooking Boilers for Ranges and Stoves.*—Patent dated October 5, 1858.—This invention consists in having the lower part of the boiler, or kettle, or other vessel, provided with a series of tubes placed around the vessel at its inner side and communicating with the fire when the vessel is placed on the stove or range, the upper ends of the tubes communicating with a chamber which encompasses the upper part of the vessel, said chamber being connected with the flue or pipe, and formed by having the upper part of the vessel constructed with double sides.

Claim.—The new manufacture of cooking boiler for stoves and ranges described, to wit: a cooking boiler provided with perpendicular tubes or flues around its sides, from the bottom upward, and opening into a horizontal flue or chamber around the top of the boiler for the blaze and smoke to pass through, substantially as described.

No. 20,589.—William F. Shaw, of Boston, Massachusetts.—*Improved Light Reflector.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A foraminus reflector or lamp shade made of conducting or slowly conducting material, constructed substantially in manner and so as to operate as described, both as to the reflection of light and the dispersion of heat and light.

No. 20,106.—Edward A. Tuttle, of Brooklyn, New York.—*Improvement in Warm Air Registers and Ventilators.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim any feature seen in the device of W. G. Cook, 1848, S. P. Munson, 1853, or the patent of George Pollock, 1847.

But I *claim* an improved article of manufacture, a warm air register made as herein set forth, viz: the frame B B, having lugs *l l*, and recesses *f f*, and the end pieces C, provided with lugs e^1, for the reception of screws *k*, the ledge or step and openings p^1 p^1 p^1 for the leaves, all substantially as shown, when combined with a mechanism for operating the leaves.

No. 21,416.—Theodore Heerman, of Mitchellville, Tennessee.—*Improvement in Coffee-Roasters.*—Patent dated September 7, 1858.—The nature of this invention consists in the employment of two reversely inclined plates which have a space existing between their approximating ends on the inner circumference of a revolving coffee-roasting cylinder, which has its inner surface made otherwise plain, or furnished with a straight lifting shelf.

Claim.—The employment of two reversely inclined concentrating plates, which have a space existing between their approximating ends on the inner circumference of a revolving coffee-roasting cylinder, substantially as and for the purposes set forth.

No. 21,845.—Charles John Christian Petersen, of Davenport, Iowa.—*Improvement in Coffee Roasters.*—Patent dated October 19, 1858.—The nature of this invention consists: 1st. In supplying the coffee drum with a damper *e e*, whereby the heat is at pleasure diffused

over the surface of the drum in the process of roasting the coffee, or is excluded from it. 2d. In furnishing the slide door of the coffee drum *g* with a self-adjusting lock *h*.

The inventor says: I *claim* the application of a damper constructed and operating substantially as set forth to the drum of a coffee-roaster.

I also claim the spring catch *h* and block *n*, in connexion with the sliding door of the drum, constructed and operating substantially as described.

No. 21,387.—Samuel Tower, of Grand Rapids, Michigan.—*Improved Apparatus for Roasting Coffee.*—Patent dated August 31, 1858.—This improvement consists in having a portion of each of the journals, or axes of the contrivance, attached to each sphere, so that when the spheres are closed the axes will be completed and the parts will be locked together.

Claim.—Having a portion of each of the journals or axes B C attached to each sphere or shell *a b* and otherwise arranged and combined as set forth, so that when the spheres or shells are closed, the axes or journals will be completed, and the shells will be locked, all as and for the purposes described.

No. 21,119.—John B. Cornell, of New York, N. Y.—*Improved Safety Guard for Safe Doors.*—Patent dated at August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* arranging a safety guard within the door of an iron safe in such a manner with relation to the lock or locks, and the fastening bolts which are combined with said door, that the act of forcibly displacing the said lock or locks from its or their proper position on a locked door will cause the said safety guard to be thrown into such a position that it will securely hold the said fastening bolts in an extended position from the moment that the lock bolts cease to exert a retaining action on the said fastening bolts, all substantially as set forth.

No. 19,111.—John B. Creemer, of New York, N. Y., assignor to Himself and S. Dwight Humphrey, of New York, N. Y.—*Improved Match Safe.*—Patent dated January 12, 1858.—The nature of this invention consists in a grooved cylinder at the bottom of a closed hopper, in connexion with an inclined plate or slide, in such a manner that on turning the said cylinder will be delivered, one at a time, on to the incline and slide down the same, ready to be picked up and lighted.

Claim.—The grooved cylinder *b*, in combination with the hopper C and inclined slide 3, to deliver one match at a time, substantially as specified.

No. 20,989.—Ira L. Cady, of New York, N. Y.—*Improvement in Plates for Burglar-proof Safes.*—Patent dated July 27, 1858.—The nature of this invention consists in forming a burglar-proof plate, by the combination of a stratum of molten iron with one or two perforated plates made of wrought iron, to be used in the construction of safes, &c.

Claim.—Forming a burglar-proof combination plate by the union of a stratum of molten iron with one or two perforated face plates *a c*, of wrought iron, substantially in the manner represented and described.

No. 19,923.—John T. Garlick, of New York, N. Y.—*Improved Water and Fire-Proof Safe.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim making a safe either fire-proof or water-tight, nor making it sufficiently buoyant to float in the water in case of necessity.

But I *claim*, first, combining a series of air cells or spaces with a filling of non-conducting material, in a safe having a door or doors closing water-tight to render the same sufficiently buoyant to float on the water, and also to resist the action of heat and prevent the heat communicating to the articles stored in the safe, in the manner set forth.

Second. The combination of the safe, constructed and arranged as described, with the loose bed or bottom piece H, as and for the purposes set forth.

No. 21,405.—Louis D. Bartlett, of Boston, Massachusetts.—*Improvement in Coal or Ashes Sifters.*—Patent dated September 7, 1858. The object of this invention is to construct the covers of vessels used as receptacles for ashes so that when sifting cinders in a common circular coal seive, of the kind and size usually sold, it can be used in such a manner as will prevent the escape of dust and allow the ashes to pass at once into the vessel without further handling.

Claim.—The inventor says: I do not claim using a circular seive on top and fitting into the vessel, to be rotated back and forth, for that is old and well known.

But I *claim* using the annular ring A, and the cover B, in combination with the seive, substantially as described.

No. 20,909.—William Webster, of Jefferson county, Washington Territory.—*Improved Smoke Stack for Steam Vessels.*—Patent dated July 13, 1858.—The nature of this invention consists in the arrangement whereby is increased the draught while diminishing the height of smoke stacks for steam vessels; keep the outer shell cool; exclude rain; and divert the heat and cinders from the masts, sails, and rigging.

Claim.—First. The arrangement of two or more pipes D D D, &c., within an outer shell B, as described.

Second. The application to a double shell smoke stack of the registers L L, &c., as and for the purpose described.

No. 19,240.—Rufus Dawes, of Washington, D. C.—*Improvement in Stoves.*—Patent dated February 2, 1858.—The nature of this invention consists in so constructing the burner (which consists

of grates or cylinders, the one within the other) that the coal or other fuel shall be placed between concentric circles, or between similarly disposed boundaries of other forms, made of iron, or other suitable material, so that there may be an abundant supply of oxygen around and within the fuel, the two currents of air meeting and concentrating by means of the cylinder *b*.

The inventor says: I *claim* the combination of the outer bars *e* and the inner bars e^1, arranged so as to admit an air passage *g*, through the fuel, and an air passage k^1, between the outer bars and the casing *b*, for the purpose of supplying the inner and outer surfaces of the fuel with air, by which arrangement the combustion of smoke is effected.

No. 19,796.—Silas T. Savage, of Albany, New York.—*Improvement in Stoves.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that stoves have been constructed with grates open all around, or basket-wise, so as to use the radiant heat from the back of the fire for roasting or other cooking, but that arrangement does not effect either one of the objects of my invention as stated, and I therefore disclaim any such construction or arrangement of grate and stove.

But I *claim* in furnaces or stoves the employment of a receptacle for the fuel, closed at front and partially at bottom, with open grate bars for a part of its bottom and for the rear, opening into an air or draught chamber between them and the back plate of the fire-chamber, substantially as described in the specification and for the purposes set forth.

No. 20,274.—Joseph C. Henderson, of Albany, New York.—*Improvement in Stoves.*—Patent dated May 18, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The chamber G, contracted at the top so as to produce and maintain while in action a plenum within the combustion chamber when used in combination with the exterior chamber and connected by partition D D, as described, for the purpose of preventing the escape of the volatile combustible from the combustion chamber before its combustion is consummated.

No. 20,389.—Charles Hoofstatter, of Rome, New York, assignor to Joseph Firman, of said Rome.—*Improvement in Stoves.*—Patent dated May 25, 1858.—This invention consists in constructing and so arranging the stove as to bring the heat to bear mainly on the ovens, by causing it to pass around, over, and under them previous to its reaching the upper compartment or escaping up the chimney.

Claim.—The flues H H^1 and H^2 and partition J J^1, in connexion with the ovens I and I^1, when the whole are arranged in relation to each other in the manner as and for the purposes set forth.

No. 20,466.—J. S. Brown, of Washington, D. C., assignor to Himself and Joseph Kent, of Baltimore, Md.—*Improvement in Stoves.*—Patent dated June 1, 1858.—The nature of this invention consists in

utilizing a portion of the heat escaping through the smoke pipe D by heating therewith the draught of air supplied to the burning fuel to support the combustion thereof. This improvement may be applied to stoves and furnaces of all kinds. Instead of having the draught pipe C within the smoke pipe D, the latter may be within the former.

The inventor says: I do not claim simply heating the draught air before it reaches the fire chamber.

Nor do I claim heating the draught air by contact with a smoke passage situated within the stove, the application of my invention being only to a smoke passage situated outside of the stove; that is, to what is understood by the term smoke pipe.

Therefore I *claim* introducing the air which supports combustion of the fuel in the stove, through, around, or otherwise in contact with the smoke pipe, whereby a portion of the heat escaping said smoke is utilized in improving the combustion of fuel.

I also claim the valve I, arranged and operating in combination with the draught pipe *c*, substantially as specified.

No. 21,103.—Joseph H. Wilkinson, of Concord, New Hampshire.—*Improvement in Stoves.*—Patent dated August 3, 1858.—A is the outer casting or body of the stove, surrounding a flame chamber or fire pot; B is the base of the stove formed of two plates about four inches apart, having two vertical plates running from C to D. By this arrangement the heat is thrown to the front of the stove; thence through the centre to exit pipe E; thus warming the whole bottom of the stove.

The inventor says: I do not claim a ventilating stove or a stove for burning the gases by admitting oxygen.

What I claim is, first, the arrangement of pipe K within pipe E and damper L, constructed and operating as and for the purpose described.

Second. I claim inserting the air chambers J J, constructed as described, in the linings of the fire-pot for the purpose set forth.

Third. I claim the holes *m m*, in connexion with the bed plate O, provided with the arch piece S, or their equivalents, for the purposes substantially as set forth.

No. 21,084.—Andrew Ralston, of West Middletown, Pennsylvania.—*Improvement in Stoves.*—Patent dated August 3, 1858.—The nature of this invention consists in an arrangement for regulating and throwing the draught to either side of the stove, and for carrying the heat a number of times around the cooking vessels; and also in an arrangement of the chambers 1 and B, and the regulating valves *e* of the fan on the collar of the stove where the pipe is usually attached.

The inventor says: I *claim*, first, the arrangement of the side chambers 1, the centre chamber B, and the regulating valves *e* of the fan on the collar of the stove where the pipe is usually attached, as described and set forth.

Second. The arrangement of the curvated bearing *w*, the opening 4, the cam rachet *g*, the rachet pawl *f*, the damper *p*, with its three journals, and the division plate o^1, as described and for the purpose set forth.

Third. The arrangement of the plates m^1 and m^2, with their division pieces x, and the openings 5, and the large openings for the cooking vessels, as described, and for the purpose set forth.

No. 21,191.—Cornelius O. Foley, of Troy, New York.—*Improvement in Stoves.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The arrangement within the outer casing of the stove of the chambers G D, descending and ascending flues H H^1 J J^1, and exit pipe C, with the open front combustion chamber B, provided with the opening F, as described, whereby what is known as the "Franklin stove" is made a good radiator without materially impeding its draught, as set forth.

And I also claim the division plates E furnished with the opening F, and constructed and arranged in combination with the chambers D D, flues H H^1 J J^1, smoke pipe C, and fire chamber B in the stove, substantially as and for the purposes set forth.

No. 21,446.—Silas T. Savage, of Albany, New York.—*Improvement in Stoves.*—Patent dated September 7, 1858.—The engravings represent a cylindrical hall or parlor stove externally of the form in use at the present time, the external shell or cylinder being represented as having the half next the spectator and a portion of the hearth and side of the ash pan removed, in order to show the internal structure. The grate with its dome is shown in perspective.

Claim.—The combination of an open cylindrical or basket grate, with a dome, or a cone-shaped cover placed within an outer chamber, having a register for the admission and regulation of a current of air between the grate and the walls of said chamber, arranged near the bottom of the chamber, substantially as the same is described and for the purposes set forth in the specification.

No. 21,938.—J. H. Buchanan, of New Concord, New Hampshire.—*Improvement in Stoves.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement, consisting of the concave bed or ash pit A, of larger diameter than the grate, and constructed with supporting lugs or ledges *a a*, semi-spherical open top grate or fire chamber C *b b*, with draught space *m* existing between it and the ash pit or bed A, and flaring stove-pipe D appearing as a continuation of the grate, and furnished with a transverse feed and draught door F, and arranged above the fire grate, and made adjustable in a vertical line with the fire grate on a vertical standard, all for the purposes stated and substantially as set forth.

No. 22,250.—Charles Hartwell, of Boston, Massachusetts.—*Improvement in Stoves.*—Patent dated December 7, 1858.—This invention is a portable cooking apparatus, so provided that it may, if desired, be put in communication with the external air, so that it may be made to ventilate the apartment or the building.

The inventor says: I *claim*, in connexion with the evaporating vessel E, or its equivalent, for supplying vapor to the air, the described arrangement of the parts of my stove, consisting of the fire pot A, lower chamber B^1 D^1, receiving pipe *d*. tubes *c*, and oven, or other cooking vessel F, arranged in relation to each other, substantially in the manner and for the purposes described.

And, in connexion with the above, I also claim the aperture *a* leading from the interior of the case B to the ash pit, in the manner and for the purposes described.

No. 22,277.—John S. Clark and Washington Harris, of Philadelphia, Pennslyvania.—*Improvement in Stoves.*—Patent dated December 14, 1858 —This invention consists in combining with adjustable air passages through the shell of the stove at the upper end of the interior cylinder or lining of the fire surface a section of a hollow annulus, with perforations for allowing the heated air to pass through and among the products of combustion, the hollow annulus resting upon the top of the lining by its one edge, the other edge being against the shell of the stove, and thus forming a chamber.

Claim.—Combining with the adjustable air passages at the top of the interior cylinder or lining the section of the hollow annulus, with perforations, its lower edge resting upon the inner edge of the lining, and its upper edge against the shell plate, and thus forming an air chamber, as set forth.

No. 22,276.—John S. Clark, of Philadelphia, Pennsylvania.—*Improvement in Stoves.*—Patent dated December 14, 1858.—This invention consists in combining with adjustable air passages through the shell of the stove at the upper end of the interior cylinder or lining of the fire surface a section of a hollow annulus, with perforations for allowing the heated air to pass through and among the products of combustion, the hollow annulus resting upon the top of the lining by its one edge, the other edge being against the shell of the stove, and thus forming a chamber.

Claim.—The movable plate *d*, as it is arranged with and has relation to the grate, the usual back plate *f*, the air passages *i i*, and the passage for the products of combustion, as set forth.

No. 22,342.—R. W. Belson, of Philadelphia, Pa.—*Improvement in Stoves.*—Patent dated December 21, 1858.—Around the base of the fire pot is constructed an annular chamber *a*, having a vertical partition *b* and an opening *c* on one side of *b*, communicating with the air of the room; on the other side of *b* is another opening *d*, communicating with the vertical passage *e* made in the outside of the fire pot. This passage communicates with the annular chamber *f* surrounding the top of the fire pot, this chamber *f* being pierced on its inner side with numerous small holes *g*, through which the heated air is to pass to impinge upon the gases arising from the fuel. Leading upward from the passage *e* is a pipe *h*, which is to convey a stream of hot air directly to the escape pipe *i*.

The inventor says: I am aware that an annular chamber with air

jets above a fire for consuming gases is an old and well known device, and I therefore limit my *claim* to the improvement described, to wit:

The combination of the air chamber *a* surrounding the base of the fire pot with the annular chamber *f* at the upper part of the fire pot, as described.

I also claim the jet pipe *h* in combination with the annular chamber *a* and escape pipe *i*, as described.

I also claim the adjustable heater *r*, constructed, arranged, and operating over the fire, substantially as described.

No. 22,392.—David Wells, of Lowell, Massachusetts.—*Improvement in Stoves.*—Patent dated December 21, 1858.—This invention consists in a peculiar arrangement of flues, an air heating chamber, and smoke chamber, whereby the combustible portion of the products of combustion is brought in contact with a suitable portion of heated atmospheric air, and ignited in a chamber separate from the fire chamber, but by the heat or fire therefrom.

Claim.—The arrangement of the flues D^1 D^1, smoke chamber E, air-heating chamber G, and fire chamber B, the latter communicating with the smoke chamber by means of the perforations *b*, and the smoke chamber communicating with the air-heating chamber by perforations *a*, substantially as and for the purpose set forth.

No. 22,416.—Nelson Edwards, of Chittenden county, Vermont.—*Improvement in Stoves.*—Patent dated December 28, 1858.—"I," in the figure 3, shows a sectional view of hydro-atmospheric jet, whose office is to dispense in small jets, through orifices in its surfaces, combined atmospheric air and watery vapor among the exsiccated gasses that rise into the gas chamber; the gas chamber is that part of the furnace above the smoke flue and fuel port in which the apparatus is situated, and thus by furnishing a limited and constant supply of watery vapor to the gasses, convert them into hydro-carbons, and by a rich supply of oxygen from the watery vapor, and also from the air, enable them to burn up and yield an amount of heat instead of passing away by the draft unconsumed.

The inventor says: I *claim* the application to a stove of an improved combined hydro-atmospheric jet and gas chamber.

I also claim the stove containing coiled smoke pipe in its combination with the plurality of stove walls, substantially as described.

No. 21,445.—Silas T. Savage, of Albany, New York.—*Improvement in Coal Stoves.*—Patent dated September 7, 1858.—A A A A is the magazine for fuel, A A B B D the fire chamber, G the grate, C the ash pit. The fire chamber projects back of the main body of the stove and the flues or radiators R R rise up above the projection and enter into the upper chambers of the stove E, carrying thither the products of combustion, whence they pass out by the pipe H. The supply of fuel is put in through the top door I and the door K below it. The draught is supplied from the ash pit C and from the upper and lower registers M and N, the lower register being ordinarily

used, but whenever it is desired to increase the fire the upper one is used which brings a larger amount of fuel in the line of the draught of air.

Claim.—The combination of the magazine, radiators, and the air chamber at the base of the radiators, as arranged in reference to and with each other, substantially as set forth and described in the specication.

No. 21,731.—Joseph M. Babcock, of Albany, New York.—*Improved Hot Air Cook Stove.*—Patent dated October 12, 1858.—The nature of this invention consists in the arrangement of the perforated side plates, the double bottom, and the elevated oven.

The oven is made double except at the ends, and the hot air which rises from the double top passes around the oven and passes into the smoke pipe. The flue around the oven is stopped by a plate on the back side near its exit, in order that the air may be made to pass around at all times in one direction. This stove is provided with two side plates A A^1, the inner plate being solid.

The inventor says: I am aware that perforated side plates are not new, and also that elevated ovens are not new, and also that double top plates have been used, with apertures communicating with the fire.

I am also aware that hot air has been used and passed around the oven by Silas T. Savage, for the purpose of cooking; hence I do not claim any of these in this application.

Neither do I claim the form and construction of the oven.

But I *claim* the combination of the double top, the perforated side plates, and the elevated oven, the same being arranged and operated in the manner and for the purpose described.

No. 19,650.—Christian Raub, of Davenport, Iowa.—*Improvement in Cooking Stoves.*—Patent dated March 16, 1858.—In the engravings D E F G are four separate cooking stoves which are heated simultaneously by the fire in the chamber A; each of these stoves are provided with an oven H, with doors I; K is a water chamber, through the centre of which passes the stack L, through which the fuel is fed into the stove; M is the smoke stack; N the pipe for the escape of smoke; L M the draft of air through the grates *a*, which are regulated by the sliding dampers C.

The inventor says: I would state that letters patent were granted to me on the 20th of October, 1857, on a stove, in which I have claimed the combination of the feeding stack with the spreading cone, and the simultaneously acting dampers. I therefore do not lay claim to these here.

But I *claim* the arrangement described of the series of stoves, fed by one central stack, and provided with one central smoke stack and a central water boiler, substantially in the manner and for the purpose set forth.

No. 19,651.—Christian Raub, of Davenport, Iowa.—*Improvement in Cooking Stoves.*—Patent dated March 16, 1858.—The kindling material is placed upon the grate *a* through the aperture *m*. The

cover *p* is then raised, and the coal is fed into the stove through the trunk H, and falls down upon the spreader G. When the fire is kindled the atmospheric air enters the stove, as seen in the engravings *o* and *z*, and the heated gases pass through the flues which surround the ovens C D E F and escape through the pipe M.

Claim.—The arrangement of the feeding trunk and its water chambers in combination with the fire chamber, ovens, and flues, for the escape of the gases of combustion, substantially in the manner and for the purpose set forth.

No. 19,956.—James Spear, of Philadelphia, Pennsylvania.—*Improvement in Cooking Stoves.*—Patent dated April 13, 1858.—This improvement relates to the means by which minute jets of heated air are introduced at pleasure into cooking stoves, or ranges, immediately above the ignited fuel, for the purpose of aiding the conversion into flame of the greater portion of the gaseous products of combustion, which would otherwise pass off through the flues without being consumed.

Claim.—The hollow centre piece *p*, when connected with the hot air tube *t*, and constructed in the manner and for the purposes set forth.

No. 20,265.—Rensselaer D. Granger, of Philadelphia, Pa.—*Improvement in Cooking Stoves.*—Patent dated May 18, 1858.—This invention consists in arranging an oven, constructed of burnt fire clay, or other material capable of absorbing and retaining heat, with an ordinary cooking stove, in such a manner that the products of combustion may be caused to pass either through the said oven or around the same. In connexion with the clay lining is an annular perforated tube M and air-pipe N, so constructed and arranged that the unconsumed gases in the products of combustion shall be ignited before they pass into the interior of the oven.

The inventor says: I *claim*, first, combining an oven, constructed of burnt fire clay, or other equivalent material capable of absorbing and retaining heat, with an ordinary cooking stove, in such a manner that the products of combustion may pass either around or through the interior of the oven for the purpose specified.

Second. The arrangement of the annular perforated tube M and its air-pipe N, with the lining G, the same being arranged substantially as and for the purpose set forth.

No. 20,450.—James Spear, of Philadelphia, Pa.—*Improvement in Cooking Stoves.*—Patent dated June 1, 1858.—The nature of this invention consists in the construction of centre pieces A B, covers M M, and top plates D on cooking stoves and ranges, to prevent them from being affected by excessive heat; and also for the introduction of small jets of heated air directly over the fire, for the purpose of igniting the gas arising from the coal.

The inventor says: I *claim*, first, the adjustable hollow front and middle centre pieces A and B, perforated on the lower side, arranged and constructed in the manner set forth and for the purpose described.

Second. I claim the curved plate D, with lip *i*, when connected with front plate H and top plate G and hollow centre pieces A and B, or their equivalents, constructed in the manner and for the purpose set forth.

Third. I claim the hollow covers M M, constructed in the manner set forth and for the purpose set forth.

Fourth. I claim the combination of the covers, as constructed with the centre pieces as constructed, substantially as set forth.

No. 20,430.—Marcus L. Horton, of Claremont, N. H.—*Improvement in Cooking Stoves.*—Patent dated June 1, 1858.—The air, coming in through the dampers D D, passes through the tube G, where it is heated, and then enters the open space O; by opening the register H, it is let into the oven for baking purposes; then by opening the register I it will pass into the air chamber M, and then through register J and the rear damper into the pipe.

Claim.—The arrangement of the register C, dampers D D, hot-air chambers O and M, and register H I and J, for admitting, controlling, and regulating the heated air, as set forth.

No. 20,682.—George G. Richmond and George W. Pittock, of Troy, N. Y., assignors to Themselves, C. Phelps, and J. Lown, of said Troy, and said Pittock having assigned his interest in the same to D. B. Carver, of same place.—*Improvement in Cooking Stoves.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We *claim*, first, the arrangement of the passages J, provided with dampers C, with hot-air chamber D and slide K or L in the oven C, as described, whereby the intensely hot air of the chamber D may be directly applied to the otherwise insufficiently heated under side of articles baking upon the slide, and to the upper side of those on the oven bottom.

Second. We claim, in combination with the fire-pot A, plate M, chamber D, passages J, and slide K or L in the oven C, arranged together in the stove as described, the top plate E of the oblong hot-air chamber D, constructed substantially as represented, whereby the heat of the air admitted into the oven between the two tiers of articles baking is augmented.

No. 20,668.—Samuel B. Spaulding, of Brandon, Vermont.—*Improvement in Cooking Stoves.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim any particular form or construction of stove.

What I *claim* is the extending of the bottom of the stoves and flues G H H at the back end, so as to form a boiler seat for the reservoir E, so that by the peculiar arrangement of the sliding plate or damper F the reservoir can be heated at pleasure without affecting in the least the other operations of the stove.

No. 20,733.—Silas T. Savage, of Albany, New York.—*Improvement in Cooking Stoves.*—Patent dated June 29, 1858.—The object of this invention is to permit the use of bituminous coal to effect the

heating of the oven without the consequence of fouling the flue surrounding it with the fuliginous matter passing over in the smoke of that kind of coal.

The inventor says: I do not claim the employment of hot air to heat an oven.

But I *claim* the arrangement of air tubes *t t t* across the main flue of a cooking stove, for the purpose of receiving and transmitting the caloric of the fuel to the walls of an oven by a current of heated air, substantially as set forth in the specification.

No. 21,171.—JOHN L. STEWART, of Nashville, Tennessee, assignor to RUDOLPH A. NATHURST, of said Nashville.—*Improvement in Cooking Stoves.*—Patent dated August 10, 1858.—The object of this invention is to prevent the escape of the products of combustion, smoke, gas, &c., from cooking stoves when in use—an object not hitherto attained on account of the exposure of the fire while cooking vessels were being adjusted in and removed from the holes in the top plates.

The inventor says: I do not claim the placing of an oven over the fireplace of a stove, for such an arrangement may be seen in many cook stoves.

But I *claim*, in connexion with the sunken recesses *d*, the use of flues or passages *d e f*, substantially as and for the purposes set forth.

No. 21,518.—APOLLOS RICHMOND, of Brooklyn, Connecticut.—*Improvement in Cooking Stoves.*—Patent dated September 14, 1858.—This invention consists in giving to the front of the oven a curved or projecting form, and in combination therewith, in arranging the boiler holes around it and extending back under it in a curved form, the fire chamber, whereby the four boiler holes as well as the oven are brought into the immediate vicinity of the fire and a stronger construction obtained without increase of bulk, and the fire chamber rendered capable of more readily accommodating pieces of wood of irregular forms.

Claim.—I am aware that a stove was patented to J. Curtis, January 27, 1843, in which the oven projects forward in a rectangular form, having the boiler holes arranged around it, but consider my improvement as differing from said stove, since my oven projects forward in a curved form, and since my fire chamber is also of a curved shape, while that of Curtis' stove is rectangular. I do not, however, lay any claim to either the form of oven or fire chamber separately, or to such construction as embraced in Curtis' stove.

But I *claim* extending the oven forward in a curved form and arranging around it the boiler holes, as set forth, in combination with the curved fire chamber; the whole being constructed and operated as described for the purposes set forth.

No. 21,900.—JOHN PEASON, jr., of Newburyport, Connecticut.—*Improvement in Cooking Stoves.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination and arrangement of the hollow back E of the fireplace with the oven B, the fireplace C, and the flue I, whereby the heat of the fireplace and the said flue is made

to warm the air which passes into the hollow back, such air being subsequently discharged into the oven, as described.

I also claim the combination and arrangement of the smoke flues I K K K and the air flues O N M M, the whole being disposed with respect to the oven essentially as described.

I also claim the air guard S as arranged on the upper smoke flue, and with respect to the air register and discharge pipe thereof, substantially in manner as specified.

No. 22,121.—RICHARD M. HERMANCE, of Stillwater, New York.—*Improvement in Cooking Stoves.*—Patent dated November 23, 1858.—This improvement relates to the arrangement of the flues which conduct the gases of combustion from the fire-box A about the oven B to the exit or smoke-pipe C, in such stoves only as have the fire-box located at the front end of the upper part of the stove, the oven placed under and back of the fire-box, and the exit-pipe at the back end of the top of the stove.

Claim.—The arrangement of the flue strips T T^1 in the chamber D, in combination with the fire-box A, descending flues E E^1 upon the sides of the stoves and oven, flues under the back of the oven, and exit-pipe C, arranged and operating substantially as and for the purposes set forth.

No. 22,147.—GIBSON NORTH, of Philadelphia, Penn., assignor to NORTH, CHASE, & NORTH, of said Philadelphia.—*Improvement in Cooking Stoves.*—Patent dated November 23, 1858.—In describing his improvement the inventor says: I make the adjustable back of my fire-box with a channel, zigzag groove *e e*, which forms, with the back plate of the same, a circulating air chamber, in which fresh air is continually heated and allowed to mix with the escaping gases at the apertures *i i*. In order to make the chamber as tight as possible, furnishing a continuous and perfect channel for the air to pass up, and to secure a thorough heating of the air before it is admitted into the draught of the stove, I make use of the supplementary grooves *m m*, which may be fitted into projections *n n* on the adjoining plate, and rendered air-tight by cement. At *d* are apertures for admitting air into the heating chamber *e e*.

Claim.—The arrangement of the grooved back of the fire chamber and cold air chamber in the flue and the guard plate at the corner of the oven, substantially as described and for the purpose specified.

No. 22,223.—FEDERAL C. ADAMS and JOSEPH PECKOVER, of Cincinnati, Ohio.—*Improvement in Cooking Stoves.*—Patent dated December 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We are fully aware of the common use of vertical partitions in stoves to divide the descending from the ascending portion of a flue, but know of none constructed and arranged in this manner.

We are also aware that it is common to admit air in various ways and for manifold purposes, but not in this precise manner and for these purposes.

Therefore, we *claim*, in combination with the smoke passages formed by the single vertical and inclined partition E, arranged with regard

to the exit aperture B, as described, the admitting of air under the grate into the air spaces, and from thence into the smoke passages, by means of the perforations in the lip or flange of the back lining plates of fire-box, all substantially as and for the purposes set forth in the specification.

No. 20,133.—James Esterly, of Albany, New York.—*Improvement in Ovens for Cooking Stoves.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this inventibn.

I am aware that stove ovens have been in whole or in part lined with brick gypsum and other non-conducting substances, the object being in those cases to prevent the radiation of the heat from the interior of the ovens, either to make a cool, summer arrangement, or to retain the heat internally. This I disclaim, as not being the intention of my arrangement and invention, which requires not non-conducting, but slow-conducting solid material; not to keep heat within the oven, but to transmit heat applied externally slowly and steadily to the interior of the oven.

But what I *claim* is the construction of stove ovens or analogous structures by surrounding them with double outside walls, containing in the chamber formed within them some slowly conducting and radiating solid material to absorb heat communicated on the outside of the chambers and radiate the same internally, substantially as described in the specification.

No. 21,046.—Merriman P. Dorsch, of New York, N. Y., assignor to Peter Dorsch, of Schenectady, New York.—*Improvement in Stoves for Burning Soft Coal.*—Patent dated July 27, 1858.—In the centre of the fire-box B is placed a perforated cone E, which is open at its bottom so as to receive the necessary air to effect the combustion of the coal as well as its evolved gases. On top of this perforated upright cone is placed an inverted perforated frustum F, with a closed cover *e* on it.

The inventor says: I am aware a perforated cone for admitting jets of air to fuel is not new. I am also aware that a rosette furnished with holes has been used. I do not, therefore, claim either of these things individually.

But I *claim* the combination of the perforated cone and rosette when arranged with regard to the fire-box and operating as set forth and represented.

No. 19,114.—Patrick Mihan, of Boston, Massachusetts, assignor to Himself and Gilman Davis, of Boston, Massachusetts.—*Improvement in Gas Stoves.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware of the gas stove of Price, as patented in Great Britain in the year 1852.

I am also aware of the gas stove of Kimberly, as patented in Great Britain in the year 1853.

My stove differs essentially from these; for in each of the said stoves of Price and Kimberly ordinary argand gas-burners are used, whereas my stove is constructed to burn air and gas in mixture; and when they burn together on a wire gauze or perforated cap or disseminator,

the volatile products of combustion differ materially from those resulting from the combustion of ordinary gas alone in air; aldehye and formic acid and other disagreeable vapors result from the combustion of the air and gas when mixed preparatory to being burned.

My stove combines with these vapors a perfumed vapor, in order to render them agreeable, or to overcome their disagreeable effluvia.

I *claim* the combination of the perfuming chamber and apparatus with the air and gas-burner and the chamber of combustion.

No. 21,075.—Moses W. Kidder, of Lowell, Massachusetts.—*Improvement in Gas Stoves.*—Patent dated August 3, 1858.—In the engravings the combustion chambers or body of the stove is seen at A, at the bottom of which are the burners K, which are fed through the pipe H. The stove is surrounded by a chamber B, which is annular and cylindrical, and is connected with the former at the top by the tubes C, and at the bottom by suitable stay rods J, the whole being supported by the legs G.

Claim.—The condensing chamber B, with its trap I and pipe D, in combination with a combustion chamber, operating in the manner substantially as set forth.

No. 22,335.—Thomas Shaw, of Philadelphia, Pennsylvania, assignor to Himself and C. S. Patterson, of said Philadelphia.—*Improvement in Gas-Burning Stoves.*—Patent dated December 14, 1858.—This invention consists in an arrangement of an inverted cone in a cylinder, said cone being attached to a gas pipe, and so arranged, in respect to a hollow projection on the said pipe, that the gas may be spread out in a thin stream and exposed to a current of air, the gas being thus mixed with oxygen prior to passing through a wire gauze disk. This wire gauze disk is arranged to overhang an opening, through which the gas passes to the gauze in such a manner that the exterior air may have free access to the under side of the overhanging portion of the gauze, thus insuring a perfect combination of the gas and an extended flame of intense heat. The oven is constructed in a peculiar manner to retain the heat, and at the same time to insure a perfect circulation of heated air through the interior.

The inventor says: I *claim*, first, the inverted cone *c*, when arranged within and in respect to the hollow cylinder A, and connected to the gas pipe B, substantially as and for the purpose set forth.

Second. Extending the gauze disk *e* beyond the opening for the passage of the gas, and so arranging the overhanging portion of the said disk that it shall be exposed to the air, as set forth and for the purpose specified.

Third. The construction of the oven, consisting of the inverted box D, its opening *q*, and lining E, and the inner cylinder *k*; the whole being arranged to form the intervening passages *m n* and *p*, for the purpose set forth.

No. 19,713.—David S. Quimby, of Brooklyn, New York.—*Improved Stove Heating Apparatus.*—Patent dated March 23, 1858.—B is the heater of cylindrical form, and is placed within or upon the top of the body of the stove; D D^1 are division plates placed inside of the heater to confine the current of air brought in by the pipe C; E is the top

plate to the heater, and is secured to it. It has a series of apertures in it, which are placed over the passages formed between the division plates and the sides of the heater to permit the heated air to have egress from the heater.

The inventor says: I do not claim the use or construction of the stove; nor combining a heating stove and heater in one apparatus; nor bringing a current of cold air to the heater, to be heated and diffused in the same or another room.

But I *claim* the arrangement of the heating chamber B provided with deflecting plates D D^1, and apertures in the top plate with the cold air flue in connexion with the stove or furnace A, constructed and operating as described.

No. 21,447.—Silas T. Savage, of Albany, N. Y.—*Improved Construction of Coal-Stove Lining.*—Patent dated September 7, 1858.—The object of this invention is to secure the lining entirely, or to a very great extent, from the influence of "clinkers," and to secure comparative permanency thereto This is effected by enclosing the lining of fire-clay within a partial framework of cast-iron in various ways, as is shown in the engravings.

Claim.—The employment of metallic framing to contain fire-clay or other lining for coal stoves, for the purpose of preserving it from injury by adhesion of clinkers, constructed substantially as described in the specification.

No. 20,415.—M. C. Fagan, of Troy, N. Y.—*Improved Wood-Burning Stove.*—Patent dated June 1, 1858.—This invention relates to an improvement in that class of wood-burning stoves which are of cylindrical form, and consists in so constructing the stove that it may be extended when necessary, so that when short wood cannot be procured, the stove may, with the greatest facility, be adapted to receive longer sticks.

The inventor says: I do not claim broadly, or irrespective of the arrangement shown, a cylindrical stove provided with a circuitous draught passage, for such device has been previously used.

But I *claim* the extension C, constructed similarly to the main portion A of the stove, and arranged substantially as shown, so that the stove may be extended when desired, for the purpose specified.

No. 21,707.—William B. Treadwell, of Albany, N. Y.—*Improvement in Lining for Coal Stoves and Furnaces.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of hollow blocks of metal, filled in with siliceous sand, as a new article of manufacture, to be used as a substitute in the place of fire-brick for the lining of the fire chambers of stoves and furnaces, substantially as set forth and described in the specification.

No. 21,410.—James Easterly, of Albany, N. Y.—*Improvement in Grates for Coal Stoves.*—Patent dated September 7, 1858.—The nature of this invention consists in constructing the grate and the bar on which it rests, and combining therewith a clasp spanning the bar

to be permanently connected to the grate, having a projection extending out parallel with the bar to receive a lever with which the grate may be agitated on a level; and by connecting a lever to the end of the bar the grate may be lifted to a perpendicular position and empty the residuum from the furnace.

Claim.—The combination of the grate B, the bar D, and the clasp H, or its equivalent, when used and operating in the manner and for the purposes substantially as set forth and made known.

No. 21,467.—James Easterly, of Albany, N. Y., assignor to Himself and Dennis G. Littlefield, of said Albany.—*Improvement in Flues of Elevated Oven Cooking Stoves.*—Patent dated September 7, 1858.—The nature of this invention consists in dividing the flue of the stove where the oven is to be set on into three separate passages or flues, the centre passage to serve as a direct outlet to the exit flue; when desirable to entirely avoid heating the oven, the side passages for conveying, as required, the products of combustion and applying them for use at each end of the oven to be placed thereon, and combining with flues thus arranged within the stove an elevated or portable oven.

The inventor says: I do not claim the dividing of the flue of the stove for conveying the products of combustion to separate flues placed at each end of an elevated oven, or to the exit flue, by a centre passage; neither do I claim an elevated oven having a descending flue, with its flue space from end to end of the oven an open chamber.

But I *claim* combining with flues D D, and a centre passage arranged substantially as described within the stove, an elevated oven, having its flue space on its sides and top an open chamber, in connexion with a descending flue, with its exit at the base; the whole arranged and operating substantially as described and made known.

No. 20,919.—Birdsell Holly, of Seneca Falls, New York, assignor to Himself and John S. Edwards, of Seneca Falls, aforesaid.—*Improved Atmospheric Regulator for Stoves, Furnaces, &c.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the employment of a pendulum or balance having a movable axis connected with the valve or damper A by the levers C and D, or their equivalents, in such a manner that the gravitating force shall increase as the damper closes, and diminish as it opens, for the purpose of regulating the admission of air to the fuel, substantially in the manner set forth.

I also claim the method of hanging the damper A by means of the convex pivot bearing C, arm *f*, and sliding pivot *d*, substantially as and for the purpose described.

No. 19,436.—Daniel Moore, of Brooklyn, New York.—*Improved Fire Tongs.*—Patent dated February 23, 1858.—In the engravings, *a* is the handle, *b c* are the moving and fixed legs of the tongs, *d* is the joint, *e* is a curved slide attached to the inner side of one of the legs *b*. The tongue *i* is connected to the inner side of the leg *c*, and slides in the slide *e* as the tongs are opened or shut.

Claim.—The slide *e* and tongue *i*, attached to the respective sides of the legs of the tongs, and acting in the manner and for the purposes substantially as specified.

No. 19,089.—James P. Herron, of Huntsville, Ohio.—*Apparatus for Ventilating Pulpits.*—Patent dated January 12, 1858.—The nature of this invention consists in attaching to and combining with a pulpit, desk, or rostrum, an apparatus whereby a supply of fresh, pure air is afforded to a speaker occupying such places, and at the same time admitting of medicating the pure air to be diffused around the pulpit for inhalation.

The inventor says: I am well aware that tubes, pipes and vents have been used for ventilating dwellings and other places, and such devices I do not claim.

But I *claim* the manner or mode described, with the inspiratory aura-duct formed as shown, and constructed of the mouth and jaw parts *c c d e e f f*, the receptacle *g g*, the tongue valve *i i* J J, in combination with the air-conducting tubes and pipes *a a a b b b*, or in any equivalent manner substantially the same.

No. 20,068.—Elias T. Ingalls and James R. Nichols, of Haverhill, Massachusetts.—*Improved Steam Warming Apparatus.*—Patent dated April 27, 1858.—The claim and engraving explain the nature of this invention.

The inventors say: First. We *claim* the device as set forth for increasing or diminishing the capacity of the fire chamber, so as to maintain a larger or smaller amount of fuel in a state of combustion.

Second. We claim vessel I, in connexion with flexible pipe J and spring L, operating together as described, for controlling a valve or valves affixed to boilers for regulating steam pressure.

We disclaim so connecting this arrangement as to control dampers in the smoke flue and draught, in the manner embraced in C. Devenport's patent of March 11, 1856.

Third. We claim the device, constructed essentially as described, for supplying water to the boiler.

Fourth. We claim, in the construction of fluted or corrugated radiators of thin plates of iron facing across the corrugations, strips of metal securely fastened, and for the purpose as set forth.

No. 21,376.—George W. Smith, of Aurora, Indiana.—*Feet-Warming Device.*—Patent dated August 31, 1858.—This invention consists in having a chamber or box placed in the ground or below the flooring adjoining the forge and the place where the operator or workman stands, said chamber or box being supplied with steam generated in a water tweer, if such tweer be used; or if such tweer be not employed, a tank is inserted in the wall of the forge, so that steam will be generated therein by the heat of the forge, and the chamber or box on which the operator stands be supplied and heated with steam therefrom.

Claim.—The employment or use of the chamber I, when applied to a forge and heated by steam generated within a box E, or its equivalent, by the force of the forge, substantially as described.

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1859.

IN THE HOUSE OF REPRESENTATIVES,

March 2, 1859.

Resolved, That there be printed of the Mechanical part of the Patent Office Report five thousand copies for the use of the Patent Office, and fifteen thousand for the use of the members of the House of Representatives.

Attest:

J. C. ALLEN, *Clerk.*

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VI.—STEAM AND GAS ENGINES.

No. 19,601.—Joseph Wood and H. N. Winans, of Jersey City, N. J.—*Improvement in Steam Boilers.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The interposition of the diaphragm reflector A between the flues and the exhaust, for the purpose of protecting the exhaust from the draught, and for reflecting the heat back to the head; the whole constructed and arranged substantially as described.

No. 19,621.—Abner Clark, of Fort Des Moines, Iowa.—*Improvement in Steam Boilers.*—Patent dated March 16, 1858.—This invention consists in a certain arrangement of tubular water and steam spaces, water walls and connexions in a steam boiler, to obtain a very extensive heating surface and economize the fuel, and at the same time insure a perfect circulation of the water.

The inventor says: I do not claim broadly the employment of a series of pipes for heating the water and collecting the steam.

Nor do I claim broadly the heating of the feed water by the escaping products of combustion; but the special arrangement of parts shown and described I believe to be new.

I *claim* a steam boiler having its walls A B, tubular water and steam spaces C C D D, the cylindrical steam chamber I, tubes E H, connecting elbows F G, and feed water pipes and boxes; all arranged and combined as shown and described, for the purposes specified.

No. 19,669.—Henry Whinfield, of New York, N. Y.—*Improvement in Steam Boilers.*—Patent dated March 16, 1858.—The nature of this invention consists in forming a steam boiler with the fire box B, with one or more longitudinal tubes or flues E, longitudinal tubes or flues F, and vertical tubes or flues G, all connected together and to the sides, ends, and bottom of the shell A of the boiler, as shown in the engravings.

Claim.—The arrangement of the longitudinal, latitudinal, or transverse, and vertical fire tubes or flues, as set forth.

No. 20,167.—James Montgomery, of Brooklyn, N. Y.—*Improvement in Steam Boilers.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

The inventor says: I do not claim vertical tubes in boilers connected with water spaces above and below, except under an arrangement like that set forth, viz: Where the lower water space is immediately over the fire, and the draught of the furnace returns over said space and among the tubes, as set forth.

That is to say, I *claim* the arrangement of the series of tubes placed

vertically or nearly so between an upper and a lower and connecting vertical water spaces, when said lower water space is made directly over the fire chamber and the draught is returned over said lower space and among the vertical tubes, as set forth.

Second. And I also claim the arrangement of the shield plate, in combination with and interposed between the crown sheet of the furnace and the lower ends of the series of water tubes, substantially as and for the purpose specified.

No. 20,319.—GEORGE W. BARNETT, of Springfield, Ohio.—*Improvement in Steam Boilers.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with a furnace arranged centrally within the boiler A, the smoke flues G and exhaust pipes, when so arranged that the smoke and waste heat of the furnace, as also the exhaust steam, shall be conducted together downward through the water in the boiler in the same pipes, for the purposes set forth.

No. 20,802.—ALONZO R. KETCHUM, of Buffalo, N. Y.—*Improvement in Steam Boilers.*—Patent dated July 6, 1858.—The nature of this invention relates to the construction of one common fire and combustion chamber centrally within the boiler, and the relative arrangement of the several furnaces and registers in reference thereto; into which fire chamber the flames, smoke, and gas, from the several furnaces are discharged for the purpose of intensifying and retaining the heat therein, and consuming the gas and smoke therein.

Claim.—The construction and arrangement of the interior fire chamber C, relatively to the furnaces A A, &c., and the registers B B, &c., for the purposes substantially as set forth.

No. 21,017.—ORRIN NEWTON, of Pittsburg, Pa.—*Improvement in Steam Boilers.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that superheated steam has often been used; but as I do not design by my invention to superheat steam, nor to make any chemical change whatever in the steam itself, but merely to fit it for exerting its full power when it reaches the cylinder of the steam engine, by previously subjecting it after it leaves the prime generator to a sufficient degree of heat to expand the steam, and convert into steam any water or watery vapor which has passed with it from the prime generator, anhydrating and expanding without superheating it, I therefore do not claim the use of superheated steam, nor any apparatus for superheating it.

But I *claim* the mode described, or its equivalent, producing a more perfect calorification and expansion of the steam after it leaves the prime steam generator, and before it enters the cylinders of the steam engine, by means of two or more steam chambers *h h*, constructed as described, separate from the boiler *a*, and heated by hot air from the furnace; the steam thus anhydrated passing to the cylinder of the engine from one of these separate chambers, while the steam in the other chamber is being prepared for the next stroke of the engine, substantially in the manner and for the purposes set forth.

No. 22,303.—CHARLES J. C. PETERSEN, of Davenport, Iowa.—*Improvement in Steam Boilers*—Patent dated December 14, 1858.—This invention consists in conducting the heat from the fire through a space under that part of the boiler which contains the heating tubes before it enters them, said space being surrounded by water, and being so constructed that the ashes and cinders are deposited in the same at its end furthest from the fire, where they can be drawn off by a suitable opening. And it further consists in a peculiar construction of the fire grate and of the ash box.

Claim.—Arranging the feed pipe *q* in such a manner under the fire box that the same, in combination with plates *r* placed between the bends of the feed pipe, constitutes the bottom of the ash box, so that the feed water running through the pipe *q* is heated by the ashes, said plates *r* being so arranged that they can be raised and actuated by cranks *t* and levers s^1, so as to leave room for the ashes to escape; the whole being arranged and constructed substantially as described.

No. 22,334.—ISAAC C. STERN, of Philadelphia, Pennsylvania, assignor to Himself and GEORGE W. STONE, of said Philadelphia.—*Improvement in Steam Boilers.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention

Claim.—The application to locomotive boilers of the arrangement of tubes described—that is to say, the arrangement of the coil *b* or its equivalent on the inside and on one side of the fire box, and the coil b^1 or its equivalent on the opposite side, when one coil communicates with one pump and the opposite coil with the other pump of the engine, and when the opposite coils are connected together by the pipe *d*, so that the cold water direct from the pumps may pass into the coils, and thence, in a heated state, into the boiler, and so that the water may at all times circulate through both coils, as set forth.

No. 19,493.—JOHN N. DENNISSON and THOMAS SEALY, of Newark, New Jersey.—*Improved Apparatus for Supplying Water to Boilers.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We *claim* the combination of two chambers with each other and with a steam boiler by means of pipes, stop-cocks, and valves, constructed and operating substantially as set forth, in such manner that the two chambers act alternately and interchangeably as receiving and distributing reservoirs, to receive feed water to heat it by the discharge of steam from the one vessel to the other and to feed it to the boiler.

We also claim the combination of the said apparatus with a steam-heating apparatus situated lower than the boiler, so that the condensed water is raised and returned to the boiler, substantially as set forth.

No. 21,040.—Joseph Whitmore, of Lowel, Massachusetts.—*Alarm Gauge for Steam Boilers.*—Patent dated July 27, 1858.—To insure the rise of the valve E to its seat, a rod L^1 is fastened to the top thereof, which, passing out of the top of the whistle, is attached to a spring S which draws the valve E to its seat as soon as the contraction of the spring allows it to rise. The thumb nut N on the end of this rod secures the spring in place, and also serves as a means by which the rod L may be secured more or less into the bottom of the brass piece M, thereby making the action of the spring K K^1 on the valve E adjustable.

Claim.—The combination of the steam whistle W, valve E, rod L, spring K K^1, and its connexions, and box D, when used in connexion with a steam boiler for the purposes and substantially as set forth.

No. 21,003.—Zalmon L. Jacobs, of Hebron, Conn.—*Apparatus for Regulating the Supply of Water to Steam Boilers.*—Patent dated July 27, 1858.—This invention consists in constructing and arranging an apparatus whereby the flow of fluid from a reservoir B to a vessel A below it is automatically adjusted to the varying requirements of the latter vessel.

The inventor says: I *claim*, first, the combination of a chamber C, having alternate communication with a reservoir to receive a fluid, and a boiler or other vessel in which to deliver it, causing the fluid, when it rises to the desired height in the latter vessel, to check the passage of air and other aeriform bodies to the aforesaid chamber, and thereby to regulate automatically the flow of fluid from said chamber, substantially in the manner set forth.

Second. I claim the movable pipe L, or its equivalent, in combination with the vessel A, for the purpose of changing the line at which the fluid is to be sustained in the boiler or vessel A, as described.

Third. I claim the ring D and the plug O, when constructed, combined, and operated in the manner and for the purpose described.

No. 20,477.—George Brodie, of Little Rock, Ark.—*Improvement in Apparatus for Supplying Water to Steam Boilers.*—Patent dated June 8, 1858.—The object of this invention is to gradually supply steam boilers with water equal at all times to the amount evaporated and used, so that the water within the boiler will be constantly kept at a given height.

Claim.—The arrangement and combination, as shown and described, of the cylinder A, cylinders B B, pistons D D E E, and cisterns C C, for the purposes set forth.

No. 22,271.—Jane H. Lloyd, of Philadelphia, Pa., executrix of Richard L. Lloyd, deceased, late of said Philadelphia, assignor to George T. Parry, of said Philadelphia.—*Device for Preventing Explosions in Steam Boilers.*—Patent dated December 7, 1858.—This invention consists in placing within a steam boiler a metallic conductor made to communicate with the outside, for the purpose of maintaining an electrical equilibrium between the inside of the boiler and the outside thereof, and thus preventing the explosion of the boiler when the water becomes low and the plates unduly heated.

Claim.—As the invention of the said Richard L. Lloyd, placing within a steam boiler a metallic conductor, arranged to communicate with the outside of the said boiler substantially in the manner set forth, in order to maintain an electrical equilibrium between the inside of the boiler and outside thereof, or with any matter surrounding or in connexion therewith, for the purpose specified.

No. 20,380.—Leonard Thorn, of New York, N. Y.—*Feed Regulator for Steam Boilers.*—Patent dated May 25, 1858.—The nature and object of this invention will be understood by examining the claim and engravings.

The inventor says: I do not claim to have invented the combination of a cock and float to regulate the supply of water to a boiler.

But I *claim* making the stem or arm of a hollow float G, which is applied to the cock in the manner described, with a passage through it, connecting with a passage leading through one end of the plug B of the cock, and thereby forming a communication from the interior of the float to the atmosphere, for the purpose set forth.

No. 22,284.—Jacob Frick, of Philadelphia, Pa.—*Improvement in Feed-Water and Blow-Off Apparatus for Steam Boilers.*—Patent dated December 14, 1858.—This invention relates to an improvement in the feed and blow-off apparatus patented March, 1856, and consists in combining with this apparatus an air vessel with cocks and branches, affording a means of throwing a jet of water to any part of a building, so that the instrument, in addition to the advantages described in the above mentioned patent, becomes available for extinguishing fires as well as for supplying water to different apartments for manufacturing and other purposes.

Claim.—Combining an air vessel, having cocks and branches arranged substantially as herein described, with the feed and blow-off apparatus, for which letters patent of the United States were granted to me on March 18, 1856, in the manner and for the purpose specified.

No. 22,169.—F. P. Dimpfel, of Philadelphia, Pa.—*Improvement in Furnaces for Steam Boilers.*—Patent dated November 30, 1858; patented in England May 24, 1856.—This invention consists in passing in atmospheric air through openings through the water spaces; and in distributing air through guarded openings, so that the streams of air may be deflected, heated, and diffused over a larger surface of heated products of combustion; also that the passages for the air shall not be clogged.

The inventor says: I *claim* the passages through the water spaces entering the combustion chamber or extension of the furnace, as described.

I also claim the means, substantially as described, for providing for the perfect consumption of the finer particles of fuel and products of combustion, as set forth.

No. 20,840.—Henry Yates, of Brantford, Canada.—*Improvement in Furnaces of Steam Boilers.*—Patent dated July 6, 1858.—This invention has for its object to economize fuel and prevent the falling of

coals and brands upon the woodwork, either of the bridges or the permanent roadway, and also to increase the water space heating surface of the furnace.

The inventor says: I *claim* the perforated metal cone H, in combination with the tight furnace bottom, operating in the manner substantially as set forth.

2d. And in combination with the above, I claim the damper V, operating in the manner substantially as set forth.

3d. I also claim the water heater I I^1, in combination with the perforated metallic cone and damper, constructed and arranged in the manner specified.

No. 21,013.—James Montgomery, of Brooklyn, N. Y.—*Improvement in Grates for Steam Boilers.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that boilers have been constructed in the manner of two horizontal tubular boilers placed back to back with one smoke-box common to both, and with the grates of the two connected so as to appear as one grate for the two series of flue tubes, and with a door at each end. But this mode of construction does not present the mode of operation which I have invented and claim as my invention; for each half of the grate belongs to and acts in connexion with its appropriate set of flue tubes as in two separate boilers, and the products of combustion from the coals on one end of the grate cannot be made to pass over the other end of the grate.

I *claim* combining with a boiler formed with a series of vertical water tubes, and the flue space *i* among the said tubes communicating with the fire chamber at one end only, substantially as described, a grate made the whole or nearly the whole length of the boiler, and with the fire door at each end, substantially as and for the purpose specified.

No. 19,568.—William Kemble Hall, of West Hoboken, New Jersey.—*Safety Apparatus for Steam Boilers.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that Cadwallader Evans, in April 1839, invented an arrangement by which the melting of a plug allowed the steam to escape, and caused a weight to fall and open a cock, by which water from a reservoir might extinguish the fire; that John P. Bakewell, in December, 1839, patented an apparatus by which the steam only was blown from the boiler on the melting of a plug; and that, in May, 1855, A. M. Glover proposed an apparatus by which an over pressure of steam, when the boiler had a full supply of water, would force some of the water into the furnace, and when the water became low, in such a case, would permit the escape of steam, thus occasioning in various ways the premature escape of steam, which my apparatus is designed to prevent, and which, in many instances, seems to have been the final link in the chain of circumstances leading to the apprehended disaster.

But I *claim* the combination of a valve, fusible metal, and intervening elastic substance, and a pipe leading from the lower part of the boiler, as described, by which the water may first be discharged from a boiler when dangerously overheated, and employed, if desired, to extinguish the fire.

No. 21,991.—Francis Stebbins, of Hinsdale, New Hampshire.—*Safety Apparatus for Steam Boilers.*—Patent dated November 2, 1858. A is a steam boiler, carrying a standard B for supporting the shaft or fulcrum of a tilting lever C. On one arm of said lever a hollow globe or vessel D is fixed, while the opposite arm C of the lever carries a ball E of greater weight than the vessel D, or of such weight as to be capable of depressing that arm of the lever to which it is attached, and elevating the other arm and the vessel D, whenever the latter is empty of water.

The shaft *a* of the lever should be tubular, and have two pipes *f g* leading out of it, one being led into the upper part while the other is led into the lower part of the vessel D

The inventor says: I am aware that it is not new to so combine a vessel with a boiler and an alarm or signal apparatus that such vessel, when the water in the boiler may be above its lowest safe water level, shall be kept filled with water by the pressure of the steam, and when such water may fall below such level of safety such vessel, by the entrance of steam into it, shall be emptied of its water, and thereby, by the abstraction of the weight of water from such vessel, the alarm or signal apparatus shall be put in operation; and therefore I do not claim such. Although I maintain this principle of operation in carrying out my invention, I effect an important and valuable improvement, as my invention rests on an improved mode or means of carrying out such principle, and consists in an arrangement of pipes, with respect to the vessel and boiler, whereby the steam and water passages are entirely separate from one another, so that the water does not hinder or obstruct the passage of the steam from the boiler to the vessel D, one not having to rush directly by and in contact with the other while the steam may be flowing into the vessel D of the safety apparatus. Furthermore, my arrangement presents other advantages, as, by means of it, the safety apparatus is entirely out of the boiler, and is not liable to be injuriously affected by the foaming of the water in the boiler.

I *claim* the improved safety apparatus as specified, or the above described arrangement of the two separate steam pipes *f h*, the two separate water pipes *g i*, and tubular shaft *a*, together and with respect to the boiler A, the vessel D, and its loaded level C, and so as to enable the whole to operate substantially in manner as explained.

No. 22,178.—Hiram H. Havens, of New York, N. Y.—*Improved Sediment-Collector for Steam Boilers.*—Patent dated November 30, 1858.—This invention is intended for collecting the sediment at or near the surface of the water in a vessel that contains water in a comparatively quiescent state.

Claim.—The vessel *a*, fitted with a blow-off pipe, in combination with the rings *e e*, or their equivalents, presenting alternate horizontal

e lges and openings from the lowest water guage or level, for the purposes as specified.

No. 20,398.—Thomas P. Akers, of Lexington, Missouri.—*Telephonic Indicator for Steam Boilers.*—Patent dated June 1, 1858.—With this invention the fall of the water in steam boilers to a dangerous point will always be made known to the engineer, as the very falling of the water insures the opening of a safety-valve and the escape and contact of steam with an alarm whistle. The same arrangement also enables the engineer to convey, by telephonic signals, the fact that all is ready for starting, or any other facts which are necessary to avoid mistakes and accidents. It likewise affords facilities for examining the working condition of the alarm, and thus avoids any danger from the same not being in proper working condition.

The inventor says: I *claim*, first, giving the peculiar specified form to the bracket B on which the float C C¹ is suspended, for the purposes set forth.

Second. The precise manner specified of connecting the valve D with the float stem C¹ by means of a lower extension screw-tapped stem *f*, oblong slot *g*, and adjustable screw nut *h*, for the purposes set forth.

Third. Having the upper extension or stem f^1 of the valve extend up nearly through the alarm whistle standard E, in combination with the providing of a set or valve-opening screw F in the upper end of said standard E, and a valve-closing spring G on the lower extension or stem *f* of the valve, substantially as and for the purposes set forth.

No. 21,686.—Levi E. Lincoln, of Lowell, Massachusetts.—*Improved Water Alarm for Steam Boilers.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the application of an alarm whistle exclusively to the water space of a steam boiler to obtain controlling motive power, in conjunction with an application exclusively to the steam space of said boiler to obtain warning or acoustic power.

Second. The application of a self-adjusting valve to the stem of a steam whistle in manner such that a current may be intercepted thereby.

Third. The application to a whistle of a metallic tube or pipe in such manner that, unexpanded, it shall be pendent from the whistle, and that by expansion and contraction it shall have the office to effect the operation of the whistle.

Fourth The application of a set screw, or mechanical equivalent, to an expansive tube in such manner that the effective expansion and contraction of said tube may be prescribed thereby.

Fifth. The application of a whistle to its support, standard, or framework, in such manner that the whistle shall be suspended from said framework by that portion of itself which extends upward from its bell.

Sixth. The holding of a valve-seat in position for its valve, by pendulous attachment, by suspension.

Seventh. The operating of a valve-seat upon its valve by the expansion and contraction of a metallic tube, or by the expansion and contraction of any mechanical equivalent thereof; all substantially as described and set forth in the specification and drawing.

No. 21,836.—Josee Johnson and Rufus Lapham, of New York, N. Y.—*Improvement in Water Gauges for Steam Boilers.*—Patent dated October 19, 1858.—This invention consists in forming the bore at each end of the glass tube slightly conical or flaring outward, in combination with an elastic conical plug at each end fitted thereto; also in holding the glass tube in place by means of an adjustable plug fitted by a cylindrical stem to a cylindrical hole in the bracket piece which forms the attachment to the gauge of the boiler, whether the said plug be fitted with a conical elastic sleeve or any other mode of packing, so long as the said plug is so adjustable and formed with the required passage for connecting the tube with the inside of the boiler.

Claim.—The hollow plugs *h* and h^1 with conical stem fitting into the glass tube, and the elongated hole or passage h^2, in combination with the screw *k*, for adjusting the plugs, operating as described and for the purposes set forth.

No. 20,927.—Horatio Allen, of New York, N. Y.—*Improvement in Tube-Joints for Condensers.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that, in lines of pipes for conveying water, short pipes of wood, banded at the ends with iron, have been used to connect the iron pipes, the iron pipe being driven into the wooden pipe, or the wooden pipe into the iron pipe.

But this combination is not one for making an imperfect joint tight, but is a combination of wooden and iron pipes, the joints of which shall not, from the material used, be imperfect.

And I do not claim such combination of wooden and metal pipes as embraced within my device.

I *claim* making the joint formed by two metal surfaces (as in the joints of the tubes in the tube sheets of surface condensers and other similar instruments) tight, by inserting between the tube and tube sheet a tube H of seasoned or compressed wood, made either in one or several pieces, relying on the expansion of the wood after being saturated by water to make the joint tight, and on the freedom of the metal tube to move endwise without affecting the tightness of the joint, to avoid injurious results from the expansion and contraction of the metal tube; all substantially in the manner and for the purposes set forth.

No. 20,172.—John C. Fr. Salomon, of Baltimore, Maryland.—*Improved Arrangement of Gas Engines.*—Patent dated May 4, 1858.—The object of this invention is to maintain a uniform pressure of vapor and effect a regular and steady working of the engine, which is accomplished by diffusing, by means of a heating medium enclosed within a tight chamber, an equal heat over the whole surfaces through which the gaseous vapors have to circulate in order to exert their force upon the piston.

The inventor says: I *claim*, first, arranging all the parts necessarily employed in generating and working gaseous vapor within a tight chamber which is supplied with oil, hot air, or other suitable heating medium, substantially as and for the purposes set forth.

Second. The employment, in combination with the above named tight chamber, of the combined arrangement of fire-flues, smoke-stack, circulating coil, boilers, vapor chest, and cylinder, for accomplishing the objects above specified, substantially as set forth.

No. 20,613.—GEORGE AMBROSE, of New York, N. Y.—*Improved Reciprocating Rotary Engine.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arrangement and combination in a rotary engine in the manner specified of the following peculiar features, to wit: First. A stationary axle A, furnished with two ports C C^1, one answering as the supply and the other as the exhaust to a series of cylinders; said ports being separated by a transverse S-shaped partition 1, so that the steam shall be received at one end of the axle and exhausted through the other.

Second. A series of revolving cylinders D D D D D^1, with pistons whose rods have friction rollers 4 4 on their outer ends.

Third. An annular grooved eccentric rim F, which has an inner and outer bearing for said friction rollers of the piston rods.

Fourth. Two cut-off slides 7 7^1; one arranged at the supply and the other at the exhaust port of the hollow axle and intermediate between the revolving hub D^1 of the steam cylinders and said stationary hollow axle, for the purpose of regulating the admission of steam to and the escape of the same from the cylinders, as may be desirable or necessary. All of the above parts being for united use and the purposes set forth.

No. 19,100.—LEWIS PETER, of Gnadenhutten, Ohio.—*Improvement in Rotary Steam Engines.*—Patent dated January 12, 1858.—In figure 1, the engine is represented as turning towards the left hand; to reverse the motion, it is necessary to change the position of steam valve 2 and lever L. The force or power of the engine is gained by the steam acting against the abutment J and the sliding heads T.

Claim.—The movable inclines N and springs, or their equivalents, to operate upon the sliding pistons of the engine, as described, and for the purpose set forth.

No. 19,247.—LEVI F. GOBEN, of Spring Hill, Missouri.—*Improvement in Rotary Steam Engines.*—Patent dated February 2, 1858.—This invention has reference to the ingress and egress of steam, and to the point of resistance of the steam A main shaft, B cylinder, and C solid cylinder. It is secured to the shaft A, and by its movement rotates the shaft.

Claim.—The double-branched sliding abutment D, roller F, flanged wheel F^1, stud *t*, arm *l*, and oscillating valve stem P, constructed, arranged, and operating relative to each other, substantially as specified.

No. 19,537.—ALFRED ARNOLD, of New York, N. Y.—*Improvements in Rotary Steam Engines.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the bevelled periphery of the wheel A, whereby the steam expends its force on the faces of the notches while being divided and passed away from the resisting surface of the wheel.

Second. The steam chest D, with its several perforations, as described.

Third. The combination of the valve F and steam chest D with the wheel of a percussion engine, whereby the power of the engine may be decreased without decreasing the velocity and density of the steam applied, substantially as described and for the purpose specified.

No. 19,697.—JAMES B. GROOMES, of Carmichael's, Pennsylvania.—*Improvement in Rotary Engines.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to the radial piston attached to the shaft, as equivalent devices are well known. Neither do I claim the introduction and exit of the steam through the shaft.

But I *claim* the flanged cylinders *a a*, encasing the shaft at its transverse perforations *i c*, and packed, as described, between the flanges and the cylinder heads, in combination with the steam channels *e* and *d* of the shaft, and the induction and eduction pipes D and E communicating with the annular spaces between the flanges of the cylinders, the whole operating as set forth.

No. 19,967.—LEVI MATTHEWS, of Antrim, Ohio, assignor to Himself and J. K. ANDREWS, of said Antrim.—*Improvement in Rotary Steam Engines.*—Patent dated April 13, 1858.—This improvement has reference to that class of rotary engines in which the steam is confined in a close and rigid chamber, and acts on a solid and inflexible surface, and makes its escape by confined passages, so that its full effect may be obtained in useful work.

The inventor says: While not claiming as new, or broadly, a hinged connexion of the piston with the revolving or driving ring, by jointed attachment or attachments,

I do *claim*, as both new and useful, hinging the circular piston B at its centre to the outside driving ring D, by means of a rigid arm or piece *r* projecting from said ring into the annular steam channel of the cylinder, as and for the purpose set forth.

No. 21,494.—JOHN HARTHAN and EZRA HARTHAN, of Timbersbrook, England.—*Improved Rotary Steam Engine.*—Patent dated September 14, 1858.—This invention relates to a system or mode of obtaining motive power by the aid of a rotary engine of a peculiar construction, which may be worked either by steam or compressed air, whereby the direct pressure, in conjunction with the reactive force of the propelling medium, is made available.

The inventors say: We are aware that rotatory engines, consisting of wheels having a number of projections formed or fitted upon their

peripheries, and actuated by the impingement of steam or air against such peripheral projections or chambers, have long been known in this country, and therefore we lay no claim to the principle of such arrangement. We may also observe that we do not confine or restrict ourselves to the precise details or arrangements which we have had occasion to describe or refer to, as variations may be made therefrom without deviating from the principles or main features of our said invention.

But we *claim*, first, the system or mode of obtaining motive power by causing steam or air to impinge upon a series of chambers with curved bottoms arranged around a wheel at or near the periphery thereof, as described.

Second. The general constructions and arrangements of machinery or apparatus for obtaining motive power, as described.

No. 20,136.—DANIEL BARNUM, of Jersey City, New Jersey.—*Improvement in Steam Engines.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—I claim combining with an air pump of a marine engine an independent or separate suction pipe connecting the hold of the vessel with the air pump directly, and not through the channel way or condenser, such pipe being connected, and the combination being substantially such as is set forth.

No. 20,782.—JOHN ERICSSON, of New York, N. Y.—*Improvement in Steam Engines.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the two cylinders *a b* in such manner that their base or bottom ranges with a plane which passes through the axis of the propeller shaft, or nearly so, in combination with a system of rock shafts *e f*, crank levers, and connecting rods, so proportioned, applied, and arranged, that the use of a driving crank *l* on the propeller shaft, of greater length than half the stroke of the piston, is permitted, and that the connecting rods will operate nearly at right angles to each other, and will be in line with each other at the termination of each stroke of either piston, substantially as set forth.

No. 21,059.—HENRY BLANDY and FREDERICK I. L. BLANDY, of Zanesville, Ohio.—*Improvement in Steam Engines.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to portable steam engines of a hollow continuous bed plate 2, in the manner substantially as described, for the support and attachment of the operative parts of the engine, whereby the latter, in working, is rendered independent of the contraction and expansion of the former, and the boiler 1 relieved from the direct strain of the engine, as set forth.

No. 21,165.—JOHN J. G. COLLINS, of Philadelphia, Pennsylvania, assignor to Himself, WILLIAM A. RHODES, and THOMAS DRAKE, of said

Philadelphia.—*Improvement in Steam Engines.*—Patent dated August 10, 1858.—The objects of this invention are economy of fuel, by using the same steam over and over again, and the avoidance of the usual cumbrous boiler arrangement. The claim and engravings explain the nature of this invention.

The inventor says: Without claiming broadly the superheating of steam prior to its admission to the cylinder of a steam engine, I *claim* combining together, for joint action, a cooler, regenerator, and steam engine, when the said regenerator is constructed and operated substantially in the manner set forth, and when it is furnished with the devices specified, or any equivalent to the same, by means of which it receives a supply of steam from the coolers, retains it until it is superheated, and delivers it to the engine at intervals regulated by the movements of the latter.

No. 21,907.—C. A. SCHULTZ, of New York, N. Y.—*Improvement in Steam Engines.*—Patent dated October 26, 1858.—In operating this invention the revolving cam wheel M will make the same revolutions as the crank shaft G, by means of bevel wheels O O and revolving shaft N, and the same will open and shut the valve H by means of opening cams *c c* and cut-off cams *d d*. The cams *c c* and *d d* operate the valve H by coming in contact with the friction rollers *p p* on valve stem K. The governor P is attached to socket L, to regulate the speed of the engine.

The inventor says: I *claim* the revolving cam wheel M, with the opening cam *c c* and adjustable cut-off cams *d d*, constructed as described.

Second. I claim the socket L with guide rods *e e*.

No. 22,200.—RUFUS PORTER, of Washington, District of Columbia.—*Improvement in Steam Engines.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* furnishing steam engine cylinders with balance valves E F, combined with lifting shafts G, and so arranged that both induction and eduction valves communicate with the same port, substantially as described.

I also claim, in combination with balanced valves, arranged as described, so connecting the induction valves E to a governor, by an arrangement of mechanism substantially as described, that the said induction valves shall be so regulated by the governor as to admit into the cylinder such quantities of steam as shall be required to maintain a proper and uniform motion of the engine.

No. 20,533.—JACOB WIDMER, of New Haven, Connecticut, assignor to Himself and HOWARD GILBERT, of said New Haven.—*Improvement in the Mode of Applying the Power of the Steam Engine.*—Patent dated June 8, 1858.—This improvement consists in so arranging and connecting a double-toothed rack *d*, cams B B, levers *h h*, and grooves *b*, with gear wheels, that the levers, cams, and grooves will cause the rack to act alternately upon the two gear wheels in such a manner

as essentially to cause the full force of steam on the piston to be given off to the machinery, &c., at all points.

The inventor says: I *claim*, first, the combination of the rack *d* with the cams B B and grooves *b*, when constructed, arranged, and made to produce the result, substantially in the manner set forth.

Second. I also claim the combination of the levers *h* and *h* with the rack *d* and cams *g* and B B, when the whole is constructed, arranged, and made to operate substantially as described.

No. 19,057.—Adam Wood, of Pittsburg, Pennsylvania.—*Improvement in Oscillating Steam Engine.*—Patent dated January 5, 1858.—D is the valve by which the induction and eduction of the steam is effected; said valve extending across the interior of the steam chest, and fitting to two seats *e e*^{1}, in which are ports *d d*^{1}. The valve is made entirely hollow, with three arms *f f*^{1} *f**, two of which *f*^{1} *f** are faced to fit the seat *e*^{1}, and the other *f* is faced to fit the seat *e*. These arms have each one port communicating with the hollow interior of the valve; the said ports corresponding in size with the ports *d d*^{1} in the steam chest, and occupying such a position relatively to the axis of oscillation, that the oscillation of the cylinder will bring the port *g* of the arm *f* into communication with the port *d*, which acts for the purpose of exhausting the steam from the cylinder through the interior of the valve.

The inventor says: I do not claim the exhaustion of the steam through the valve.

Nor do I claim broadly the attachment of the steam chest to the cylinder to oscillate therewith, and operate in combination with a stationary valve.

I *claim* the employment of a treble-armed centrally balanced valve D, as described.

No. 19,464.—John S. Barden, of New Haven, Connecticut, assignor to Himself and Aaron W. Rockwood, of Boston, Massachusetts.—*Improved Oscillating Steam Engine*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim applying the cylinder and the steam chest of a steam engine together in such manner that the cylinder may turn on the steam chest.

Nor do I claim confining them together under such circumstances by means of an arched bar or strap to extend or turn around or slide on a semi-cylindric surface of the same radius as that of the curved outer surface of the steam chest, such being shown in the drawings of letters patent granted to me by the government of the United States of America, and numbered 14,335 and 18,718.

But I *claim* combining with the semi-cylindrical steam chest H and the yoke or bar I, substantially in manner as specified, a small rocker bearing *p*, socket *o*, and spaces *q q*, arranged between or with respect to the valve chest and bar essentially as set forth.

I also claim the above described arrangement of the induction and eduction chambers and their ports in the semi-cylindric steam chest.

I also claim the application and arrangement of the two separate rotary cut-offs *r r* within the induction chamber *d* and with respect to its two sub-ports *h i*, as specified.

I also claim the combination of mechanism for operating the two cut-offs, the same consisting of the secondary crank M, the slotted rocker lever L, the cranks S S, and the connexion bar K, or its mechanical equivalent.

I also claim applying the wrist of the secondary crank M to the wrist of the primary crank, so that the former may be adjustable with respect to the axis of the primary crank, as and for the purpose specified.

No. 21,873.—Ezra Cope, of Cincinnati, Ohio.—*Improved Steam Pumping Engine.*—Patent dated October 26, 1858.—The nature of this improvement consists in the arrangement of a single trunnion, having both steam and water passages therein and guide rods to connect the piston rods of two cylinders to oscillate thereon; and the arrangement of the escape steam passages to intervene and separate the steam and water passages to prevent condension of the supply steam.

The inventor says: I *claim* the arrangement of the water passages both in one trunnion, and guide rods, to complete an independent pumping engine.

I further claim arranging the escape steam passage to separate the steam supply, and water passages to prevent condensation of the supply steam, all substantially as and for the purposes set forth.

No. 19,715.—Thomas Rogers, of Philadelphia, Pennsylvania.—*Improvement in Revolving Cylinder Steam Engines.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the arrangement of ports and passages for the induction and eduction of steam.

But I *claim* the two L-shaped stationary hollow steam heads C D C^1 D^1, applied and arranged substantially as described, to constitute stationary journals for the two-hubbed drum or fly-wheel E and bearings for the cylinder journals, while they also constitute valves for the induction and eduction of the steam, substantially as described.

No. 19,098.—Nahum S. C. Perkins, of Norwalk, Ohio.—*Valve Arrangement for Steam Engines.*—Patent dated January 12, 1858.—The claim and engravings describe the nature of this invention.

Claim.—The arrangement of the reciprocating driving lever F to the lap valve, when permanently geared with the piston rod *c* of the engine, so as to have a constant motion with it in a direct and positive manner, as shown and described; lap controlling valve G permanently linked or geared thereto, for like continuous operation; and independent, intermittent piston or pressure-driven main valve or valves R R^1, for operation together relatively to each other and the engine piston, as specified.

No. 21,911.—Thomas Stewart, of Philadelphia, Pennsylvania.—*Improvement in Applying Power to the Cranks of Engines.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Keeping the piston-rod F at rest whilst the crank E makes about one-fourth of its revolution on each opposite side of an imaginary line passing across the centre of the said crank's shaft at right angles with another such line passing through the axis of the piston-rod, the same being effected by means of the yoke D, or its equivalent, constructed so as to operate substantially in the manner and for the purpose described.

No. 21,789.—Wallace Wells, of New York, N. Y.—*Improved Construction of Cylinders and Pistons for Pumps and Steam-Engines.*—Patent dated October 12, 1858.—The cylinder is constructed without heads, and has three pistons, the two end pistons B B being connected together by rods *r r* working through the middle piston C at points opposite the centre. The middle piston has a rod *s* working through the centre of the piston. The latter has two connecting rods D D of equal length attached at points opposite its centre and connecting with one arm E of the lever. The upper end of the rod of the middle piston has a connecting rod G connecting with the other arm H of the lever.

Claim.—The improved mode described of constructing the cylinders, pistons, and their connexions, for steam-engines, and applying steam thereto, and of constructing the cylinders, pistons, and their connexions, in fire-engines, pumps, and other machines using cylinders and pistons.

No. 19,220.—Norman W. Wheeler, of New York, N. Y.—*Arrangement of Passages and Valves for Cushioning the Piston of Steam-Engines.*—Patent dated January 26, 1858.—The nature of this invention consists in arranging check-valves F and G in passages which open into the steam cylinder within the piston-stroke, so that live steam from behind the piston, near the end of a stroke, passes into the clearance before the piston and into the side pipe and spaces connected therewith, thus arresting the motion of the piston, partially balancing the main valves, and filling the dead space of the engine with steam which would otherwise be lost.

Claim.—Arranging the check-valves in the steam passages for cushioning the piston and balancing the steam-valves with steam taken from behind the piston, substantially as set forth.

No. 19,154.—Augustin P. Samuel, of New York, N. Y.—*Improvement in Cut-offs for Steam-Engines.*—Patent dated January 19, 1858.—Motion is given to the pieces *q t*, being the movable parts of the helical curves, by the right and left screw *u v* working the rods 1 and 2, thus pushing and pulling the curves *q* and *t*. The screw *u v* is worked by a small crank e^1, or by regulators or governors.

Claim.—The adjustable bars *q t*, making, with the helical slot in the rock-shaft plate *y*, an uniform curve, arranged substantially as described, within or in connexion with such helical curve or slot in such rock shaft *y*, for varying the cut-off, as above set forth.

No. 21,399.—Jacob Widmer, of New Haven, Connecticut, assignor to Himself and Howard Gilbert, of said New Haven.—*Improved Cut-off for Steam-Engines.*—Patent dated August 31, 1858.—This improvement consists in so constructing and arranging the two cams, one permanently fixed on the hollow shaft, of sufficient extent from the centre of the shaft to open the steam port to its full extent at each half revolution; and the other cam so adjustable by the operation of the governor only as to cut off the steam at any desired portion of the stroke, so as to preserve a uniform motion of the piston of the engine by the operation of the steam only, without reference to the fire or throttle-valves.

Claim.—The combination of the bevel gear-pinion J, operated by the endless chain L and rod M, with the bevel gear wheel H, with its cam G, when the whole is constructed, arranged, and made to produce the result substantially as described.

No. 22,344.—John Broughton, of New York, N. Y.—*Improved Cut-off Gear for Steam-Engines.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the two rock-shafts H H, their arms N N, the vibrating links O O, the rods L L, and the lifters M M, the whole applied, substantially as described, to operate upon a tappet or tappets on the valve-stem E or its equivalent, for the purpose of lifting the valve, and subsequently tripping it by the continued and inherent motion of the lifters.

Second. In combination with the above specified lifting and tripping mechanism, I claim the combination of the pendulous rods R R, the toggle-links S S, and the slide T, or their equivalents, connecting with a governor or other means of adjusting the same to vary the positions of the centres of motion *c c*, substantially as described, for the purpose of varying the point of cutting off the steam.

No. 22,361.—P. W. Gates, D. R. Fraser, and Thomas Chalmers, of Chicago, Illinois.—*Improvement in Cut-off Gear for Steam-Engines.*—Patent dated December 21, 1858.—This invention consists in a novel construction of two sliding toe-pieces, and a mode of applying the same to a rocking frame operated by the steam-engine, in combination with a double lifter attached to the stem of the cut-off valve and with a governor, or other regulating apparatus, to produce and vary the action of the cut-off for the purpose of controlling the speed of the engine.

Claim.—The two sliding toe-pieces L L, constructed as described, and applied within the rocking frame J, to operate substantially as described, in combination with the double lifters G *e e*, attached to the valve stem, and with a stud and roller *j i*, or their equivalent, connected with a governor, or otherwise made movable.

No. 19,890.—Ross Winans, of Baltimore, Md.—*Improvement in Grates for Steam-Engines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the grate of a locomotive engine, composed of a series of narrow sections G, each containing two or more bars and supports therefor, the sections and their supports being constructed and arranged substantially as set forth, to permit each section to be rocked independently of the other by means of a hand lever applied outside of the fire-box, as set forth.

I also claim the construction of the series of bars of the grate and the bearer for supporting the same, as described, so that any member of the series may be rocked upon two axes, without contracting the narrowest part of the spaces between it and the adjacent stationary members of the series, as described.

No. 19,888.—Ross Winans, of Baltimore, Md.—*Improvement in Pistons for Steam-Engines.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination, substantially as set forth, of self-setting packing that, unaided by the skill of the engineer, will adjust itself into close contact with the cylinder, and bear against the same with the proper force; means for binding this packing firmly in place when it has set itself out, and for slackening it again when necessary to allow it to rest itself; and means by which the packing can be easily loosened and tightened without removing the cylinder head, whereby the packing of the piston of a locomotive can be adjusted better and in less time than by any combination previously invented.

No. 19,'34.—Addison Crosby, of Fredonia, N. Y.—*Improvement in Variable Cut-offs for Steam-Engines.*—Patent dated January 19, 1858.—The nature of this invention is explained by the engravings and claim.

The inventor says: I am aware that hollow valves have been before employed upon the back of a sliding valve, and therefore I do not claim broadly the employment of hollow valves, except as described.

I *claim* the arrangement of the two hollow plug cut-off valves in a double chambered valve box D D, which has a sliding movement on the back of the main valve, for the purpose of opening and closing the said valves, to admit and cut off the steam, by means of toe-pieces *i i*, or their equivalents attached to the latter, coming in contact with suitable pieces within the steam chest, substantially as described.

No. 22,189.—Richard L. Mills, of Lancaster, Ohio.—*Improved Gauge Cock.*—Patent dated November 30, 1858.—This invention consists in a certain arrangement of two conical valves on a screwed stem, in combination with a female screw and a certain arrangement of two conical seats within the cock, whereby all packing for the stem is dispensed with, and yet the escape of steam around the stem, when the cock is open, is effectually dispensed with.

Claim.—The arrangement and combination of the lining tube C and the cap E containing the adjustable seats *c g*, with the double stem D, as and for the purposes shown and described.

No. 20,726.—Alexander Miller, of Cleveland, Ohio.—*Improved Gauge Cock and Alarm Whistle.*—Patent dated June 29, 1858.—This invention consists of a steam whistle A A^1, of the usual form of construction, and is inserted into a boiler above high water mark, and so arranged in relation to its valve that the steam is allowed to escape as soon as the water falls below the point of safety.

The inventor says: I am aware that a steam whistle has been so combined with a valve and with a float, that when the water in the boiler becomes low the descent of the float will operate the valve and allow steam to escape to the whistle and give alarm, and it is upon this combination that my improvement bears; but I do not claim to have invented the combination nor the means or devices irrespective of their arrangement by and under which such combination may be made useful, and therefore,

What I *claim* is, the described arrangement of the steam alarm whistle and gauge cock, with the jointed lever H *m n*, when constructed and operating in the manner and for the purpose set forth.

No. 20,851.—Joshua Lowe, of New York, N. Y., assignor to Himself and Daniel Barnum, of Jersey City, N. J.—*Improved Magnetic Steam Gauge.*—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that air and mercury have heretofore been combined and used in tight isolated or separate chambers to make pressure gauges, but not in combination with a self-adjusting magnet and traversing needle. I am aware also that magnets, dial plates, and needles, have been used in combination, but not in a tight, isolated chamber separated from the steam boiler or other means of making pressure, or for the purpose of marking or indicating either pressure within a boiler or a vacuum in a condenser. I therefore do not claim either of these except as herein specified and for the purposes named.

But I *claim* the construction of a polar magnet with one arm or pole larger than the other, so that the enlarged pole will float on the surface of the mercury, whether the lesser pole be immersed or not, whenever the said magnet is placed within a chamber filled or partially filled with mercury, and hung on pivots *a* in the centre, thus making a self-adjusting movable magnet, capable of being used as a floating magnet within, in a small tight chamber, substantially as described and shown.

I claim, also, the combination of a floating magnet, a magnetic needle, and a dial or index plate *b*, forming one side of an isolated tight chamber, and with mercury and air within said chamber or their equivalents, for the purpose of making a magnetic pressure gauge, substantially as described and shown.

I claim, also, the combination of a floating magnet *d*, a magnetic needle, and a dial or index plate, forming one side of an isolated tight chamber, and with mercury or other fluid within said chamber, for the purpose of making a magnetic vacuum gauge, substantially as described and shown.

No. 20,848.—William C. Grimes, of Philadelphia, Pa., assignor to David Matthew, of Philadelphia aforesaid.—*Improved Pressure Gauge.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am well aware that pressure gauges with parallel glass tubes B^2 C^2 and siphon tubes indicating pressure by a column of mercury and compressed air have been used; but they have no such effect as mine, and I do not wish to be understood as claiming any such arrangement.

But I do *claim* the peculiar construction of a mercurial pressure gauge, having two concentric glass tubes, so proportioned to each other and the reading scale as to produce the necessary space to register the units and tens, and make them more uniform and legible, substantially as set forth.

No. 19,731.—Franz Burckle, of Boston, Massachusetts, assignor to Edward H. Ashcroft, of said Boston.—*Improvement in Steam Gauges.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim so attaching the piston to an elliptic spring that such piston shall be wholly supported by such spring, either with or without contact of the piston with the sides of the passage or space within which the piston may move.

Nor do I claim connecting one end only of the piston to the spring.

Nor do I claim supporting one end of a rod by a set of radial bars or toggles, while its other end is supported by a spring, and the rod is carried through a tube, as shown in the drawings of No. 13,917 of United States patents; for, in my mode of supporting the piston and keeping it from contact with the sides of the passage through which it extends, the radial disk-spring not only performs the function of supporting the elastic diaphragm and centralizing the piston, but that of a spring, to draw the latter downward under any relaxation of the pressure of the steam.

Nor do I claim the employment of a collapsible hollow spring, or combination of concavo-convex springs, and their application to their case or frame, and a pitman, as shown in Grantoff & Albright's gauge, as described in the London "Mechanics' Magazine," vol. 66, page 269, wherein the collapsible spring operates by the lateral contraction on raising the pitman. The upper spring of the piston of my improved gauge operates by latitudinal extension in elevating the piston.

But I *claim* supporting the upper end of the piston by the main spring H, in combination with supporting the lower end of the said piston by a radial disk-spring applied to it and the elastic diaphragm, operating therewith, substantially as described; the same serving not only to centralize the piston during its movements, or maintain it in a straight path, and out of contact with the sides of the passage through which it plays, but to operate in other respects, as set forth.

I also claim fastening the main spring H at the middle part of its inferior half with the lower part of the box or case, and making the piston play through the fastening and abut against the upper half of the spring, the same causing the spring, under pressure of the steam against the diaphragm, to operate by latitudinal extension rather than by contraction; and securing advantages as set forth.

No. 22,287.—George W. Grader and Benjamin F. Cowan, of Memphis, Tennessee.—*Improved Steam and Water Alarm Gauge for Steam Boilers.*—Patent dated December 14, 1858.—This invention consists in an arrangement of the parts of an alarm gauge for steam and water, whereby the whole, with the exception of a float that is arranged within the boiler and a whistle, are brought into a very compact form within a closed case and of limited size, without the use of stuffing-boxes or packing of any kind, making an instrument which can be placed in the cabin of a steam vessel, and which is beyond the control of the engineer or any other person out of the cabin, and serves to announce to the captain or other officer and passengers when there is an excess of steam or deficiency of water.

The inventors say: We do not claim broadly the invention of a combined steam and water alarm gauge.

Nor do we claim broadly the dispensing with a stuffing-box or packing in a water gauge.

But we *claim* the combined arrangement of the two valves F I and their seats, the several chambers and passages, the valve levers and their connexions within the case A, substantially as described; whereby the construction of the instrument is rendered simple, its form compact, and its size limited, without the use of stuffing-boxes or any packing.

No. 19,400.—William Burnett, of Boston, Massachusetts, assignor to Seth Adams, of said Boston.—*Improved Steam Pressure Gauge.*—Patent dated February 16, 1858.—A is the case, with a glass plate over the dial and working parts. To the inside of the lower part of this case is secured, by screws *a a* passing through the case, a block B, from which rises a hollow flattened pipe C, of brass or other suitable metal properly tempered by hammering or otherwise to retain its elasticity. The top of this pipe is closed steam-tight by a block D, which is brazed into it, and secured by riveting. Upon the block D are secured two short standards *b*; these serve as bearings for a shaft C, which projects through both standards, and carries on its front end the index hand E pointing to the dial F.

The inventor says: I am aware that a flattened elastic curved tube has been used to indicate the amount of pressure applied to its inner surface by its tendency to straighten out when the pressure is applied. I do not, therefore, claim such an application of a flattened tube.

But I *claim* the use in a pressure gauge of a straight flattened tube, in combination with suitable mechanism for communicating the motion of the flattened sides of the tube, caused by pressure applied to its surfaces, to a suitable indicating apparatus.

No. 19,177.—Moses M. Young, of East Boston, Massachusetts, assignor to Himself, Harvey F. Litchfield, and Joseph G. Hamblin, of East Boston, Massachusetts.—*Improvement in Steam Spring-Pressure*

Gauges —Patent dated January 19, 1858.—This invention has reference to what is usually termed a "spring-pressure gauge," the nature of the improvement consisting in supporting the piston entirely by an elliptic spring, sustained in position by a cross-bar or partition B, or its equivalent, applied to the case of the instrument; the piston E being made to rest in other respects only against the elastic diaphragm, and to have no communication with the sides of the space within which it is situated and moves.

Claim.—Supporting the piston entirely by an elliptic spring, sustained in position by a cross-bar or partition, or the equivalent thereof applied in the case, and making the piston to rest in other respects only against the elastic diaphragm and have no connexion with the sides of the space within which such piston may move, the whole being productive of an advantage, as above stated.

No. 22,313.—THOMAS STUBBLEFIELD, of Columbus, Georgia.—*Improvement in Water Gauges for Steam Boilers.*—Patent dated December 14, 1858.—This improvement in water gauges consists in combining a float to swim on the water in a steam boiler with a main valve to close a duct for the escape of steam or water from the boiler and a small secondary valve between the float and the main valve, in such a manner that the water in the boiler falls below a given height. The float, by descending with it, will, without opposing the pressure of the steam, put the main valve in such relations with the boiler that the pressure of the steam therein, independently of any aid from the float, will open the main valve to allow steam or water to escape and give an alarm.

The inventor says: I *claim* the combination of a float, a secondary valve, and a main valve, substantially as set forth.

I also claim the method of preventing a too sudden opening of the main valve, by insulating (in a chamber or its outer side exposed to the air) a quantity of steam, substantially as set forth.

No. 20,894.—CHARLES T. PORTER, of New York, N. Y.—*Improvement in Governor for Steam-Engines.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, in combination with arms and balls, or their equivalents, revolving at a much higher velocity than would be natural to them considered as a conical pendulum, the employment of a counterpoise, applied substantially as described, and so proportioned in weight as to balance, or nearly so, the centrifugal force developed by the revolution of said arms and balls, or their equivalents.

Second. I claim so applying the counterpoise to the governor that its effective load shall be lessened as the governor rises or as the balls and arms thereof or their equivalents expand, for the purpose of rendering it constant, or as nearly so as desired, relatively to the power of the governor to sustain it.

Third. I claim the employment of the counterpoise applied to the governor in any manner substantially as specified, as a means of fixing or adjusting the exact speed of the engine, as described.

No. 21,056.—ALBAN ANDERSON, of Lancaster, Ohio.—*Improved Governor for Steam-Engines.*—Patent dated August 3, 1858.—This invention consists in a machine which sets in regulated and adjusted motion a disk M, and the frame G G which supports it, and obtaining therefrom a resultant force, which is of considerable power and is very sensitive to an increase or diminution of velocity; and in adjusting and regulating the force or power so obtained, so that it may be applied as a governor to steam or other engines, or machinery, and to control and regulate valves for cutting off steam where steam is used expansively, and to other like objects and purposes.

The inventor says: I disavow all claim to the invention of any single or isolated part of the machinery used in the combination described, each and all of such parts, taken separately, being in common use.

But I *claim* the combination of machinery described, and the production thereby, or by its equivalent, of the resultant force defined, and the application of such resultant force to the regulation of the movement of machines or engines.

No. 21,475.—WILLIAM W. W. WOOD, of Philadelphia, Pennsylvania, assignor to JOHN RICE, of said Philadelphia.—*Improvement in Governors for Steam-Engines.*—Patent dated September 7, 1858.—This invention consists in regulating the throttle-valves of marine and other steam-engines by means of weighted rods acting in connexion with a central pulley or lever, and other devices, or other equivalents; the said rods being so guided that their outward movement, caused by their centrifugal action, shall be in a straight line radiating from the centre round which they revolve; the said pulley being so arranged in respect to the weighted rods that, on the flying out of the latter, the pulley shall turn in a plane at right angles to that in which the said weighted arms revolve. The central pulley, or its equivalent, is so connected to the rod or other device for moving the regulating valve of the engine, that the force applied may constantly increase as the weights fly out, and thus compensate for the increasing resistance of the force applied to draw the weighted rods inwards.

The inventor says: I *claim*, 1st. Regulating the throttle valves of steam-engines by means of the weighted rotating rods *m* and *n*, in combination with the pulley *c*, or its equivalent; the said weighted rods being so guided that, when actuated by centrifugal force, they can only move in a straight line radiating from the centre round which they revolve; and the rods being so constructed and arranged in respect to the said pulley, or its equivalent, that, on the flying out of the said rods, the pulley will turn on its axis in a path at right angles to the path in which the said rods rotate.

2d. Applying the force obtained by the centrifugal action of revolving weights to the regulation of the throttle-valves of steam engines through the intervention of the pulley *c*, or its equivalent, when the said pulley is connected to the revolving weights and to the rod for operating the valve by the devices described, or their equivalents, whereby a force, constantly increasing as the weights fly out,

may be obtained to compensate for the constantly increasing force applied to draw the weights inwards, as specified.

No. 22,380.—H. C. SERGEANT, of Columbus, Ohio.—*Improved Governor for Steam-Engines.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. A steam-engine governor composed in part of a steam engine which is subject to a uniform resistance, and which works independently of, and by its own velocity controls the velocity of, the engine to be governed, substantially as set forth.

2d. The employment of two disks I and N, having spiral projections *f f* and *j j* on their faces, and provided with stop pins *q q*, applied substantially as described, to combine an engine which is to be regulated with an isochronous revolving regulator.

3d. The combination of what is herein termed the "regulator engine," its regulator S T *k l m* and regulating valve U, or their equivalents, and the shafts H and M and their spiral-faced disks I P, one driven by said engine and the other by the engine to be governed, the whole applied and operating in combination with a regulating valve B B^1, or its equivalent, substantially as described.

No. 19,995.—ROSSWELL D. JACOBUS, of Newark, New Jersey.—*Improved Steam Governor.*—Patent dated April 20, 1858.—The nature of this invention consists in obtaining an action of the throttle-valve simultaneous with the change of speed of the engine by means of a governing power separate from the engine.

Claim.—Using a distinct motive power from the main engine with the motive power of the main engine to operate a governor in combination with machinery constructed in the same or similar manner, and for the purposes specified.

No. 21,699.—MARTIN ROBBINS and JOHN L. FRISBIE, of Cincinnati, Ohio.—*Improved Water Indicator for Steam Boilers.*—Patent dated October 5, 1858.—By turning the stem F, by means of a handle G, or otherwise, the swivel I, forming the fulcrum of the float, is moved up or down, and thus the point of alarm is graduated to the minimum stage of water desired, or the alarm may be sounded by hand by temporarily turning up the stem F, when it is desired to use the whistle for the ordinary purposes of signalling.

The inventors say: We *claim*, 1st. In the described combination with a customary steam alarm, the steam pipe B, provided with a central screw, stem, and swivel F *f* I, supporting the fulcrum of the float arm, in the manner and for the purposes set forth.

2d. In this connexion we claim the small steam dome A *a*, enclosing the branched pipe B C, valve K, and lifter L, substantially as and for the purposes set forth.

No. 20,847.—WILLIAM C. GRIMES, of Philadelphia, Pennsylvania, assignor to DAVID MATTHEW, of Philadelphia aforesaid.—*Improvement in Water and Steam Indicators.*—Patent dated July 6, 1858.—This

invention consists in making the glasses B^2 C^2 D^2 concentric and making the areas differ, so as to give less to the column indicating the water level, while the column indicating the height of water shall traverse nearly inch for inch with the rise and fall of the water in the boiler when under pressure, making the change between the two columns identical with the rise and fall of the water in the boiler; also in making more or less of the connecting pipes as virtually to form a compound or double syphon.

Claim.—The manner of constructing and arranging the concentric glasses and connecting tubes, as and for the purpose set forth.

No. 22,439.—DAVID MATTHEW, of Philadelphia, Pa.—*Improvement in Locomotive Axle Bearings.*—Patent dated December 28, 1858.—A is the box, B is the hole through which the journal passes, C is the oil collar, D D are the bearings of brass, d^1 is the oil cup, E is a slot cut through the thickness of the brass and extending the whole length of the bearing with the exception of the connecting pieces F at each end.

Claim.—The peculiar construction of the journal box or bearing in in one piece, having a longitudinal slot or opening, operating as and for the purpose set forth.

No. 20,115.—ROSS WINANS, of Baltimore, Md.—*Improvement in Fire Box of Locomotive Boilers.*—Patent dated April 27, 1858.—This improvement has reference to locomotive engines in which coal is used as a fuel, and particularly to the fire-box or that portion of the locomotive in which the fuel is burned; it consists of means by which the fire can be inspected and got at through the whole extent of the fire-box, so as to permit the fireman to break up the crusts which form, and, if necessary, to rake the whole fire.

Claim.—The construction of the fire-box in such manner that its entire rear side can be opened and closed, substantially as set forth.

No. 20,117.—ROSS WINANS, of Baltimore, Md.—*Improvement in the Furnaces of Locomotive Boilers.*—Patent dated April 27, 1858.—This invention consists in a new mode of constructing, combining and arranging the various parts of a locomotive engine in such a manner as to obtain an enlarged fire-box suitable for burning coal advantageously without interfering with the working of other parts of the engine.

Claim.—The construction and arrangement of the locomotive engine substantially as set forth, so as to obtain a fire-box of greater width than the space within the main frame.

No. 19,889.—ROSS WINANS, of Baltimore, Md.—*Improvement in Locomotive Engines.*—Patent dated April 6, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the combination of a foot-board located below the usual level of the platform of the tender and the surface of the grate, with a fire box and grate adapted to the burning of coal as fuel, whereby the interior of such a fire-box and the grate thereof can be more readily reached by the fireman, and his duties be performed with greater expedition, convenience, and effect.

I also claim the combination of an ash-pan, open at its hinder end, with a foot-board located below the grate and the usual level of the platform of the tender, whereby the lower side of the grate and the space beneath can be inspected and reached by the fireman while the engine is in motion.

No. 19,962.—Ross Winans, of Baltimore, Md.—*Improvement in Locomotive Engines.*—Patent dated April 13, 1858.- The nature and object of this invention are shown by the claim and engravings.

Claim.—The arrangement of the house or position for the engine man between the fire-box and the forward end of the boiler, to aid in properly distributing the weight upon the wheels in a locomotive engine, with a fire-box of the large size necessary for the economical burning of coal as fuel, and incidentally to secure other advantages, substantially as set forth.

No. 21,290.—Ross Winans, of Baltimore, Maryland.—*Improvement in Locomotive Engines.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination with the smoke-box of a locomotive steam-engine, of a blast pipe extending from within the lower end of the chimney downwards to near the lower flues, an annular space between the upper end of the blast pipe and between the latter and the bottom of the smoke-box, and a nozzle directing a jet of steam into the blast pipe; the several elements of the combination being arranged and operating substantially as described.

I also claim the construction of the diaphragm with its upper surface sloping towards the exhaust nozzle, to cause the coals and cinders to run down by their own gravity beneath the blast pipe, thereby bringing them within the sweep of the draught and so rendering their discharge more speedy and more certain.

No. 20,114.—Ross Winans, of Baltimore, Maryland.—*Improvement in Fire-Box of Locomotive Engine Boilers.*—Patent dated April 27, 1858.—The object of this invention is to adapt a locomotive to the employment of both wood and coal as fuel, and to the use of either separately with advantage.

Claim.—The combination of a fire-box having one grate and an upper and lower feeding door so arranged as to adapt it to burning either wood or coal, or a mixture of both, as fuel, with a locomotive tubular boiler having a steam blast draught, substantially as set forth.

No. 20,116.—Ross Winans, of Baltimore, Maryland.—*Improvement in Boilers for Locomotive Engines.*—Patent dated April 27, 1858.—This invention consists of a new mode of constructing the top of the fire-box, by connecting the crown sheet by stays with the outer shell of the boiler, and making space between the crown sheet and the shell above it of sufficient size only to permit the due circulation of water and the free escape of steam.

Claim.—The method of constructing the fire-boxes of locomotive engines of diminished weight, but of undiminished strength, by staying the crown sheet directly to the exterior shell by means of through bolts, and contracting the space between the two as described, so as to get rid of the disadvantages that would result from the excessive weight of a fire-box of the ordinary construction of sufficient capacity to burn coal as fuel with economy.

No. 19,986.—John F. Elliott, of New Haven, Connecticut.—*Improvement in Driving Wheels for Locomotive Engines.*—Patent dated April 20, 1858.—This invention consists in a novel arrangement of legs and feet applied to the driving wheels of locomotives for running on common roads, or for agricultural purposes, such as ploughing and otherwise tilling land, or reaping and mowing by steam power, and operated by a cam or its equivalent, to cause the propulsion of the engine or machine by the rotary motion of the wheels.

Claim.—The combination with the legs E E, operated as described, of the feet D D jointed to the said legs, and connected together by chains to operate substantially as set forth.

No. 20,937.—Leonard Crossman and Samuel Atkinson, of Elizabeth City, New Jersey.—*Improvement in Fire-Boxes for Locomotive Engines.*—Patent dated July 20, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The arranging of the grate bars A centrally in the bottom of the fire-box of wood-burning locomotives, and surrounding said grates with dead plates C D G H, when said grate bars and dead plates are susceptible of being removed or replaced, substantially in the manner and for the purpose set forth.

No. 21,021.—Joseph W. Pole, of Philadelphia, Pa.—*Improvement in Grates for Locomotive Engines.*—Patent dated July 27, 1858.—This invention consists in a certain construction of hollow grate bars, with provision for the admission of air to be forced through them by the movement of the locomotive for the purpose of keeping them cool.

The inventor says: I do not claim the invention of hollow or tubular grate bars, or of hollow bearers therefor, having air passages through them.

But I *claim* the construction of the tubular bars, with hollow upward projections *b b*, fitted with movable top pieces *c c*, substantially as and for the purpose specified.

No. 21,309.—Jacob A. Alter, of Johnstown, Pa.—*Scraper for Removing Sparks from the Smoke Stacks of Locomotive Engines.*—Patent dated August 31, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says: I *claim* a scraper constructed and arranged so as to scrape such parts of the spark arrester, smoke stack, and chimney of locomotive engines and other furnaces as require cleaning, and clean them of the soot and sparks substantially as described.

I also claim, in combination with the said scraper, a ratchet wheel

and pall, or such equivalent device as will enable the fireman to operate said scraper by hand, or connect it to some part of the engine so that it will be operated by it, substantially as described.

I also claim the pipe or spout K, for conducting the soot and sparks from the spark arrester or smoke stack, substantially as described.

No. 21,936.—Levi Bissel, of New York, N. Y.—*Improvement in Trucks for Locomotive Engines.*—Patent dated November 2, 1858.—This improvement consists in the application of a rigid truck frame, set and moving on a fixed centre, that is, located between the centre of the driving-wheels and the truck wheels; said frame carries the journal boxes of said truck wheels, and sustains the forward end of the loco motive on double inclined bearing blocks, resting on double inclined bearings on said truck frames.

By this means two truck wheels can be used, in consequence of the fixed centre, where the truck frame is attached to the boiler, becoming a bearing point to steady and sustain the two truck wheels.

The inventor says: I do not claim a single pair of wheels having a lateral motion, as the same have been proposed for carriages, and also for locomotives; but in such cases they have moved on flat bearing plates, and there was nothing to prevent the truck from maintaining an angular position to the drivers when travelling on a straight line. But by my invention this is prevented, because the inclines, combined and acting as set forth, bring the truck to its proper position as the engine passes off the curve on to a straight track.

What I claim as an improvement on the aforesaid patent of August 4, 1857, is the rigid truck frame *f*, attached to the engine by the bolt or pin *h*, and receiving one pair of truck wheels, in combination with the double inclined bearings *n o*, for the purposes and substantially as specified.

No. 20,596.—A. E. Turnbull, of Springfield, Ohio.—*Improvement in Locomotive Signals.*—Patent dated June 15, 1858.—The claim and engravings explain the nature of this invention.

Claim.—I am aware that a combination of levers or other devices have been arranged on locomotives in such a manner as to cause obstructions or cams on the track to operate upon them as the locomotive passes the same, and ring a bell, and thus give a signal. I do not therefore lay claim to the parts for accomplishing this object.

But I *claim* the combination of the additional lever F, upon which the second stake or obstruction H^1 operates, with the lever E for sounding the whistle, whereby the duration of the blowing of the whistle can be continued to any required extent and stopped, substantially in the manner set set forth.

No. 21,130.—John C. Hagan, of Nashville, Tenn.—*Improvement in Locomotive Steam-Engines.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, arranging the cylinder of a steam engine substantially as described, or in an equivalent manner, so that it is free to move at right angles to the motion of its piston rod R, and

in a plane parallel with the plane of motion of the cranks connected with the rod.

Second. In combination with the cylinder of a steam engine, arranged so that it is free to vibrate, I claim connecting each end of the piston rod with the crank of a driver, and giving motion to both drivers in the same direction, without the interposition of connecting links.

Third. Giving to the cylinder of a steam engine a positive reciprocating motion, by combining therewith a secondary engine, or any equivalent mechanical device, arranged so as to support and move the cylinder in a plane parallel with the plane of motion of the cranks connected with its piston rods, and in right angles to the line of motion of the piston rod.

Fourth. Supporting the main cylinder in the guides in which it vibrates, by means of trunnions arranged as described, so that the cylinder may accommodate itself to the axles of the drivers on an uneven track.

Fifth. Connecting the slide valves of the secondary engine with the quadrant block of the expansion gear of the main engine, by which means the motion and the changes in the valves of both engines are uniform and simultaneous.

Sixth. The combination of the slotted link P L, the cam block F, the pump hand gear, or any mechanical equivalents, whereby not only can the length of stroke of the pump be varied during the motion of the engine, but also the pump may be worked while the engine is at rest, as described.

Seventh. Combination of the sliding steam-pipes I with the main driving cylinder, arranged substantially as described, for the purpose of admitting steam to the cylinder.

No. 19,469.—John O. D. Lilly, James L. Vauclain, and James W. Lilly, of La Fayette, Indiana.—*Improved Arrangement for Carrying off Smoke from Locomotives in Engine Houses.*—Patent dated February 23, 1858.—B represents the furnace (stationary), and C a stack. D is a flue which encircles the building beneath the floor, and connects with the stack C. E are pipes which extend upward from the flue D; each branch descends to a little above the funnel top of the locomotive when backed into its stall. F is a short tube resembling an inverted funnel, its stem fitted to play up and down snugly within the depending portion of the pipe, and its mouth adapted, when the tube is lowered, to fit around the rim of a locomotive funnel G, bringing the flues of the locomotive into communication with those of the building.

The inventors say: We do not intend to claim the movable hood as new in itself.

Neither do we claim broadly the idea of conducting smoke from a movable furnace into a stationary flue.

But we *claim* the described construction and arrangement of the movable hood F, or its equivalent, adapted to fit closely over the top of a locomotive funnel, when used in combination with conducting flues D E, stationary furnace B, and stack C, for the purposes specified.

No. 19,468.—Solomon G. Hoge, of Bellefontaine, Ohio, assignor to Himself, R. H. St. John, of said Bellefontaine, and J. E. Leas, of Dayton, Ohio.—*Improvement in the Manner of Attaching Legs to Walking Locomotives.*—Patent dated February 23, 1858.—When the machine is set in motion, the power to proepl it is communicated to the small driving pinions or spur wheels J J J J, which set in motion the large wheels *i i i i*, which being attached to the rods *n n*, and the ends of these rods being connected to the sliding bars *o o o o o*, said bars thereby have a reciprocating motion horizontally back and forth ; and as the legs or walkers P P P P are hinged to the said sliding bars, these legs must consequently have a forward and backward motion, each pair of legs alternating in position, and as it were stepping off distances.

The inventor says: I am fully aware that machines or land conveyances have been moved or actuated by leg-like or perambulating devices ; such, however, as an original principle of invention, I do not claim.

But I *claim* the construction and arrangement of the sliding bars *o o o o o* with pendant hinged legs or perambulating devices P P P P, and the combination thereof with the connecting rods *n n* and the wheels I I I J J J, when operated substantially in the manner described and set forth.

No. 19,722.—Augustin P. Samuel, of New York, N. Y.—*Improvement in Pistons and Piston-Rod Connexions.*—Patent dated March 23, 1858.—This invention will be explained by reference to the claim and illustrations.

The inventor says: I do not claim generally transmitting motion from a fixed cylinder direct to the crank without intermediate connexions, by means of an oscillating cylinder rod.

But I *claim* a direct connexion of the piston rod to the crank, with a fixed cylinder, by the use or by the means of the arrangement of the movable boxes G G in the piston, forming the connexions between the piston and piston rod, in combination or connexion with the part *d* x^1 moving upon the curved covers of the cylinder, the whole arranged substantially as and for the purposes set forth and specified.

No. 21,678.—Hanford Horton, of New York, N. Y.—*Improvement in Packing Pistons for Steam-Engines.*—Patent dated October 5, 1858.—The nature of this invention consists in a new mode of applying "springs" for the purpose of keeping the "packing rings" in their places and preventing the rings from working against the follower and the under portion of the piston, (in the upright cylinder,) by which means the wear and consequent necessity of frequent refitting is greatly lessened.

The inventor says: I *claim* the application of the figure 8, or other appropriate spring, between the upper and the lower set of metallic cylinder rings, as described and set forth, by which an upward and a downward pressure is obtained on said rings. I do not claim the application of springs to produce an outward pressure, said springs

acting on a single or spring ring which keeps out the two cylinder rings, as that has heretofore been in use by others as well as myself.

But I do claim the combination of the six rings *a* 1 2 3 *b* 1 2 3 with the figure of 8, or other appropriate spring between them, to produce an upward and downward pressure, in combination with the figure of 8 or other appropriate spring acting on the two spring rings, producing an outward pressure on the four cylinder rings, thus making a steam tight joint on the upper edge of the upper cylinder ring, as well as on the lower edge of the lower cylinder ring, and also on the cylinder surface of the cylinder rings.

No. 21,687.—Joseph Marks, of Boston, Massachusetts.—*Improvement in Spark Arresters.*—Patent dated October 5, 1858.—This invention consists in a peculiar arrangement of devices by which the sparks are entirely consumed and ground up, as it were, before they can leave the smoke pipe, and at the same time the steam is allowed a free passage every time the engine exhausts. The arrangement of devices employed in this invention consists of what is termed by engineers a "petticoat pipe" formed of a series of short tapering pipes slightly overlapping each other, but not in immediate contact, surrounded by a wire gauze, or other similar device, the whole being enclosed by a smoke pipe of enlarged diameter.

Claim.—The combination of the petticoat pipe, the surrounding wire net-work and the smoke pipe, whereby, while a free exit passage is secured for the exhaust steam, an intermittent draught is produced upon the outer surface of the wire net-work, which pulverizes the sparks and retains them until they are consumed, as set forth.

No. 20,835 —Sylvester W. Warren, of Brooklyn, N. Y.—*Steam Alarm and Safety Apparatus.*—Patent dated July 6, 1858.—This invention consists in a certain method of applying a spring C in combination with a valve E and a tube B, one end of which is connected with the upper part constituting the steam space of a steam boiler, and the other the lower part of the water space thereof. When the water gets below the proper level in the boiler, the water leaves the tube, and the steam fills it, and thereby causes an increase of its temperature, by which it is caused to expand longitudinally, and by its expansion made to act upon the spring to move the valve, and permit the escape of steam to sound an alarm whistle, or to open a feed pipe.

The inventor says: I do not claim the expanding tube nor any of the parts that have heretofore been used in boiler alarms.

But I *claim* the arrangement and combination, substantially as shown and described, of the arched or curved spring C, valve E, and tube B, for the purposes set forth.

No. 21,000.—Robert Hale, of Roxbury, Mass.—*Apparatus for Distributing Steam.*—Patent dated July 27, 1858 —This invention is described by the claim and engravings.

The inventor says: I do not limit myself to the exact form of "distributor" described, as it may be varied without departing from the spirit of my invention. For instance, if the distributor is placed in a

corner of the tank, a quadrant shape may be found to be better suited to the position occupied by it; a flat cap may be placed over the funnel-shaped orifice of the connecting pipe, leaving an annular opening around it.

Thus far I have spoken of my invention as particularly applicable to heating the feed water of engines, and it is my intention to employ my distributor in connexion with a method of separating a portion of the exhaust steam of locomotives for the purpose of heating the feed water; but it is obvious that it may be used to advantage whenever water is to be heated by the injection of steam, as in bathing establishments and manufactories. I do not therefore limit myself to its employment for the purpose of heating the feed water of steam engines alone, but intend to employ it wherever it may serve to accomplish the end which I have in view.

What I *claim* is the distributor described, or its substantial equivalent, operating as set forth, for the purpose of injecting the steam into the water in a thin sheet, as set forth.

No. 21,237.—Joseph L. Winslow, of Westbrook, Maine, assignor to James N. Winslow, of Portland, Maine.—*Improved Steam Cock.*—Patent dated August 17, 1858.—In the engravings A denotes the case of the steam cock, which is formed with a conical or tapering valve chamber B B, furnished with an induction passage C and an eduction passage D, the said passages being arranged with their axes in line with one another, and at right angles to the axes of the plug chamber B.

The inventor says: I do not claim the application of a screw directly to the shank or spindle of a valve, in order to support the spindle during its rotary movements, and to move the valve either towards or away from its seat.

But what I *claim* is arranging the operating screws *b c* at the foot of the plug and its case, so as to be capable of being rotated therein, without at the same time having any longitudinal motion.

And I also claim making the spindle F separate from the plug E, and combining with them and the case the bearing shoulder *m* and the clutch connexion, the whole being substantially as described.

No. 21,276.—Robert Ross and William Holland, of Philadelphia, Pa.—*Improved Steam Cock.*—Patent dated August 24, 1858.—This invention consists in certain improvements in steam valves. The stem or guide piece *b* screws upon the valve rod m^1, and is provided with two wings or guide pieces *x x*, which fit into corresponding recesses in the outer casing or cylinder *v*, so that when the rod *m* is turned on its axis by the crank or wheel *s*, the guide piece or stem *b* moves up or down, carrying the valve with it.

Claim.—1st. The loose valve plug *a*, fitted to the seats *c* and *e* above and below, as set forth.

2d. In combination with the loose valve plug *a* and the shoulder c^1 on the stem *b*, the nut *d* is claimed, with its plane and concave faces *n* n^1, as described.

3d. The projecting stem passing through the loose valve plug and fixed fast to the guides *x x*, as set forth.

4th. In combination with the valve stem the upper spring valve *u*, as set forth.

No. 21,332.—Albert Fuller, of Cincinnati, Ohio.—*Improved Steam Cock.*—Patent dated August 31, 1858.—This invention consists in having a plug of rubber or other suitable elastic materal placed on the valve stem and fitted between a metallic shield on one side and a metallic cap on the other, the cap having a nut bearing against it, and he parts arranged whereby due provision is made to compensate for the wearing of the plug and the casualty of the forcing of the plug through the valve seat by the pressure of the steam effectually guarded against.

Claim.—Placing the elastic plug E on the valve stem D, between the metallic shield *g* and cap *h*, the parts being arranged relatively with the valve seat *a*, substantially as and for the purpose set forth.

No. 19,969.—George Scott, of Philadelphia, Pennsylvania, assignor to Scott, Todd & Co., of said Philadelphia.—*Improvement in Steam Generators.*—Patent dated April 13, 1858.—This improved generator is composed of a coiled tube with each end beyond the coil brought into the line of the axis of the coil and mounted in suitable boxes, so that the entire coil may rotate thereon as on journals, and in succession present every part of the circumference of the coil to the direct action of the heat in the furnace below and the flue leading therefrom.

The inventor says: I do not claim broadly the employment of a rotating coil, as that has long since been known and used for various purposes.

But I *claim* the employment of a rotating tubular coil, one end of which is connected with any suitable apparatus for forcing in water, &c., and the other with a suitable vessel to receive the steam generated in the said coil, when this is combined with a furnace so arranged that, in the rotation, every part of the circumference of the coil will in succession pass over the fire, substantially as and for the purpose specified.

No. 21,788.—Ferdinand Charles Warlich, of Kentish Town, England.—*Improved Steam-Generator.*—Patent dated October 12, 1858.—Patented in England March 9, 1858.—The object of this invention is the modification and removal of several of the causes of steam-boiler explosions, and to obtain a more simple method of producing high pressure steam with great economy.

The inventor says: I do not claim any of the parts separately, nor do I confine myself to the dimensions stated.

Neither do I claim the heating of water in tubes or pipes and then allowing such heated water to pass by jets into a highly heated chamber or vessel, as I am aware that such is not new, as will be seen by reference to George Bennett's English patent, dated August 15, 1843. In the said Bennett's invention, however, the heating of the water was directly effected by the waste steam from the cylinder of the engine,

whereas in my apparatus such is not the case, it being heated in a coil of pipes arranged within a flue space or chamber placed within the steam-generator and made to communicate with the fire-place or box, and with flues disposed against the ends and bottom and top of the generator.

What I *claim* is, the arrangement of the water-heating coil of pipes within flues leading to the fire-place and through or about the steam-generator, as described, when such water-heating pipes terminate in foraminous pipes *m m* extending into the steam-generator, so as to discharge the heated water into it in fine jets, or spray, or mist, as described.

And in combination with the coil containing the flue within the generator, and the flues about the ends and cylindrical outer surface of the generator, I claim the flue space directly beneath the coil flue and arranged within the generator, as described.

I also claim the arrangement of the side flues, the two bottom flues, and single top flue of the generator, in combination with the arrangement of the water-heating pipes extending through the same, and with the coil flue and fire-place, as represented.

No. 22,306.—Robert E. Rogers, of Philadelphia, Pennsylvania.—*Improvement in Steam-Generators.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement of the coils, constructed as described, the one being concentrically within the other, the annular spaces between the successive coils constituting direct and separate and the only passages and outlets for the products of combustion, the entire lower portion of every coil having fire underneath it, and the whole operating as set forth.

Second. I claim the arrangement of the feed water-pipe and the air-feeding pipe in relation to each other and to the generating coils, whereby I am enabled to introduce the water in graduated quantities into the upper part of the coil and use atmospheric air to force the water over or upon the heated surfaces, as described.

Third. I claim imbedding the lower portion of each of the concentric coils in cast-iron, cast around it to a greater or less height, for the purpose of protecting the coils from high degrees of heat, as set forth.

No. 21,489.—Patrick Danvers, of New York, N. Y.—*Improved Steam Hammer.*—Patent dated September 14, 1858.—This improvement consists in the employment, in combination with that kind of steam hammer whose hammer block or ram consists of, or forms part of, a cylinder or ram working on a stationary piston, of an external stationary cylinder which receives a piston on the head of the reciprocating cylinder or ram, and which is furnished with a proper system of valves to admit steam to act above the last named piston, for the purpose of adding the force due to the pressure of steam on the piston to the force due to the fall of the ram by gravitation, and thereby increasing the power of the hammer beside making its operation quicker.

The inventor says: I do not claim the combination of the reciprocating cylinder and stationary piston, as that constitutes what is known as the "Condie Steam Hammer," nor do I claim attaching the hammer to a piston working in a stationary cylinder, as that constitutes "Nasmyth's steam hammer."

But I *claim* the combination with the reciprocating cylinder or ram 3, which constitutes or has attached to it the hammer block and the stationary piston 5, of the piston 4, and the external cylinder 2, provided with a proper system of valves; the whole operating substantially as specified.

No. 21,047.—Thomas Gordon, of Trenton, New Jersey, assignor to Charles H. Bullard, of Trenton aforesaid.—*Improved Steam-Heating Apparatus.*—Patent dated July 27, 1858.—The nature of this invention consists in certain peculiar constructions and mechanical arrangements of the parts of a steam-heating apparatus. In this improvement the moment the steam begins to fill the radiator, condensation commences, and the water thus produced fills the several water joints; those in the steam pipe constantly overflowing, and through the medium of the pipe *e* supplying the water joint in the dome, which might otherwise become empty, and consequently useless on account of the extreme heat to which it is exposed.

The inventor says: First. I *claim* the application of water-joints to the safety valve and steam pipes, substantially as set forth.

Second. The construction of the throttle valve P, with an inverted cup *i* in a water-joint or case, substantially as described for the purpose set forth.

Third. Connecting the dome D with a steam pipe by a water supply pipe *e*, as and for the purposes specified.

Fourth. Arranging at the bottom of the radiator a caloric valve, substantially as described for the purpose specified.

No. 19,604.—James Black, of Philadelphia, Pa., assignor to Scott, Todd, Todd & Co., of said Philadelphia.—*Improved Method of Generating Steam in Combination with Atmospheric Air as a Motive Power.*—Patent dated March 9, 1858.—This invention consists in injecting into a heated metallic vessel, of suitable construction, atmospheric air and water commingled, preferring so to inject it that it shall enter the heated vessel in the form of spray.

The inventor says: I do not wish to be understood as making claim broadly to generating a vapor or gas from atmospheric air holding moisture in suspense, as this will not produce the result contemplated by me.

But I *claim* generating a vapor or gas for mechanical purposes by injecting into a suitably heated vessel or generator a mixture of atmospheric air and water in about the proportions specified, and substantially in the manner and for the purpose specified.

No. 20,514.—George Schuh, of Madison, Indiana.—*Improved Steam Power Meter.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the one independent

piston *a* working in its cylinder A, and actuated in opposite directions alternately by the steam from opposite ends of the engine cylinder, acting successively on its opposite sides or faces, carriage B, pendulum H, main spring *m*, secondary spring *i*, friction wheel or roller *c* and disk E, arranged for operation together, in the manner and for the purposes set forth.

Second. I also claim driving the disk E in both directions of its travel, by cords T, operated by the engine, whereby a velocity corresponding to the velocity of the piston of the engine is at all times, and throughout both strokes, communicated in a positive and accurate manner to the friction wheel *c*, for the purposes mentioned.

Third. And I further claim providing the driving cords T with compensating springs *z* when said cords and springs are combined for action with the reciprocating disk E, and reciprocating head-block, or its equivalent, of the engine piston rod, essentially as described, to prevent material pause of the disk at the end of each stroke, and irregularity in the action of the disk, by the driving pull on either cord, alternately producing stretch and the relaxing of either cord, when not acting as a driver, for the purpose of securing accuracy in registering, as specified.

No. 21,468.—William C. Grimes, of Philadelphia, Pennsylvania, assignor to David Matthew, of said Philadelphia.—*Improved Steam Pressure and Water Indicator.*—Patent dated September 7, 1858.—The nature of this invention consists in the manner of constructing and arranging two or more concentric glasses, so that one or more forms a reservoir for mercury, and a descending column, while one or more of the inner forms a central and rising column, so that the reading scale shall be from the top of the sinking column of the mercury in the outer concentric glass, to the top of the rising column in the inner concentric glass, indicating the fall and rise of water in the boiler and its distance below the water line: thereby indicating the fall and rise of the column of mercury as in a common bent siphon gauge; giving scale of mercury as the specific gravity of the mercury is to that of water in the boiler to the rise and fall of the mercury in the concentric glasses.

The inventor says: I do not claim the mercury cup, containing mercury, nor the glass tube embodied in the leg of the siphon, and showing only the rise and fall of the mercury by single end of the mercury column in single tube, as this has been done before, and I do not wish to be understood as claiming any such device.

But I *claim* constructing and arranging the concentric glass tubes with the connecting pipes, as and for the purpose set forth. Also, the manner of constructing and arranging the connecting pipes with the boiler and the branch or equilibrium pipe between the concentric connecting pipes at the water line of the boiler, as and for the purpose set forth.

No. 20,963.—J. L. Sutton, of Norristown, Pennsylvania.—*Improved Steam Stove.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The new manufacture of steam stove described, to wit: a stove or furnace and boiler, with two or more concentric radiators, around or above said boiler F and furnace, and arranged to receive the air heated by said furnace and boiler, and impart additional heat to it as it ascends around and between them, substantially as described.

No. 21,472.—John W. Hoard, of Providence, Rhode Island, assignor to Himself and G. B. Wiggin, of said Providence.—*Steam Trap.*—Patent dated September 7, 1858.—This invention consists in a certain combination, with an outer case or chamber A, of a mercury holder, diaphragm, lever, valve, and openings. A shows the outer case, B a rotary valve, C a lever attached to the valve and also to the diaphragm by a rod or bolt, D is the fulcrum to which the lever is attached, E is the bolt or rod connecting the lever with the diaphragm, F is the diaphragm, G is the mercury holder, H is a spring to force the diaphragm back as the mercury cools, I and K is the inlet and outlet.

The inventor says: I make no claim to any of the parts separately.

But I *claim* the combination with the outer case or chamber A, of the valve B, lever O, diaphragm F, mercury holder G, and openings I and C, constructed and operating as described for the purpose set forth.

No. 22,170.—Frank Douglas, of East Liverpool, Ohio.—*Improved Steam Trap.*—Patent dated November 30, 1858.—This invention consists in a certain mode of applying and arranging two disk valves and the connexions of the same with a float; and it further consists in a guard to protect the said float from the action of steam.

The inventor says: *claim*, 1st. The arrangement within the box A, of the horizontal cylindrical chamber C, the two disk valves E, with their interposed adjustable stem *f*, the levers F F, and connexion of said levers with the float, substantially as set forth.

2d. The spherical float guard H applied to the box A, and in relation to the inlet passages *h h*, substantially as and for the purpose set forth.

No. 19,757.—William Morris Davis, of Philadelphia, Pa.—*Balance Steam Trap.*—Patent dated March 30, 1858.—The steam and water enter through the passage *a a*^{1} and is discharged into the top of A the stem will occupy the upper portion of the chamber. When sufficient water has accumulated in A to overcome the counterpoise E and the friction between the surfaces B and C, the loaded vessel will descend, thereby turning the barrel upon the fixed plug C until the openings *b* and *b*^{1} correspond and a passage is opened for the escape of water from A. The water is expelled by the pressure of steam on the surface, through the passage *b b*^{1} until a point is reached when the weight E is sufficient to overcome the friction on B C, when the weight will sink the lever end D, which turns the barrel B in an opposite direction, thus closing the passage *b b*^{1}.

The inventor says: I lay no claim to the various parts separately. Nor do I claim the forcing of the water through a submerged pipe by the pressure of steam upon its surface, thus forming a steam trap.

But I *claim* the construction of a balanced lever through which a passage to discharge the excess of condensation is opened by the weight of such excess, in the manner, or an equivalent manner, to that described.

No. 21,183.—Joseph S. Bonney, of Hanson, Mass., and Charles W. Willard, of Bridgewater, Mass.—*Improvement in Operating Steam Trip Hammers.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the combination of a bent rocker lever, an actuator and two adjustable cams, applied together and to a valve rod and trip-hammer, as represented in the specifications and drawings of the aforesaid patent.

But what we do *claim* is our improved arrangement and application of the parts, the same consisting not only in having a curved pendulous lever I to extend from the hammer shank, or a projection therefrom, and play through and in the valve rod as described, but in arranging and applying cams O P, and adjustable bearers with respect to the said lever, and to operate together and produce a reciprocating motion of the lever, essentially in the manner and for the purpose as specified.

No. 21,694.—Samuel H. Yocum and James O'Byrne, of Shelbyville, Ind.—*Steam Water Tank.*—Patent dated October 5, 1858.—To operate steam tank A, apply the hand to crank N, attached to plexus O O, turn toward railroad P, and when at right angles therewith introduce steam through pipe D, which will expel the air from tank A through stop cock M; as soon as the air is driven out sufficiently, turn pipe D again parallel with railroad P by crank N, and plexus O O closes the stop cocks air tight, when the steam immediately condenses, and the vacuum forms and the water rises in pipe B and flows in tank A through holes in valve *c*.

The inventors say: We *claim*, first, the extension of pipe B above the bottom and inside of tank A, in combination with valve C and gauge U, or their equivalents in the manner and for the purposes set forth.

Second. The flexible pipe D, and stop cock G 2 and M, in combination with the plexus O O, and air tight tank A, as set forth.

No. 21,366.—J. R. Robinson and H. S. Robinson, of Clinton, Mass.—*Improvement in Valve Cocks.*—Patent dated August 31, 1858. The nature of this invention consists in so improving the round sliding valve that there shall be a straight passage through the valve, valve case, and valve spindle, thereby causing less friction to the water, &c., passing through it, and thus obviating a loss of pressure or head. And moreover of so forming the valve that it will effectually withstand a pressure from either end of the valve case alternately, without moving the valve spindle and also of balancing said spindles.

The inventors say: We *claim*, first, the construction of the valve, whether in one or two pieces, valve spindle, and valve case, in the manner described, so as to make a straight passage through the valve, spindle, and case, for the reasons specified.

Second. Making the valve in two pieces for the reasons specified.

Third. When the valve is so made, running the springs through the spindle for the reasons specified.

No. 21,510.—J. C. Macdonald, of Cincinnati, Ohio.—*Improved Valve Cock.*—Patent dated September 14, 1858.—The object of this invention is to dispense with the use of packing around the stem of the valve, and still have the cock perfectly steam and water tight, equally so as if packing were used and applied in the best possible manner to the stem. This invention is applicable to all cocks.

The inventor says: I do not claim the guide *g*, nor the valve B, nor the screw on the stem F, for the operating said valve, for these were secured to me by Letters Patent previously referred to.

But I *claim* the collar g^1, on the valve stem F, the guide cap D, spring *i*, head G, connected with the stem F, by the handle H, and screw cap E, combined and arranged substantially as and for the purpose set forth.

No. 21,524.—Robert Stewart, of Elmira, N. Y.—*Combination Steam Valve.*—Patent dated September 14, 1858.—In the construction of this invention A is the outside shell; *a* the inlet to the valve; *b* the opening to and from the cylinder; B the screw head or steam packing; C the shaft of the valve; D the crank; *c* the screw for fastening the crank to the shaft; *d* the crank handle; *e* the valve seen through the inlet *a*, *f* the inner shell; the dark space shows the interior of the valve.

Claim.—The valve *e*, with the heads e^{11}, as guides or bearings fitting in chamber g^1, in combination with the outer chambers *g*, and steam head B, against which valve *e*, is pressed up, forming a steam joint operating as a self-adjusting valve, operating as described, and for the purposes set forth.

No. 19,594.—Isaac Van Doren, of Somerville, N. J.—*Valve for Steam Engines.*—Patent dated March 9, 1858.—This invention consists in so constructing a hollow valve C, and arranging it in respect to the steam chest A within it, that the pressure of the steam shall not interfere to any appreciable extent with the free and desired action of the valve.

Claim.—A valve, constructed substantially as described, having the steam-chest in its centre, but such steam-chest so constructedas described that the steam shall not press against the valve; and also having the exhaust chamber between its outer and inner shells, the whole arranged substantially as and for the purposes set forth.

No. 21,579.—Thomas Stewart, of Philadelphia, Pa.—*Improved Rotary Valve for Steam Engines.*—Patent dated September 21, 1858.—This invention consists in making the disk of a rotary valve with two or more sets of ports or steam-ways therein for the induction and eduction of steam in such a manner as to allow the said

steam being cut off at any required position of the piston in the cylinder without producing any connexion with opposite side of the said piston when the steam is cut "short" off, and in so constructing and operating the cut-off as to cause it to work independently of said valve.

The inventor says: I do not claim generally a rotary valve for the induction and eduction of steam.

Neither do I claim generally mounting an independent cut-off upon the upper side of a valve.

But first, I *claim* making a rotary valve with an independent cut-off applied thereto, constructed, arranged, and operating substantially in the manner set forth.

Second. I claim constructing the said rotary valve with two or more sets of ports or ways therein, as described, for the induction and eduction of the steam, so as to enable me to cut off the said steam at any required part of the stroke without producing any connexion with the opposite side of the piston when the steam is cut off short, as set forth and described.

No. 22,198.—CHARLES J. C. PETERSEN, of Davenport, Iowa.—*Improvement in the Valve Gear of Locomotive Engines.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention

The inventor says: I *claim* connecting the eccentric ring, from which the slide-valve is operated, to the spring which rests on the journal box of the axle on which the eccentric plate or cam fitting into said ring is fastened, so that the up and down movement of the axle has no influence on the motion of the slide-valve, the whole being arranged substantially as described.

Also, in combination with the eccentric ring attached to the spring, I claim the arrangement of a cam F in connexion with the rods J and L, and the rocking-piece K, whereby the slide is thrown wide open before the piston has accomplished one-quarter of its stroke, and which rods and rocking-piece are so constructed that the motion of the slide-valve may be reversed by raising the hook *e* from one step of the rocking-piece to the other one, the whole being arranged and constructed substantially as set forth.

No. 21,295.—JAMES FERGUSON, of Bridgewater, Mass., assignor to Himself and LAZELL, PERKINS, & Co., of said Bridgewater.—*Improvement in Valve Gear of Steam Engines.*—Patent dated August 24, 1858.—This invention relates to engines in which a separate induction valve is used for each end of the cylinder, and is more particularly applicable in connexion with valves which open and close by a movement from and toward their seats. It consists in operating each of such induction valves by means of a cam of peculiar form on one of two rock shafts, which are connected with the driving eccentric by tripping mechanism; said cam working in a yoke attached to the stem of the valve.

Claim.—The employment of cams E E^1 of the form specified, applied in the manner described, to connect the valve stems with the rock shafts D D^1, which receive the tripping motion, for the purposes set forth.

No. 22,191.—EDWARD MORAN, of New York, N. Y.—*Improvement in the Valve Gear of Steam Engines.*—Patent dated November 30, 1858.—The purpose of this invention is to open the valves of engines in the most efficient manner, and in the shortest available time, with any desired motion, and close them in like manner, retaining the mechanical advantage of starting gradually from a state of rest, at whatever may be the velocity of the engine's motion, without a shock in opening and closing the valves.

The inventor says: I *claim* operating the valves by means of a valve-guide D, substantially as described, the arrangements of which are regulated by projecting cams, arranged as described. I also claim the reversing apparatus, as and for the purposes set forth.

I also claim presenting and withdrawing the cams that give motion to the valve-guide, so as to bring the cams into action at the proper time to produce the desired valve-motion, as specified.

No. 22,321.—JOHN L. WHETSTONE, of Cincinnati, Ohio.—*Improvement in Valve Gear of Steam Engines.*—Patent dated December 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, operating the cut-off valve by means of a forked arm or lever O, which is actuated by means of an adjustable radius bar K, which derives its motion from the rock shaft or from the eccentric which operates the main valves of the engine, the whole being arranged substantially as described.

Second. Adjusting the radius bar K by the variations of the speed of the governor, by means of a rotating disk operated by a worm wheel R, said worm wheel being in such relation to the governor that when the governor is running at its right speed, no motion is communicated to the same, but when the governor runs either too fast or too slow the worm wheel is turned in one direction or the other, and the radius bar K is raised or lowered so that the cut-off is effected sooner or later, the whole being arranged and constructed substantially as described.

Third. Operating the throttle and cut-off valve adjustments in combination, in such manner that the throttle valve is moved slowly and is not closed to any considerable extent, while at the same time the cut-off adjustment is moved rapidly, and on the other hand, when the cut-off adjustment is in position for the shortest period of admission of steam, the movements of the trottle valve are the most rapid, the whole being accomplished in the manner substantially as described.

No. 22,333.—WILLAM STEPHENS, of Old Forge, Pennsylvania, assignor to RICHARD STEPHENS, of said Old Forge.—*Improvement in Slide Valve Gear for Oscillating Engines.*—Pated dated December 14, 1858.—This invention consists in a certain combination of sliding bars, levers, stops, and rods through whose agency the slide valve is caused to derive the necessary motion to effect the introduction and eduction of steam to and from the cylinder. It further consists in certain means of providing for the adjustment of certain of the aforesaid stops for the purpose of giving the valve more or less lead, as may be desired.

The inventor says: I *claim*, first, the combination of the two independently operating sliding bars I and P and the levers M M^1, the

former sliding bar being connected with the valves rockshaft and furnished with fixed or adjustable stop pieces N N[1], and the latter being connected by an arm with the cylinder trunnion, and the whole operating substantially as described to produce the motion of the valve or valves.

Second.—Combining the stop-pieces N N[1] with the sliding bar I, by fitting them to slide in slots 6 in the said bar and attaching them to a double slotted wedge S S[1], applied to the said bar, substantially as described, for the purpose of adjusting or varying the lead of the valve or valves.

No. 22,318.—ELIJAH WARE, of South Boston, Massachusetts.—*Improvement in Slide Valve Gear of Steam Engines.*—Patent dated December 14, 1858.—This invention consists in a certain combination of mechanical devices for effecting the connexion between the slide valve and an eccentric on the crank shaft, whereby a single eccentric, fastened permanently on the shaft, is made to operate one valve to run an engine in either direction, and to give different lengths of stroke and different degrees of lead to the valve, to effect the regulation of the engine; thus performing with one eccentric what in locomotive engines requires, with ordinary valve gear, three eccentrics to each cylinder.

Claim.—The combination of the single eccentric having a short eccentric rod D, the fulcrum plates E G, carrying a fulcrum pin *b*, having a connexion with the short eccentric rod, the slotted frame H receiving the fulcrum pin and a pin on the eccentric rod and the slotted plate J, receiving a pin *e*, or its equivalent, attached to a rod connected with the valve, the whole being applied to operate substantially as set forth.

No. 20,768.—JOHN F. ALLEN, of New York, N. Y.—*Improved Valve Gearing for Steam Engines.*—Patent dated June 29, 1858.—This invention consists in a certain arrangement of parts for operating the valve of the rock-shaft B of a steam engine in such a manner as to effect the induction of the steam at the proper time and cut it off at various points in the stroke.

The inventor says: I do not claim the use of a sliding toe, like *g*, applied to the arm of the valve rock shaft.

But I *claim* the arrangement of the swinging plate or open arm F, with its two pointed swinging piece H, or equivalent, substantially as described, in combination with the single rock shaft B, its arm L, and moveable toe *g*, to operate the two induction valves as described.

No. 21,433.—STUART B. MCCRAY, of Grand Rapids, Mich.—*Improved Governor-Valve for Steam Engines.*—Patent dated September 7, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim*, first, having a hollow cylindrical valve B, constructed and arranged to work in suspension over a vertical piston D, so that it does not come in contact with any horizontal surface, nor has any point of binding contact against said vertical piston D, substantially as and for the purposes set forth.

Second. The suspending and working of a hollow cylindrical valve B, by means of an eccentric or other analogous device L, which said eccentric is so arranged on the shaft of the slotted rocking link that its longest radius is at right angles, or nearly so, with the valve stem H when the valve is closed, and its shortest radius parallel, or nearly so, with the link J of the governor, substantially as and for the purposes set forth.

No. 21,535.—WILLIAM HARDY & JOHN PARKINSON, of Philadelphia, Pa., assignors to Themselves and AARON BATES, of said Philadelphia.—*Improved Pressure and Vacuum Valve.*—Patent dated September 14, 1858.—The nature of this invention consists in combining in one instrument in a manner so that a pressure or safety valve and a vacuum valve, the same to be attached to the steam boilers, vessels for containing malt and other fermented liquors, and to other vessels from which it is necessary to discharge the superfluous steam, or gases generated within, and into which it is required that the air should be admitted to prevent the formation of a vacuum, and in order to facilitate the drawing off of the contents.

Claim.—The valve chamber A, spring valve B, and inner valve E, with their respective openings, and passages when constructed and arranged in respect to each other, as and for the purpose set forth.

No. 20,845.—WILLIAM S. GALE, of New York, N. Y., assignor to Himself, ALFRED VALENTINE and WILLIAM H. BUTTER, of New York, aforesaid.—*Improved Valve Regulator.*—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with the plain diaphragm B, corresponding load piece C, compound lever D E F, and the support A[1], the projections or ridges *c c* on the under surface of the load piece, and the printing of the shape of the same into the diaphragm for the purpose of preventing the slipping of C laterally upon B, as set forth.

No. 19,443.—THOMAS RICHARDS, of Plattsburgh, N. Y.—*Improved Rotary Valve.*—Patent dated February 23, 1858.—In figure 1, A A A are the ports communicating with one end of the cylinder; B B B are passages in connexion with the other end of the cylinder; C C C steam pipe or port for conveying the steam from the boiler to the cylinder D D D, exhaust port which conducts the steam to the atmosphere or condenser. Whenever the valve plate is in such a position as to admit the steam to one end of the cylinder, the other end will always have a communication with the exhaust passages.

Claim.—In combination with a continuously rotating valve plate, having the four cavities E and closed spaces between them, the ports or passages A and B, which communicate respectively with opposite ends of the cylinder and the steam and exhaust ports or passages C D, crossing each other at the centre of the valve, the whole arranged and operating substantially in the manner and for the purpose set forth.

No. 19,570.—WILLIAM H. LOW, of Albany, New York.—*Improved Safety Valve.*—Patent dated March 9, 1858.—The valve seat A has an upper and lower aperture, which are closed by the valve B formed

of the two disks $b\ b^1$ connected together; the opening $a\ a$ forms an outlet passage for the steam from the lower aperture to the outer casing. The outer casing C, which covers and encloses the valve and weight, has an opening through its side, through which the weight may be adjusted, and which is closed by the cover D; the perforated plate E is placed between the opening H for the escape pipe. The weight F is made hollow and filled with shot or lead, so as to be easily adjusted to the pressure required. The handle G has an eye at its upper end, which rests upon the top of the casing C; its lower end works freely in the hollow spindle $b^{1\,1}$ of the valve, and is provided with a cross pin g, which, when the handle is raised, catches in the top of the slotted hole g^1 through the hollow spindle, and thereby lifts the valve from its seat.

The inventor says: I am aware that auxiliary safety valves to be weighted to a given pressure and locked up beyond the interference of the engineer or other party have been used, and I do not claim them broadly; but I *claim*, first, the combination of the "double beat valve" B with the seat A and weight F, when arranged in relation to the passages $a\ a$, and to each other as described and for the purposes set forth.

Second. The combination of the double beat valve B with the handle G, casing c, pin g, and slotted hole g^1, as and for the purposes set forth.

No. 21,390.—James H. Winn, of Portage, Wisconsin —*Improved Safety Valve and Pressure Gauge.*—Patent dated August 31, 1858.—This invention consists in a new and simple method of applying and arranging one or more pendulous rods and an index and dial in combination with a piston valve and suitable arrangement of steam passages, whereby the escape of steam from a boiler as soon as it arrives at any desired pressure is provided for, and any pressure of steam below that at which it is desired to escape is correctly indicated by the index on the dial.

Claim.—The weighted pendulous rods and suspended index L applied substantially as described in relation with each other, and with the dial M, and combined with the piston valve by means of a sector I, chain e, and rod d, or their equivalents, to operate substantially as set forth.

No. 21,493.—Richard Gornall, of Baltimore, Maryland.—*Improved Combination of a Governor with a Slide Valve.*—Patent dated September 14, 1858.—This invention consists in the combination of the governor with a slide valve, which is so constructed and arranged that it has its usual back and forward movements, and a movement in a contrary direction from its regular course whenever the speed of the engine gets too high; and when moved in said contrary or transverse direction, it closes up partially, cuts off the feed port, and leaves open the exhaust port at any position of the piston.

This invention also consists in giving the crank-pin by which the rock shaft is operated a flaring or V-shape, in combination with the oblique or bevel ends of the slide valve and the enlarged slot of the

connecting rod, whereby the slide valve, notwithstanding having a contrary or transverse movement, is always caused to work with "lead."

The inventor says: I *claim*, first, the combination in the manner substantially as specified, of the governor with a slide valve, which is constructed, arranged, and operating as specified for the purposes set forth.

Second. Giving the crank-pin F, by which the rock shaft D is operated, a flaring or V-shape, in combination with the oblique or bevel ends d of the slide valve and the enlarged slot c of the connecting rod I, substantially as and for the purposes set forth.

No. 19,096.—William R. Michner, of Marlborough, Ohio.—*Improved Steam Valve.*—Patent dated January 12, 1858.—This improved valve is of the circular or disk form, and is operated with a reciprocating circular motion. Its novelty consists in the arrangement of its ports and passages for the induction and eduction of the steam, whereby a large amount of opening is obtained by a small amount of motion.

The inventor says: I do not claim providing a valve with several ports to obtain a large area of opening by a small movement.

Nor do I claim exhausting through the back of a side valve.

But I *claim* the hollow circular or disciform valve, with its hollow stem and two series of ports, all arranged substantially as described.

No. 20,094.—Thomas Scott, of San Francisco, California.—*Improved Steam Valve.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The reciprocating or revolving valve, substantially as described, whereby the steam enters at or near the axial center of the valve, and is thence conveyed obliquely through the valve to the cylinder, the valve and hollow stem united and acting as a rock-shaft or center.

No. 20,423.—Henry Goulding, of San Francisco, California —*Improvement in Steam Valves.*—Patent dated June 1, 1858.—The main object of this machine is to cause a direct and effective blow to be imparted by the drill-cutter or stamper without the sudden shock or jar being transmitted to the machine. By the loose collar F a full and unincumbered blow on the rock is obtained, and the valve is reversed so that the pressure takes the piston K on the rebound, thereby obviating all shock or jar on the machine at that time, as the mass of iron in the piston-rod and drill get the change of direction by the rock upon which it strikes.

Claim.—The loose collar on the piston-rod, for the purpose of changing the valve after the blow is given.

No. 21,151.—George Rieseck, of Pittsburgh, Pennsylvania.—*Improved Steam Valve.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the valve D with a projecting

hollow stem E, which is reduced so that its end presents an area only equal, or nearly so, to the ports F F^1 F^2 G G^1 G^2, in combination with a main steam chest or chamber J, and an auxiliary steam chest or casting I, furnished with a stuffing-box *d*, and constructed so as to cover the whole of the back of the valve excepting the end of the stem or a portion of the back equal or nearly equal to the ports in its face, substantially as and for the purposes set forth.

Second. In combination with the above, the peculiar manner specified of making the face of the valve D with six ports F F^1 F^2 G G^1 G^2, three for receiving and three for exhausting; said ports being arranged in such relation to each other that, when the valve is applied to an oscillating engine, one receiving port always stands in line with an exhaust port, and that only four of the ports shall be in use when the engine is working forward, and the extra two thus kept in reserve, so that the engine may be reversed on shifting the valve, by the pressure of steam from a full open port, as set forth.

No. 21,155.—William J. Stephens, of New York, N. Y.—*Improvement in Steam Valves.*—Patent dated August 10, 1858.—This invention consists in a certain arrangement of a spring and levers for giving a sudden movement to the valves to change the direction of the induction and eduction of steam to and from the steam cylinder, as the piston of the engine answers at the end of the stroke.

Claim.—The inventor says: I do not claim broadly the use of springs to move valves, and I do not confine myself to the application of my invention to a system of valves like those described.

But I *claim* the slotted lever F, the T-shaped lever G, and the spring K, arranged in relation with each other, and with the piston-rod and the valve-stem, to operate substantially as set forth.

No. 21,235.—William S. Mackintosh and Samuel Wadsworth, of Pittsburgh, Pennsylvania, assignors to Cridge, Wadsworth & Co., of said Pittsburgh.—*Improvement in Steam-Valves.*—Patent dated August 17, 1858.—This invention consists in a novel arrangement of hollow rolling balanced valves, which affords great convenience for adjustment to cut off the steam at such point in the stroke of the engine as may be desired under the average or usual load of the engine and the average or usual pressure of steam, but which is capable of being controlled by a governor in such a manner as to vary the point of cut off to meet variations in the steam pressure or load on the engine, and thereby regulate the velocity of the engine.

Claim.—The described arrangement of three hollow valves B C C^1 with their stems and ports, and the passages in the valve-box, the whole operating substantially in the manner set forth.

No. 19,484.—Benjamin Carley, of Paterson, New Jersey.—*Improved Eccentric for Operating Steam Valves.*—Patent dated March 2, 1858.—This invention relates to a method of readily giving the proper lead in the act of reversing the motions of the engine and varying the point of cut-off so that by one operation of a simple mechanism, substituted for the ordinary link motion, the valve motion

will receive the required lead by the act of shifting or reversing. The eccentric *b* for operating the valves is mounted in suitable slides c c c c on the main shaft *a*, so that it can be moved in a plane at right-angles to the axis of the shaft to increase or decrease the amount of eccentricity, or shifted side to side, either to vary the point of cut-off or to reverse the engine.

The inventor says: I do not claim as my invention the mode described of varying the point of cut-off or reversing the engine.

But I *claim*, in combination with the method of shifting, the eccentric, or its equivalents, to vary the point of cut-off or reverse the engine, substantially as described; the so forming the ways or slides, substantially as described, that by the one motion and mechanism the required lead shall be given to the valve motion by the act of shifting the point of cut-off or reversing the engine, as described.

No. 19,203.—James W. Osgood, of Columbus, Ohio.—*Improvement in Steam Throttle Valves.*—Patent dated January 26, 1858.—The chamber E E^1 is formed in the upper and lower sections of the chest, and the chamber F is formed in the lower section A. These section chambers are divided by the partition G and the perforated valve seat H, in which are the steam ports or openings I. Directly over the face of the valve seat, so as to cover all the openings, is placed a thin, elastic metallic plate, J, of copper or other suitable metal. The back end J^1 of the plate is fastened to the valve seat by screws or otherwise, and the front end J^{11} is in a similar manner secured to the rocker valve K.

Claim.—The plate J and rocker K, arranged in connexion with the perforated valve seat H, operated substantially as described, for the purpose of increasing or diminishing the area of the steam passages in the valve seat.

No. 20,388.—J. W. Hoard, of Providence, Rhode Island, assignor to Himself and G. B. Wiggin, of said Providence.—*Improved Steam Trap Valve.*—Patent dated May 25, 1858 —The claim and engravings explain the nature of this invention.

Claim.—The construction of the valve C, substantially as described, with a metallic stem D, part of which is hollow and communicates with the hollow interior of the valve, and is fitted with a hollow cap G, which also serves as a nut to secure the valve against longitudinal expansion, whereby provision is made for filling it with liquid, and confining such liquid therein.

No. 19,933.—Truckson S. La France, of Elmira, New York.—*Improved Throttle Valve.*—Patent dated April 13, 1858.—A is a spherical chamber, containing the valve B. It is divided by the partition C C into two compartments, D and E, one for the admission of steam to the valve, and the other for the passage of the steam from the valve ports to the steam chest. The latter is annular and surrounds the valve seat, as seen at E E. The valve is in the form of a hollow frustum, being supported on its axis F by four arms, or partitions *b*, which serve to strengthen against any unequal pressure it may receive.

The inventor says: I am aware that hollow conical valves have before been used, and such alone I do not claim.

Nor do I claim the employment of recesses formed in the periphery for the admission of steam, for the purpose of balancing the valve when at rest, as such arrangement does not produce the effect claimed for my invention.

But I *claim* the series of chambers *d d* in the valve seat, in combination with corresponding chambers or passages in the valve shell B, and the bracing and binding partitions *b b*, the whole arranged and operating substantially as set forth.

No. 19,119.—Edward D. Barrett, of Cincinnati, Ohio.—*Arrangement of Valves and Passages in the Cylinders of Steam Engines.*—Patent dated January 19, 1858.—The valve proper, which closes the ports *e* or e^1, consists of a cup-formed piece, I, having a cap, J, pierced by a stem, K, which is retained within the cap by a foot, L.

The tapet rocker arm, slide valves, and piston are so arranged relatively to each other, and to the steam and exhaust passages, that the instant the main piston P has passed the side passage D, at the then exhaust end of the cylinder, the small slide valve *b* is drawn back by the rocker arm to the position shown in the engravings, which, by reversing the steam in the small cylinder, shoots the main slide valve B to the position shown in the engravings.

Claim.—The arrangement of check valves I I^1 and passages E E^1, in relation to the passages D D^1 and the main valve, substantially as set forth.

No. 21,813.—Benjamin Bunce, of New York, N. Y.—*Improvement in Cut-Off Valves for Steam Engines.*—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining with a slide valve of ordinary character a cut-off valve, constructed substantially as described; that is to say, the slotted tube secured in a fixed position upon the slide, said tube having its ends so closed that the steam shall pass to the valve through the slots, and having also upon it a cylinder slotted in like manner, capable of being revolved thereon, so that the opening and closing of the slotted passages shall be effected by the action of the slide valve itself in carrying the cut-off to and from the stops set to intercept the revolving cylinder, as set forth.

No. 21,300.—John Jackman, of Newburyport, Massachusetts, assignor to Himself and E. A. Ashcroft, of Boston, Massachusetts.—*Improvement in Cut-off Valves of Steam Engines.*—Patent dated August 24, 1858.—The inventor says: My invention is more properly applicable to that described in No. 6,162 of United States patents, and is intended to accomplish the same, or a somewhat similar, result, which the reversed inclined plane S (as described in the patent of the United States numbered 14,545) effects, when used in connexion with the main inclined plane of the regulator and valve mechanism; it, however, remedies an important defect, or certain difficulties incident

to the employment of two inclined planes standing in reverse of one another and acting as described in said patent numbered 14,545.

In naming his claim the inventor says: I do not claim the devices or mechanism covered by the patents herein before mentioned, but what I *claim* is my improvement, or the combination of the levers S and T and the collar U, as arranged and applied to the rod R of the ball governor, and to the slide rod A of the inclined plane C, substantially in manner as herein before specified.

No. 21,682.—Joseph Jobin, of St. Mandi, near Paris, France.—*Improvement in Valves for Steam Engines.*—Patent dated October 5, 1858.—The general principle of this invention consists in giving to the valve a prismatic shape, being in its cross section of either of the forms shown in the engravings, and enclosing said valve in a case which serves as a guide to it in its reciprocating travel.

Claim.—The sliding balance valve, constructed as described, of a prismatic or partly prismatic form, and guided in its reciprocating travel by and within a steam chest open or closed at its ends, but surrounding in a close manner the sides of said valve, substantially as and for the purposes set forth.

No. 21,668.—P. W. Gates, D. R. Fraser, and Thomas Chalmers, of Chicago, Ill.—*Improvement in Gearing of Cut-off Valves for Steam Engines.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Working the cut-off valves D D, in combination with a main slide valve C, or separate main slide valves of the character described, by means of the palls *k* k^1, to lock the cut-off valves with the main valve or valves in an open condition, the variable or adjustable slides *p* p^1, to disengage the said palls, the stops 3 3, to stop the said cut-off valves in a closed condition after their liberation, and stops *y y* *y* y^1, to stop and open them by the completion of the stroke of the main valve or valves, the whole operating substantially as described.

No. 19,640.—Thomas S. Jamieson, of Alexandria, Va.—*Improved Mode of Operating Valves in Steam Engines*—Patent dated March 16, 1858.—This invention consists in the arrangement of the parts by which the valves are operated, so that the steam may be cut off at any desired point in the stroke of the engine, said parts being actuated by the governor, but so arranged as not to affect the governor *k*, except at the moment of tripping the valves, and then only in a very small degree.

Claim.—In combination with the sliding bar G and its several appliances, as described, operated directly from the engine, the swinging dogs H H, which are moved and adjusted by the governor, substantially as described, and for the purpose of tripping the valves at any desired stroke of the engine.

No. 22,192.—Alden R. Morrill, of Northfield, Vt.—*Improvement in Valves of Steam Engines.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is my improved construction and arrangement of the valve case, its induction and eduction parts in reference to the steam chest, and the double-headed piston, made in manner, and to operate within such valve case, substantially as described.

I also claim when the valve case is made tubular and open at both ends as described, making it separate from the steam chest, and so as to rest on the bottom of the latter and confining it therein by means of screw bolts S S, extending through the top plate of the steam chest, and make it to rest on the said valve case, essentially as described.

I do not claim the application of safety valves within a steam chest, and to a covering plate and slide valve, in manner as shown in the patent No. 11,607; that is, so that the steam, in order to move the safety valves, has to pass through the slide valve.

But I claim my improved arrangement of the safety valves and their conducting passages, with reference to the double-headed or slide valve, in which arrangement the steam in passing to the safety valves, in order to raise them, does not pass through the double-headed piston, or slide valve, but through passages *x x*, arranged on the opposite sides thereof, as described.

No. 22, 322.—H. D. Wickes, of Flint, Mich.—*Improvement in Valves of Steam Engines.*—Patent dated December 14, 1858.—The nature of this invention consists in the combination of a peculiarly constructed and suspended segment, or convex valve, with a peculiarly constructed valve seat, whereby a steam chest is dispensed with; or, in other words, the valve and seat are rendered capable of fulfilling the offices of a steam chest, and consequently the construction of the engine is simplified and the steam is made to act on the valve in such a way that all unnecessary pressure of the valve upon the seat is obviated.

Claim.—The valve B, having the ports and cavities *f f*^{1} *h c*, and suspended between screws *j j*, in combination with valve seat *a a*, having the cavity or port *b*, substantially as and for the purposes set forth.

No. 22,320.—Norman W. Wheeler, of Brooklyn, N. Y.—*Improved Apparatus for operating Valves of Steam Engines.*—Patent dated December 14, 1858.—The eccentric E is set upon the main shaft with its throw quite, or nearly at right angles with the crank Q, and gives the absolute throw to the main valve, through and by means of G H and I, carrying with it the rock shaft 3 and arm K. But the riding cut-off valve U derives its motion solely from the eccentric E through F G H *n m* and *o*.

Claim.—Actuating the cut-off valves of steam engines by means of an eccentric, or its equivalent, when the motion of the main valve is derived from the same eccentric or its equivalent, but modified by a movement derived directly from a reciprocating part, substantially as described.

No. 22.164.—J. M. Colman, of Milwaukie, Wis.—*Improvement in Cut-off Valves of Steam Engines.*—Patent dated November 30, 1858.—

This invention consists in the employment of flap-valves combined with sliding induction-valves for the purpose of cutting off steam suddenly from said induction-valves at such point in the stroke of the engine as may be determined by a governor, or by any suitable adjustable contrivance whereby the former are capable of cutting off steam from the slide-valves suddenly at such point of the stroke of the engine as may be determined by a governor, or by other adjustable contrivances.

Claim.—The arrangement and combination of the flap-valves C C^1, valves B B^1, jointed toes *h h*^{1}, rods *i i*^{1}, levers *k k*^{1}, and governor G, as and for the purposes shown and described.

No. 21,455.—H. Uhry and H. A. Luttgens, of Paterson, N. J.—*Improvement in operating Valves of Steam Engines.*—Patent dated September 7, 1858.—The nature of this invention consists in operating a single slide-valve by one cam and two eccentrics, which are connected to a link and differential rocker.

The inventors say: We do not claim the connection of the differential rocker G with the link motion or substitute, as this device is secured by us in a patent dated March 20, 1855.

But we *claim* the cam B^4 or equivalent in combination with the valve gear, adopted to operate a single slide-valve, substantially as described.

VII.—NAVIGATION.

No. 19,659.—William Williams, of St. Louis, Missouri.—*Improved Anchor.*—Patent dated March 16, 1858.—This invention consists in the peculiar construction of the anchor, whereby two flukes are made to penetrate the mud or earth at the same time, and the flukes retained in the mud or earth so that they will not be liable to drag or be hauled out and along on the mud or earth by the pull of the vessel; the cable, also, by this improvement is prevented from "fouling" the anchor.

Claim.—The application of the separate block D to the lower end of the anchor shank and of hinging the flukes in the said block, substantially in the manner described for the purpose specified.

No. 19,638.—Joseph Humphries, of Washington, D. C.—*Combined Floating Anchor and Life Preserver.*—Patent dated March 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the floating drag or anchor, composed of three parts C B A, hinged together, two of which parts are of solid wood, the other part containing receptacles for water and bread when said drag is used as a life-preserver, substantially as described.

Second. The arrangement of the bridle *f* with the device *g* for de-

taching the weight when used in the manner and for the purpose as described.

No. 21,298.—H. W. HARKNESS, of Bristol, Connecticut, assignor to Himself and JEREMY W. BLISS, of Hartford, Connecticut.—*Improved Anchor Ball.*—Patent dated August 24, 1858.—The nature of this improvement consists in constructing a ball with flukes having a line attached to a staple in one end in such a manner that, as it is placed in the muzzle of a gun, the flukes will be compressed into the grooves flush with the outer surface of the ball, and be thrown from a wreck and afford means of escape to persons on board.

Claim.—As a new article of manufacture an anchor ball A, with flukes C, springs D, grooves B, staple F, substantially in the manner and for the purpose as described.

No. 22,432.—OBED HUSSEY, of Baltimore, Maryland.—*Improved Spring Tackle Block.*—Patent dated December 28, 1858.—A is the block; B is the spring made of India rubber; C is the iron strap, enclosing the block and spring; D is a plate across the head of the block making part of the strap, connected with the other part by screws and nuts at *a* and *b* for the convenience of taking apart and putting together; E is the eye to connect the block with the boom, the deck or other point of attachment; F is a pin attached to one end of the block and passing through the spring with the other end extending through an aperture in the seat of the strap; this pin is to secure the spring in its place; *e e* are plates fastened to the sides of the block, with projections that embrace the strap, to keep the block and strap in the proper relative positions, and to allow the block to slide within the strap during the compression and expansion of the spring.

Claim.—A block having a yielding seat, substantially as set forth.

No. 22,154.—WILLIAM B. BARNARD, of Waterbury, Connecticut.—*Improved Tackle Block.*—Patent dated November 30, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A tackle block having its bushing B, secured and adjusted to the pulley A by means of a nut *c*, as shown and described.

No. 21,602.—GEORGE FOCHT, of Reading, Pennsylvania.—*Improved Attachment for Tackle Blocks.*—Patent dated September 28, 1858.—The nature of this invention consists in a tackle block so constructed and combined with a shank, that the block will always be in the most desirable relative position with the rope passing around the pulley.

Claim.—Attaching a tackle block that it may turn freely in all directions and be retained in the proper relative position with the rope, when the strain on the rope ceases, in the manner substantially as described.

No. 20,944.—JAMES E. GIBSON, of Port Carbon, Pennsylvania.—*Improved Canal Boat.*—Patent dated July 20, 1858.—The nature of this invention consists in constructing a canal boat in two parts, when each of said parts has a bow and keel and both so arranged and coupled together that each shall have an up and down movement independently of each other, and thus when the bow A portion is not weighted it shall be capable of rising without affecting the stern B portion, and when it has risen to its full extent, it, and the stern portion, shall rest upon the water with even keels, the keel of one being below the keel of the other, and the stern portion serving as a ballast to the bow portion.

Claim.—In combination with canal boats made in two parts, so coupling the parts together that each shall have an up and down movement independently of one another, substantially as and for the purposes set forth.

No. 21,572.—JOHN MCCAUSLAND, of Kingston, N. Y., JEFFERSON MCCAUSLAND and JAMES MCCAUSLAND, of Esopus, N. Y.—*Improved Canal Boat.*—Patent dated September 21, 1858.—The following improvements, found in the claim in connexion with the engravings, give an idea of the nature of this invention.

The inventors say: What we *claim* in the construction of canal boats and other flat-bottomed and vertical-sided vessels is, first. Interposing the bilge timbers between the floor timbers and the side timbers, substantially as and for the purposes set forth.

Second. Bevelling the edge of the bilge timbers and forming a face on either side of the bevelled face for the fitting on of the bilge plank in a gradually rounding line, as described.

Third. The second dovetail in the side timbers, with the chock between the dovetailed faces and the bilge timber, as an arrangement of means for adding strength to the vessel, as set forth.

No. 19,317.—NATHAN THOMPSON, jr., of Brooklyn, N. Y.—*Improvement in Collapsible Boats.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—I claim a sectional, collapsible boat, made up of eight or more sections hinged together and constituting a boat similar in appearance to an ordinary small boat, the whole constructed substantially in the manner described.

No. 21,979.—CHARLES PERLEY, of New York, N. Y.—*Improved Tripping Blocks for Boat Davits.*—Patent dated November 2, 1858.—The nature of this invention consists in a block, or its equivalent, attached to the rope or chain which sustains or regulates the movements of the boat or other article, and provided with a lug that receives a link on the article to be sustained, or on a rope or chain connected thereto; said block is provided with a drop so fitted that the link, or its equivalent, is sustained in the said block, and when said drop is raised by a very slight pull, the block will be effectually and instantly disconnected from the link or article attached thereto.

Claim.—The tripping or disconnecting block, constructed substan-

tially as specified and applied to davit blocks for boats or to other purposes, as set forth.

No. 19,693.—Joseph Francis, of New York, N. Y.—*Improvement in Metallic Boats.*—Patent dated March 23, 1858.—The nature of this invention consists in a peculiar corrugation composed of a series of plane surfaces *e f g*, united by a curved or quarter circle corrugation e^1, in such a manner that the metallic boats formed therewith are very strong and rigid, and are adapted to the most severe service.

The inventor says: I *claim* preparing sheets or plates of metal for forming boats for corrugations composed of a series of flat or nearly flat surfaces united by a curved or nearly quarter circle corrugation, substantially as and for the purposes specified.

I also claim the manner specified of varying the size and proportions of corrugated metallic boats made from sheets pressed in one size of die by forming the corrugations near the centre parallel or nearly so, and increasing or decreasing the number of central plates, formed with such corrugations, substantially as and for the purposes specified.

No. 19,656.—George W. Swartz, of Buffalo, N. Y.—*Improved Canal Boat Propeller.*—Patent dated March 16, 1858.—The nature of this invention consists in, first: The combination of a guard A, with a recess or conduit D D in the stern of the boat, for the purpose of protecting the propeller, and obtaining for it the most advantageous location to accomplish the purposes required.

Second. In the arrangement of braces I, within the guard A, for the purpose of forming a support and bearing for the propeller shaft, and giving strength to the guard.

Third. An improvement in the form of the recess or conduit in which the propeller is placed.

The inventor says: I do not claim a propeller guard broadly considered. But I *claim* the guard A when arranged with a recess or chute, D D, &c., for the purposes substantially as set forth.

I also claim the braces I, for the purposes of strengthening the guard and supporting the propeller shaft, substantially as described.

No. 19,666.—Henry De Veuve, of Galveston, Texas.—*Arrangement of Devices for lowering and detaching Boats.*—Patent dated March 16, 1858.—The grapple hooks are placed round the neck of the bolts C C, and held by means of a shackle which is slipped down upon the lower jaws of the grapple hooks. The boat being filled with passengers, the tackle is operated and the boat swung out and lowered as usual. As long as the boat is suspended above the water the grapple hooks retain firm hold upon the bolts *c c*; as soon as the boat floats, and the shackle is thrown u off the jaws the weight thereby is removed, the springs become the greater power, and they will force apart the jaws of the grapple hooks and cause them to release their hold upon the bolts D D, and thus free the boat.

Claim.—The peculiar arrangement, consisting of the chains or braces, B B B, central broad-headed bolt, C, the grapple hook, D,

with the lowering tackle of a ship, substantially as and for the purposes set forth.

No. 21,201.—Anson Judson, of Unadilla, N. Y.—*Improved Construction of Canal Boats*—Patent dated August 17, 1858.—A is a square tube extending longitudinally from stem to stern; F is a cope formed by the extension of the top of the tube, as indicated by the dotted line G, to aid in concentrating the water in its ingress and egress to and from said tube and prevent the escape of the water from said tube by the action of the wheel.

The inventor says: I do not claim the tube for the ingress and egress of the water through said boat as motive or propelling power, or the use of the wheel as described to force the water through said tube.

But I *claim* the wide openings in the bow and stern of the boat, extending to or near the full width of the boat, and as low as the bottom, substantially as and for the purposes set forth.

No. 20,308.—Nathan Thompson, Jr., of Brooklyn, E. D, N. Y.—*Improved Moulding Frame for the Construction of Boats.*—Patent dated May 18, 1858.—This invention consists in a suitable frame constructed of any proper material in such a manner as to be capable of supporting and retaining, in proper relative position to each other, the same that they occupy in a finished boat, the gunwale ribs *b b b*, keel, stem, and stern posts; and in mounting such a frame upon supports that admit of the frame being easily replaced and retained in various positions proper for the operation of the workmen, and also in providing the frame with proper means for the purpose of removing the boat when finished.

The inventor says: I *claim* a frame substantially as described, capable of supporting and confining, in proper relative position, the various parts that make up the frame of a boat substantially in the manner specified.

And in combination with such a frame, I claim means substantially such as specified, for holding the frame in proper necessary positions, and admitting of an easy change from one position to another.

And also in combination with such a frame, lifting screws passing through the gunwale frame, substantially in the manner and for the purpose described.

No. 19,346.—Herman Camp, of Dunkirk, New York.—*Improvements in Propelling Canal Boats.*—Patent dated February 16, 1858.—The nature of this invention relates to propelling canal boats by a wheel running on the bottom of the canal, the arrangement and location of the wheel D and its supporting frame C C, near the centre of the boat. The frame and wheel have a vertical movement sufficient to allow the wheel to roll on the bottom, notwithstanding the irregularities thereof, or the varying depth of water, and which also may be raised within the boat when meeting obstructions or passing locks.

The inventor says: I do not confine myself to the precise construction, proportions, or arrangement set forth, but include all modifica-

tions thereof as shall be best adapted to secure the desired object by means substantially the same.

First. I *claim* the arrangement and location of the propelling wheel D, and its supporting frame C C, at or near the centre of the boat, for the purposes and substantially as set forth.

Second. I claim supporting the engine upon the vertically-moving frame C C, for the purposes substantially as described.

Third. I claim the combination of the flexible steam pipe G, with the stationary boiler H, and the vertically moving engine E, for the purposes and substantially as set forth.

No. 19,403.—William H. Bridge, of Boston, Mass.—*Improved Cable Stoppers.*—Patent dated February 23, 1858.—When it is desired to let go the anchor, the clasp *f* is knocked back from its hold on the arm *e*, when the claw immediately opens and the chain runs out without obstruction.

Claim.—The cable tongs, with the levers, prongs, and clasp, constructed and arranged substantially as set forth and described.

No. 21,135.—Peter H. Jackson, of New York, N. Y.—*Improved Cable Stopper.*—Patent dated August 10, 1858.—In this invention is used the double cam levers *g*, attached at 2 2 to the flanges *f*, and united to each other at the handle 5. The shape and position of these cam levers are such that the cam-shaped sides 3 3 of the pall *e* come in contact with the cam parts 4 4 of the levers near the fulcrums 2 2, so that the power exerted to start the pall *e* is great, but as said pall rises the levers come in contact therewith nearer to the hinge 1, increasing the speed of movement in the pall, but lessening the leverage, and said pall assumes the position shown by dotted lines, when it can either be thrown over on the flanges *f*, or allowed to descend again and take the chain.

The inventor says: I do not claim a hinged chain stopper, as this has before been used.

I *claim* the combination of the cam lever or levers *g* with the hinged pall *e*, in the manner and for the purposes substantially as specified.

No. 19,131.—John E. Crane, of Lowell, Mass.—*Improvement in Chain-Cable Stoppers.*—Patent dated January 19, 1858.—This invention consists in placing a pawl between suitable cheek plates which have segment ledges or projections on their inner sides; said projections are directly behind shoulders near the outer ends of the pawl, and are set eccentric to the axis of the pawl and serve as stays to prevent by their eccentricity the pressure brought against the pawl by the chain from bearing or acting upon the pin on which the pawl is hung. The bed plate underneath the pawl being grooved as usual, so that the links of the chain or cable will be retained in proper position while passing over the bed-plate, every alternate link being upright and the intermediate ones in a horizontal position while passing over the bed.

The inventor says: I do not claim, separately the pawl E^1, nor the grooved bed-plate B, for they have been previously used.

But I *claim* the combination of the pawl E^1, eccentric segment ledges

or projections *d d* on the inner sides of the cheek plates A A, and the grooved bed-plate B, arranged substantially as shown for the purpose specified.

No. 21,296.—William H. Gray, of Dover, N. H., assignor to Himself and Albert G. Brown, of Salem, Mass.—*Improved Chain Stopper.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The improvement in chain stoppers herein described, which consists in hanging the but of the pawl *e e* on bossings *d d* cast on the inside of two supporting standards or cars *c c*, in combination with the shoulders *h h* on said pawl bearing against said standards as described, the whole being arranged and operating as specified.

No. 19,785.—Benjamin Maillefert, of Astoria, N. Y.—*Improvement in Diving Bells.*—Patent dated March 30, 1858.—The object of this invention is to establish a communication between the interior of a diving bell and the surface of the water, so that the divers may be permitted to come out of the bell and above the surface of the water without raising. This invention consists in the combination with the bell of an air reservoir C for the purpose of facilitating the moving of the machine.

Claim.—The combination of the reservoir C with the bell A and tube B, as and for the purposes set forth.

No. 19,949.—Alonzo C. Rand & Rufus P. Johnson, of Buffalo, N. Y.—*Improvement in Fog Bells.*—Patent dated April 13, 1858.—The nature of this invention relates to the arrangement of mechanism so that the hammer may strike the bell any given number of blows to indicate the particular course of the vessel; the mechanism which determines the number and timing of the blows being distinct from the mechanism which produces the blows.

Claim.—The arrangement of mechanism No. 1 and mechanism No. 2, (or their equivalents,) relating to each other for the purposes substantially as set forth.

No. 19,516.—Thomas Sheehan, of Dunkirk, N. Y.—*Improvement in Sub-Marine Grapples.*—Patent dated March 2, 1858.—The object of this invention is to produce an implement over which the operator may have perfect control, the jaws being allowed to be distended to a greater or less degree as may be desired, and also permitted to close forcibly or gradually at any depth the implement is capable of being used.

The inventor says: I am aware that jaws have been previously applied to springs, and various plans have been devised for retaining the jaws in a distended state and liberating them when desired; and I therefore do not claim broadly, such device, irrespective of the peculiar means employed as shown.

But I *claim* the employment or use of the segment rack M and pawl *h*, applied to the levers D D of the jaws, and actuated by means of the levers K I and cords or chains J H L, substantially as and for the purpose set forth.

No. 21,949.—George Doyle, of Provincetown, Mass —*Improved Harpoon.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, attaching the shank of the harpoon to the head, so that when the latter turns in the fish, the flat side instead of the edge shall be presented to the resisting body substantially as described.

Second. The slots 3 and 4, and lip 6, operating substantially as set forth and for the object specified.

No. 19,363.—H. W. Harkness, of Bristol, Conn.—*Improved Harpoon and Lance* —Patent dated February 16, 1858 —The barbed spears A A, are attached to the thimble B; C is the lance attached to D which is made to slide free and easy through the thimble B, it is held in its position by the lever G and spring H. The lever G is secured to one side of the thimble B, and its catch takes hold upon the collar E on the lance rod D. The end of the rope J is made fast in the thimble B opposite to the lever G, passing around the pulley E, thence through the guide L L, around the small pulley K, thence back through guides L L to the coil in the boat.

The inventor says: I am aware that other devices designed to accomplish similar results have been made.

But I *claim* the arrangement of the barbed spears A A, lance C, rod D, lever G, line J, substantially in the manner and for the purpose as described.

No. 21,278.—Nathan Scholfield, of Norwich, Conn.—*Improvement in Harpoon Lance.*—Patent dated August 24, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the several modes described of applying the sliding and extension cases E and F either with or without spurs Q, on the anterior part of a cylyndric projectile, so as to extend either wholly or partially without the bore of the gun before its discharge, and while the projectile is in its proper position therein.

Second. Attaching a ring or collar holding the line to be fired from a gun to the rear end of a sliding case F, with or without spurs Q, and on which a portion of the said line may be coiled, if desired, preparatory to its being projected substantially as described.

Third. Connecting a lance head and shank of a harpoon lance to be fired from a gun to a cylyndrical shell, by a sliding socket joint J, so that when forced in or in place, the joint shall remain rigid and inactive; but when drawn or forced out, it shall be susceptible of flexibility by turning on its point.

No. 21,879.—John R. Henshaw, of Middletown, Conn.—*Improved Self Mousing Hook.*—Patent dated October 26, 1858.—A is a hook constructed of metal having an eye *a* at one end. The front or end *b* of the hook is made oblique, forming an angle of about 45° with the sides thereof, and a groove *c* is made centrally in and across the face of the end *b*. At the end of the shank *d* of the hook, adjoining the eye *a*, a socket *e* is formed by having an ear *f* made at each side of the shank *d*, and within the socket *e*, one end of the bar *g* is pivoted, as shown at *h*.

Claim.—An improved article of manufacture, a self mousing hook, having a socket *e* and ear *f* and a horizontal spring *k*; the whole made as shown and described.

No. 20,072.—Francis D. Lee, of Charleston, South Carolina.—*Improvements in the Life and Treasure Buoy.*—Patent dated April 27, 1858.—This improvement consists in a certain arrangement of the valves for the escape of water and of the mechanism for operating them, and of an air valve to admit air above the surface of the water in the tank to cause the free and rapid expulsion of the water when the escape valves are opened, whereby all the valves are operated in a convenient manner from the upper deck of the ship or vessel on which the tank is employed.

Claim.—The arrangement of the escape valves M M, rods V V, chain U, windlass G, and the air valve H, and screw F on the windlass shaft, to operate in the manner set forth.

No. 22,258.—James P. McLean, of New York, New York.—*Improved Life Berth for Vessels.*—Patent dated December 7, 1858.—B is a perspective of the life berth, having the air and water tight canvas joints removed in order to exhibit the operation of the movable bed *c* in the grooves G G^1 G^2 G^3. The hatch of locker F and signal hatch D, have also been removed in order to show the manner of stowing the oars and signal rods, also showing the mode of securing the adjustable bed *c* at either extreme upward or lower points P or P^1, by means of a pin or pins passing through the bulk heads, or cross timbers at each end of the adjustable bed *c*. B^1 represents a perspective view of the lower berth secured to the stanchions by means of two keys I I^1, which are attached to and secured by a cord to the end of the stanchion as seen at *v*. E is a water proof canvas joint firmly secured to the top and bottom edges of the sides and end lockers of the berths by means of hydraulic glue and copper nails, or any other suitable means.

Claim.—The arrangement of the removable bed or bottom *c* c^1, canvas joints E E, lockers F F^1, oar and signal compartment D, air tubes, and the projections, grooves, and plates G G^1 G^2 G^3, combined and operated in the manner and for the purpose substantially as described and shown.

No. 19,977.—Leverett Ball, of Auburn, New York.—*Improved Life-Boat.*—Patent dated April 20, 1858.—This invention consists of a life-boat made very light and provided with doors covering the greater portion of the roof or top of the boat, and capable of being opened or closed at pleasure, so that a large number of passengers may occupy the boat, and by their added weight prevent the possibility of capsising, whilst ingress of water is effectually prevented during the launching or any other like emergency by closing the doors.

Claim.—The combination of the described doors with the life-boat,

for the purpose of preserving the lives of shipwrecked passengers, substantially as set forth.

No. 20,374.—Albert L. Shears, of Omro, Wisconsin.—*Improved Life-Boat.*—Patent dated May 25, 1858.—This invention consists in the arrangement of the double sides forming air chambers on a line with the upper sections, and being open at the bottom for the purpose of buoying and sustaining the boat and protecting the scuppers and valves from the force of the sea.

Claim.—The arrangement of the sides L L, as constructed with the hull proper of the boat forming the air chambers a^1 a^1, and being open below, and these sides and air chambers combined and arranged with the scuppers and valves, in the manner and for the purpose set forth.

No. 21,462.—Jabez M. Woodward, of New York, N. Y.—*Improved Life-Boat Constructed of Mattresses.*—Patent dated September 7, 1858.—The object of this invention is to provide a safe and reliable means for preserving life in case of the sinking of a vessel, independent of the ordinary boats and life-boats, and which means can be used and applied without encumbering the vessel or adding to the ordinary expense of fitting out.

The inventor says: I *claim*, first, constructing the mattresses with the strong canvas or duck attached to them with the eyelet holes, so that they can be united at their edges by lashing, for the purpose of making a boat or life-raft, as described.

Second. I claim the manner of constructing the berth bottoms or supports into frames in the shape of or similar to right-angled triangles, in combination with the mattresses, constructed as described.

Third. The combination of the mattresses, canvas, and eyelets, with the lashings, diaphragm frames, and spar, arranged into the form of a boat or life-raft, as described.

No. 21,570.—Charles Legros, of New York, N. Y.—*Improved Expansible Floats for Life-Boats.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing the outer sides or side surfaces of the floats of some non-corrosive metal, while the top and unexplored surfaces are formed of rubber or other air-proof flexible material, substantially as and for the purposes set forth.

No. 21,776.—Hiram Palmer, of Augusta, Mich.—*Improved Life-Preserver.*—Patent dated October 12, 1858.—By turning the crank *c* the propeller is set in motion, and thus motion is given to the preserver. F is a seat upon which the operator sits, and *a a a a* straps which secure the seat to the frame A A. *b b b b* are straps which pass over the operator, when seated, and secure him firmly in his seat, so that he cannot be removed by the violence of the waves. H and I I represent a suit of india rubber clothes which the operator may use, and thus prevent his becoming wet and benumbed with cold sea water.

Claim.—The arrangement of the folding frame A, the metal chambers B B, the provision chamber D within said chambers B B, the flexible air chambers C C, and the propeller E, the whole being combined and operated in the manner and for the purpose specified.

No. 19,989.—Charles French, of Jersey City, New Jersey.—*Improved Life-Preserving Bucket Shaft.*—Patent dated April 20, 1858.—The buckets A A are provided with a grummet around their lower part, so that when a number of the buckets are pushed one into the other they form a raft or life-preserver, on account of the air enclosed in the air-tight space between each bucket.

The inventor says: I do not claim the construction of buckets with air chambers in them to make them serve as floats or life-preservers.

But I *claim* furnishing buckets with encircling gaskets or grummets *d d*, or their equivalents, applied substantially as described, so that two or more of such buckets may be combined to constitute a float or raft, as set forth.

No. 19,618.—Benjamin Burling, of Buffalo, N. Y.—*Improved Life-Preserving Buoy.*—Patent dated March 16, 1858.—This buoy is intended to be well supplied with fresh water and provisioned, and will sustain six or more persons inside for several weeks. The signal flag M^3 is kept up at mast head M through the day, and the lamp M^1 at night. It may be suspended by means of the hawser K to the davits, and thus be ready at all times to be lowered into the water. The great depth of the buoy below the surface of the water, and the ballast therein, will prevent it from floating far from the place where it first enters the water.

Claim.—The general arrangement of parts and conveniences constituting a life and treasure preserving buoy, substantially as described.

No. 19,632.—George W. Hamilton, of Watkins, N. Y.—*Life-Preserving Float.*—Patent dated March 16, 1858.—This invention consists of an exterior metallic case or vessel of circular form and shallow depth *a a*. The interior space within the vessel is filled with similar circular vessels having upright sides which constitute a series of concentric partitions *b c d e* and divide the space into a number of annular compartments K K. A ballast E is attached to the bottom of sufficient weight to counterbalance any burthen which may come upon the sides. Strong iron braces I, extend from one side to another of the bottom, dividing it diametrically at equal distances, and sustaining the weight E at their intersection in the centre.

Claim.—A life-preserving float constructed substantially as described, with annular concentric chambers and air receivers, combined with the central ballast E and radial braces and binding straps I and *m*, as and for the purposes set forth.

No. 19,350.—C. P. Crossman and E. M. Quimby, of Warren, Massachusetts.—*Improved Life-Preserving Mattress.*—Patent dated February 16, 1858.—This invention consists in placing a suitable number of springs A, such as are generally used for upholstery, between plates or slabs formed of cork B B, which are connected together and enclosed within a case D, formed of strong cloth and having straps or ropes G

attached to its sides. The covering D is provided with one or more pockets E, to receive bags F, of water-proof material, to contain provisions, &c.

The inventors say: We do not claim the employment or use of cork, nor do we claim separately or apart from the whole any of the parts described.

But we *claim* the springs A and corks B, connected by the cords or straps *a c*, encompassed by the filling or layers C, and enclosed by the case or covering D, provided with pockets E and straps G, the whole forming a new and useful article of manufacture for the purpose specified.

No. 19,593.—W. URQUHART, of New York, N. Y.—*Improved Life-Preserver Raft of Buoyant Mattresses.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that it is old to form a raft by strapping together a series of mattresses which are arranged in the same horizontal plane, the straps being attached to the side edges and end of each mattress, and the connexion finally formed in such a manner that unclosed joints between the different mattresses exist for the water to dash up through and flood the raft, therefore I do not claim a raft thus formed.

But I *claim* providing the mattresses of a ship with straps and buckles on their upper and under surfaces, and with loops round their edges in the peculiar manner shown, whereby, in case of emergency, a series of mattresses can be buckled together, and a life-preserving raft formed, by placing several layers or tiers of the mattresses thus buckled together on top of one another, in a manner to form angular break joints, and said layers or tiers thus arranged readily and conveniently strapped together in such a manner that it will be impossible for the ties to separate or change their position longitudinally or laterally, as set forth.

No. 19,216.—LORENZO TAGGART, of Philadelphia, Pennsylvania.—*Improvement in Canvas Sheets connected with Life-Preserving Rafts.*—Patent dated January 26, 1858.—The tubes *a* are made to fit in the top openings of the casks, so that by inverting the canvas, placing the tubes in the aforesaid openings, and drawing out the edges of the canvas, a receiver is formed with outlets into the casks for securing a supply of rain water.

The canvas is used also as an awning, and by elevating one portion and drawing the edges outward, as the circumstances of the case suggests, turned into a sail.

The inventor says: I do not claim the formation of rafts by the union of water casks or other buoyant articles.

Nor do I claim using casks partially filled with water, separately considered.

But I *claim* the canvas sheet provided with tubes *a*, and serving the double purpose of awning and water receiver, and connected with the raft substantially as set forth.

No. 22,467.—OLIVER EVANS WOODS, of Philadelphia, Pa.—*Improved Life-preserving Trunk.*—Patent dated December 28, 1858.—A B and C are three separate frames made of wood, and as light as the occasion may permit, and they are united by a flexible water-proof covering D which may be covered over by leather so as to give the article the appearance of a common valise. The middle frame B is somewhat narrower than the other two, and stays E are fastened to the same by pivots *a* so that they may be brought in an improved position.

Claim.—A valise or trunk, substantially as shown and described.

No. 22,021.—T. A. DELANO, of New York, N. Y.—*Improved Life preserving Vests.*—Patent dated November 9, 1858.—This invention relates to vests that are suitable for ordinary wear, but furnished between the exterior and the lining with a float of India-rubber, or other flexible material, that can be inflated at pleasure in a few moments, without the removal of the vest from the person.

Claim.—As a new article of manufacture, a life-preserver having elastic fastenings or straps *e e*, and an inflatable air-chamber or float A extending from the breasts underneath the arm-holes, as shown and described.

No. 22,175.—CALVIN FURBUSH, of Kittery, Me.—*Improved Extensible Life Raft.*—Patent dated November 30, 1858.—This invention relates to a form of life boat or float in which air-tight tubular floats are so arranged and connected by braces with flexible joints that the raft can be thrown overboard in a closed position and afterward expanded in the water to its full extent, the flexibility of the connecting joints being such as to permit the free elevation, or depression of any one or more of the floats by the action of the waves without strain upon any of the parts.

Claim.—The combination of the diagonal braces *g*, sleeves *i* and guide bars *l* with tubular floats *a*, in the manner set forth and for the purpose specified.

No. 20,354.—LEON LEWENBERG, of New York, N. Y.—*Marine Alarm and Fog Signal.*—Patent dated May 25, 1858.—The nature of this invention consists in the arrangement of metallic springs *h h* within a series of rings *g g* in such a manner that said springs shall be operated on by a hollow metallic drum *f*, with plates 1 1 along its surface parallel or nearly so to the axis of said drum; thereby the vibration of the metallic springs and drum, when the said drum is rotated by hand or otherwise, produces a sharp, loud sound that will be heard a great distance.

The inventor says: I do not claim a spring or springs acted on by a ratchet wheel for producing sound, as this has before been made use of.

But I *claim* the hollow cylinder or drum *f*, open at the ends and fitted with the ribs or plates 1, when arranged to act on and within the circular ranges of metallic springs *h* attached to the rings *g*, for the purposes and as specified.

No. 20,328.—Peter C. Clark, of Reading, Pennsylvania.—*Improved Reciprocating Paddle.*—Patent dated May 25, 1858.—In this invention there is applied to the stern of the vessel a number of upright levers, the fulcra of which are confined to a radius rod *d;* the upper end of the radius rod being driven by a crank, will receive a rotary motion; the fulcrum of the lever *c*, being confined to the radius rod, oscillates in the direction of the arc of a circle; the lower end of a lever to which a paddle *e* is attached, being influenced by these motions, moves in the direction of an ellipse. The paddle enters the water endwise and remains in the water during the half-stroke of the crank, when another enters, thus keeping up a continuous motion.

Claim.—The arrangement of the lever *e*, having an adjustable paddle, with the radius bar *d* and crank arm *b* in their relation to each other and to the crank shaft, as and for the purpose set forth.

No. 19,482.—Andrew Buchanan, of New York, N. Y.—*Improvement in Paddle-Wheels.*—Patent dated March 2, 1858.—This paddle-wheel has paddle-floats of the ordinary form with a series of arches D D, but not connected with the floats C C, for the purpose of preventing the breaking of the water by the action of the floats and causing the water to be kept in compact condition behind the floats during the operation. There are also ventilating pipes *c c* for the escape of air from, under, or within the arches.

The inventor says: I do not claim the closing of the spaces between the floats, as I am aware that paddle-wheels have been made with peripheries formed like cog-wheel stars and in other forms within the said spaces closed.

But I *claim* the arrangement of the ventilating pipes *c c*, substantially as described, in combination with the arches D D between the floats, for the purpose set forth.

No. 20,096.—Nathan Smith, of Berwick, Louisiana.—*Improved Paddle-Wheel.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the fitting of the two paddle hubs with their arms D D D^1 D^1 to the shaft, and the attachment of the buckets to the arms in such a manner that either hub may be permitted at pleasure to be turned upon the shaft by the pressure of the buckets upon the water, for the purpose of adjusting the buckets obliquely in either direction to the shaft and of returning them to a position parallel with the shaft, substantially as described.

Second. The employment of the bolts *j j* and a system of levers and sliding collars G G^1, applied substantially as described, in combination with the loose paddle hubs C C^1 and fast hubs E E^1, with their corresponding holes, for the purpose of liberating the hubs from and securing them to the shaft, to permit and secure the adjustment of the buckets.

No. 20,676.—James Wingate, of Philadelphia, Pa.—*Improved Paddle Wheel.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Connecting side wheels for steamboats with recesses, in which blocks are arranged to slide toward and from the center of rotation of the wheel as the latter revolves, by means of the plates F^1 F^2 and G^1, when constructed and operating on the blocks *b* as described, so as to cause the partitions between the said recesses to assume the character and duty of floats throughout a portion of the circumference of the wheel, the outer surfaces of the said blocks being level with the outer edges of the partitions throughout the remaining portions of the circumference, as set forth and for the purposes specified.

No. 21,826.—H. Ehrhart, of Muscatine, Iowa.—*Improved Paddle Wheel.*—Patent dated October 19, 1858.—This invention consists in a certain system of lever-like arms carrying the floats and combined together, and with wheel to operate in combination with fixed guides attached to the vessel so that the floats shall be kept vertical, or nearly so, and be compelled to move horizontally, or nearly so, in the water, and thus be caused to act with the greatest possible degree of propulsive effect.

Claim.—The described system of lever-like arms E E carrying the floats F F, pivoted to the body of the wheel, and combined with each other by the floats F F, and rods G G, and operating substantially as described, in combination with the guides H H, for the purpose set forth.

No. 21,892.—Richard B. Locke, of Stapleton, N.Y.—*Improved Paddle Wheel.*—Patent dated October 26, 1858.—This invention consists in making the buckets severally of a series of boards or plates having the form of parallelograms, and arranged side by side obliquely to the plane of revolution and with their faces oblique to the axis of the wheel and united at their angles to produce a zigzag profile in the section taken in a flame parallel with the axis of and perpendicular to the radius of the wheel, as well as at their outer and inner edges.

Claim.—Connecting the plates D to each other, or to staying rings at their adjacent angles *d d*, substantially as shown and described for the purposes set forth.

No. 21,432.—John May, of Columbus, Ga.—*Improvement in Paddle Wheel Propellers.*—Patent dated September 7, 1858.—A A is the hollow drum or cylinder, B B are the buckets, E E are the guides for the buckets, F F is the adjustable center, I I is the slide in which the center F is made fast or stationary, K K is the circular disk or plate with grooves for the purpose of making the slide I to fit therein.

Claim.—The arrangement of the buckets or floats B B, with the guides E E, with the center F I K, and the frame C, arranged in the manner substantially and for the purpose as described.

No. 20,606.—Charles F. Gardiner, of East Boston, Mass., assignor to Himself and H. D. Gardiner, of said East Boston.—*Improved Propeller.*—Patent dated June 15, 1858.—The nature of this invention consists in the peculiar construction of paddles, and in the manner of

reversing the paddles on either or both sides, so as to turn the vessel without the assistance of the rudder, from the movement of a simple engine working ahead at all times, thus obviating the necessity for reversing the engine.

Claim.—The arrangement of the wheels *w w* on the heads of the shafts S, with the rack *r*, and wheel W, geared therewith, operating to reverse the paddles, substantially as described, in combination with the wings *a a*, and tongues *b* of the shafts S, at and for the purpose set forth.

No. 20,744.—William Thurber, of Olean, New York.—*Improved Propeller.*—Patent dated June 29, 1858.—The forward portion of the blade is secured to arm A, closer to the shaft than point a^1 on arm A^1, and the face of the blade made to vary between the limits of forty-five degrees and five in its angle of impact with the water. This causes the pressure of the blade upon the water to increase gradually from head to heel, preventing the lateral throwing off of the water, which would take place did the blade at the heel make a large angle with the axis of the shaft.

Claim.—The falling face of the blade, in combination with the rear inclined surface P and the filling Q on the back of the blade, the construction and operation being substantially as set forth.

No. 20,953.—Datus E. Merick, of Cleveland, Ohio.—*Improved Propeller.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The special form of the wing B described, having its angular position upon the shaft, in combination with the flange C, having its greatest depth at the central part of the periphery of the wing, and tapering therefrom each way to the edge of the wing, as set forth.

No. 22,016.—George R. Comstock, of Little Falls, New York.—*Improved Propeller.*—Patent dated November 9, 1858.—This invention consists in constructing the paddles with elastic blades, which are perforated; also, in a peculiar device for reversing the action. It also consists in constructing the paddles with cutting edges, for the purpose of preventing them from becoming clogged with vegetation.

Claim —The series of spring blades *f* f^1 hung and reversed substantially as set forth, in combination with the cutting edges of the vibrating frame B^1, the operation being substantially as specified.

No. 22,209.—Washington Van Dusen, of Philadelphia, Pennsylvania.—*Improved Propeller.*—Patent dated November 30, 1858.—The nature of this invention consists in attaching to the crank-pins which give motion to the lower end of the paddles or blades, whose upper ends are guided in their up and down movements by blocks sliding in vertical slots or grooves, the ends of the brace-bars, whose opposite ends are secured together at an acute angle, and are provided with bosses or nuts, which slide horizontally in slots formed in plates secured to the sides or stern of the vessel to be propelled, in such a

manner as to give additional strength to the paddles or blades, and enable them to better resist the action of the water, ice, or other obstruction likely to be encountered by the propelling paddles or blades.

Claim.—The arrangement and combination of the frame D, blocks B, paddles A, cranks G, rods H, and slots S, substantially as and for the purposes shown and described.

No. 20,889.—Mortimer Nelson, of New York, N. Y.—*Improved Boat Propeller.*—Patent dated July 13, 1858.—This invention consists in arranging two longitudinal propeller frames, set with vertical paddles, on each side of the boat. The frames *g g* have a longitudinal movement in opposite directions to one another alternately, and the paddles of one frame, as said frame is moving forward, opening and acting as a resistance to the water, and the paddles of the other frame closing and presenting no resistance as said frame is moving backward. By this arrangement no loss of power by back water is experienced, as there is no expenditure of power in entering or leaving the water, as in the case of the common paddle wheel.

The inventor says: I *claim*, first, the vertical buckets *i i*, when arranged so that they shall be capable of folding against the side of the propeller frame *g*, whether turned on their axis to the right or left, in combination with a reversible stop, which will, after being adjusted, hold the buckets in a position for acting against the water during the time the engine piston is making a stroke to effect the propulsion of the boat either back or forwards, substantially as and for the purposes set forth.

Second. The arrangement of the buckets on the inner side of one of the propeller frames, and on the outer side of the other, in combination with the supporting slides, constructed and arranged substantially as and for the purpose set forth.

No. 22,373.—James Montgomery, of New York, N. Y.—*Improved Buoyant Propeller.*—Patent dated December 21, 1858.—A represents a hollow shaft of large size, constructed of either cast or plate metal, and running on journals *a* a^1. B B are hollow heliacal blades, convex on their rear sides, and provided with segmental flanges C fitting the cylinder A, and secured thereto by screw bolts *c*.

E is the port through which water escapes from the interior of the blade through the cylindrical casing D, its return being prevented by the valve F opening outward, and kept in its seat when at rest by an easy spring G. H is a hole through which water flows from the interior of the shaft into the blade.

The inventor says: I *claim*, first, the described or substantially equivalent means of securing the flotation of a screw propeller by ejecting water therefrom by centrifugal action.

Second. The detachable hollow blades B, in the described combination with the shaft A, for the purposes set forth.

Third. The application of the valve *l*, arranged as described, in the forward end of the hollow shaft A, for the purpose explained.

No. 21,378.—Le Grand C. St. John, of Buffalo, N. Y.—*Improved Propeller for Boats.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the construction and use of a propeller case having three conduits arranged on parallel lines, so that the water will be received into the case through the outside conduits at the same stroke of the piston that water is discharged through the middle conduit, and *vice versa*, as set forth.

Second. I claim the arrangement of two revolving pistons E E with respect to an enclosing case, whether said case is made single, as represented in fig. 7, No. 2, or double, as represented by No. 3, fig. 1, and the combination thereof with a boat, so that in the act of propelling water will be received into the case at one orifice or channel and discharged at another orifice or channel through the bottom of the boat, for the purposes and substantially as set forth.

Third. I claim the construction of my revolving piston, partly of wood and partly of iron, substantially as described.

No. 22,422.—James Hamilton, of New York, N. Y.—*Improved Propeller for Boats.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of two sets of propeller buckets in a reciprocating frame, so set that they act in opposite directions to give head or stern way respectively, when said buckets are combined with sliding stops fitted and acting as specified, to retain one set of buckets in a folded and inoperative position while the other set is acting to move the vessel, as set forth.

No. 20,862.—Abner Burbank, of Buffalo, N. Y.—*Improved Propeller for Canal Boats.*—Patent dated July 13, 1858.—This invention relates to a propeller shaft F, so constructed and arranged that it may be moved in a longitudinal direction any distance and support the propeller N on the end thereof, so that the propeller may be projected outwardly to get a good hold upon the water and drawn inwardly toward the boat, and close up to or under the stern when passing locks, &c.; and in constructing the rudder A with a notch or recess of sufficient size to receive the propeller and allow it to work therein, so that the rudder will swing clear of the propeller and at the same time guard and protect it.

Claim.—A propeller and shaft, moveable in a longitudinal direction, in combination with a rudder having a notch or recess therein to receive the propeller, and for the purposes and substantially as set forth.

No. 22,346.—Mortimer W. Camp, of New Haven, Conn.—*Improved Propeller for Life-Boats.*—Patent dated December 21, 1858.—This invention consists in a method of propelling that class of life-boats having an enclosed or decked hull, by the application of the power of the occupants of the boat, or of such portion thereof as shall be found requisite to effect that purpose.

Claim.—The method of propelling enclosed life-boats by the application of the power of the occupants of the boat, as set forth.

No. 21,825.—John Eaton, of Belleville, Canada.—*Improved Marine Propeller.*—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that it has long since been proposed to propel boats and other vessels by means of reciprocating, and also by means of rotating pumps, discharging a stream of water from the stern, and therefore I do not wish to be understood as making claim, broadly, to such method of propulsion.

But I *claim* propelling boats by means of paddles or vanes rotating in and surrounded by a casing provided with an aperture or apertures near the centre to receive the water, and with a radial spout for the discharge, when such rotating vanes or paddles and surrounding case are placed at the stern and outside the boat or vessel, substantially as described.

I also claim making the said case which surrounds the paddles or vanes, so that it can be turned to place the discharge spout in any desired direction relatively to the plane of the keel, substantially as described, for the purpose of propelling the boat or vessel either forward or backward without reversing the direction of the propeller, and also for steering or turning, as set forth.

No. 21,650.—Oliver Byrne and J. G. Elliott, of New York, N. Y.—*Improved Screw Propeller.*—Patent dated October 5, 1858.—The nature of this invention consists in forming screw-propellers so that a sufficient quantity of water may be passed through a hollow shaft, or through a pipe, to the rear of the blades, for the purpose of filling up the hollow space established behind the blades by the motion of the vessel through the water; thus giving a firmer purchase to the screw, and avoiding in a great measure what is termed "slip."

Claim.—The device and method described, or their equivalents, for conducting useless or superfluous water to the rear of a screw propeller in immediate contact with the blades aft, not for the purpose of giving rotary motion to the propeller, but for the purpose of diminishing what is termed "slip," by the operation and methods described, or by their equivalents.

No. 22,417.—H. E. Fessel, of Chicago, Illinois.—*Improved Steering Propeller.*—Patent dated December 28, 1858.—This invention consists in applying the propeller-shaft in bearings carried by a horizontal circular frame which is capable of rotating to some extent around a vertical driving shaft geared with the propeller-shaft, and which is so geared with a steering apparatus that the propeller-shaft may be set at any required angle to the centre line of the vessel, and the propeller thereby made to perform the duty of a rudder, without interfering with its action as a propeller.

Claim.—The arrangement and combination of the slotted frame A, propeller F, driving shaft C, and chain wheel *i*, substantially as and for the purpose shown and described.

No. 20,332.—Aaron Colton, of Le Roy, New York.—*Improved Valve Propeller.*—Patent dated May 25, 1858.—This invention relates

to paddles placed in horizontally sliding frames C C¹, and consists in attaching the same by means of pivots *c* between their centres and their upper edges to these frames; the upper edges being guided by loops *b*, which are attached to horizontal plates that are placed on the top of the sliding frame in such a manner that they assume a sliding motion, independent of the motion of the frames, whereby the paddles are inclined either one way or the other.

Claim.—The connexion of the paddles with the sliding frames C C¹, and the flat plates E, in combination with the stops *i*, constructed and operated substantially as described.

No. 20,751.—William Webster, of Jefferson county, Washington Territory.—*Improvement in Attaching and Housing Propellers.*—Patent dated June 29, 1858.—A is the exterior frame of the ship, B the fore peak, C the rim, D the after, and D¹ the forward propeller blades or fins, E the after propeller-shaft, F the forward shaft, H G the forward and after stern slide port, I the forward or bow slide port, J J¹ the after and forward trunk, K the pipe connecting the propeller chamber with the ship's pump-well, M M air chambers, N chains attached to slide ports for hoisting and lowering them from the deck, P P the trap hatches in the trunks J J¹.

The inventor says: I *claim*, first. The sliding ports G H I (of any shape required by the form of hull and propellers) and connected apparatus by which they are operated for covering and uncovering the propellers, substantially as specified, in combination with the trunk J, and trap hatch P.

Second. The pipe F leading from the propeller chamber to the pump-well, as and for the purpose described.

Third. The mode of attaching and detaching the after propeller blades as and for the purpose specified, in combination with the slide ports and propeller chambers.

Fourth. The air chambers in the bow and stern as arranged relatively to the propeller recesses or chambers, substantially as and for the purpose described.

No. 19,887.—Seth Wilmarth, of Charlestown, Samuel L. Hay, of Reading, and David N. B. Coffin, jr., of Newton, Massachusetts.—*Improvement in Coupling of Shafting for Propellers.*—Patent dated April 6, 1858.—The object of this invention is to provide for both the angular and transverse variation of the joints of shafting, particularly of propeller shafts in steam vessels. By angular variation is meant the deviation of the shaft from a direct line when the axes coincide at the joint. By transverse variation is meant the want of coincidence of the axes of the two parts of the shaft at the joint.

Claim.—The combination of plate *d*, or its equivalent, with the head plates of the shaft in any manner, substantially as described, so that the coupling may accommodate itself to the angular and transverse variation between the driving and driven parts of the shaft, whether that variation be variable or permanent.

No. 22,266.—Horatio O. Perry, of Buffalo, N. Y., assignor to Himself and Sidney Sheppard, of said Buffalo.—*Improved Means for Securing the Arms to the Hubs of Propellers.*—Patent dated December 7, 1858.—The nature of this invention consists in fitting the arms into conical sockets in the hubs, and in confining the parts together by keys so arranged that the small end of the second key extends across the head of the first, the smaller end of the third extends across the head of the second, and the small end of the fourth across the head of the third, so that none of the other keys can, by any chance, be displaced until the fourth has been removed.

Claim.—The employment of the conical ends c¹, confined in the corresponding sockets in B¹, by the keys D¹ D² D³, &c., substantially in the manner and for the purposes set forth.

No. 22,431.—Samuel Huse and Samuel Huse, jr., of Chicago, Illinois.—*Improved Propelling and Steering Apparatus.*—Patent dated December 28, 1858.—A is the deck of the vessel, B a vertical post which is held firmly up to the stern post H by straps Z; to this post is suspended by similar straps X the rudder C, which is enlarged as at C², so as to form a frame within which revolves the propeller D, and in which is boxed both ends of its shaft *f*. This shaft carries at its extremity a gear E that is driven through the intermediate gear F by a similar gear G upon the engine shaft G.

The inventors say: We *claim* as an improvement in propellers when hung within the rudder and operated by gears E F G, as set forth, receiving the end thrust of the propeller shaft upon the sleeve I on the post B, arranged and operating in the manner substantially as described.

No. 19,851.—James H. Hills, of Burlington, Vermont.—*Improved Row-Lock.*—Patent dated April 6, 1858.—The nature of this invention consists in constructing a row-lock in any convenient form, from the top of which the oar is suspended, and when operated in rowing the boat the oar will feather itself when the boatman may so desire to use it; or, by the use of screws, the oar will cease to be a self-feathering oar, but may be feathered by the boatman with ease by turning the oar within a ring which encircles it.

Claim.—The arrangement and combination of half rings H, and set or adjusting screws F and J, and the suspension and operating of the oar at point *e*, substantially in the mode and manner described.

No. 19,084.—Josiah Foster, of Sandwich, Mass.—*Improvement in Marine Safes.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying air chambers to a vessel to buoy the same up when immersed in water.

Nor do I claim a marine safe or trunk made with an air-tight chamber applied to a receiving chamber, provided with a mouth and closing cap-plate.

But I *claim*, in the construction of a marine safe for preserving letters, money, or other articles from shipwreck, the arrangement of

the extra cap F, with the air chambers D and B, in connexion with the safe *a*, constructed and operating as and for the purpose described.

No. 19,067.—Joseph F. Boyd, of Charlestown, Mass.—*Improvement in Reefing Sails.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim extending both the reef tackles and the reef band suspension lines of a topsail upward from the reef band to and through leading blocks or sheaves applied to the topsail yard.

Nor do I claim extending both the reef tackles and the reef band suspension lines of a topsail upward from the reef band to and through leading blocks or sheaves applied to the topsail yard, thence toward the topmast, and through other leading blocks or sheaves applied to the topsail yard; thence upward to and through leading blocks suspended from the topmast at or near its head, and from thence to the deck of the vessel, as I am aware that such an arrangement and application of reef tackles and reefing lines is exhibited in the patent granted to William H. Foster, September 5, 1854.

I *claim* my improved arrangement or application of the two reef tackles B B, and the series of intermediate reefing lines G G G to the sail, the mast, and the topsail yard, the same consisting in carrying the two reef tackles of the outer edges of the sail upward through blocks at the topmast head, and thence downward to the top or deck, without, in the mean time, leading them through any blocks, or their equivalents, by which, when said lines are pulled, they shall tend to lift the yard, in connexion with arranging the intermediate reefing lines, so that they may extend upward from the reef-band to and around sheaves in the topsail yard, and thence down to the top or deck, in manner specified, without, in the mean time, leading them up to and through a block or blocks appended to the topmast head.

No. 19,850.—Lewis Higgins, of Jersey City, N. J., and Alexander Brown, of New York, N. Y.—*Improvement in Reefing Sails.*—Patent dated April 6, 1858.—This invention is described by the claim and engravings.

The inventors say: We do not claim the rolling of the sail on the yard itself.

But we *claim*, first, the truss frame E E, constructed and fitted with a series of rollers *a a*, which embrace the yard and rolled up portion of the sail, substantially as described, to hold the yard to the mast, but to permit the rolling of the sail thereon without the necessity of dividing the sail down the centre.

Second. The combination of the rings H H, which carry the travelling leads *f*, with the yard and with the truss, by means of the collared bands *d d* and the rolling stays *h h*, in the manner substantially as described, to prevent longitudinal movement of the yard, and the rolling of the travelling leads with the yard.

No. 19,225.—Donald McLean, of Boston, Massachusetts, assignor to Himself, Samuel Green, and Nathan Ames, of Saugus, Massachusetts.—*Improvement in Reefing Topsails.*—Patent dated January 26, 1858.—The nature of this invention is explained by the claim and engravings.

Claim.—The arrangement, substantially as described, of the revolving jack-yard B and the reef lines C, whereby the sail is reefed by simply doubling over itself, instead of being rolled or tied up.

No. 22,097.—Daniel Vrooman, of Hudson, Ohio.—*Improvement in Ship Building.*—Patent dated November 16, 1858.—The nature of this invention consists in forming projections on the bow, bilge, run, and counter of ships whose sides shall be parallel with the keel of the same, and whose upper and lower surfaces shall incline at corresponding angles with the water line so as to form acute angles at their terminations, and attaching to these wedge-shaped portions gutta percha or other elastic fins or wings, in such a manner as to cause the water to impinge and act upon the inclined surfaces of the projections, and the yielding elastic fins or wings in continuation of them during the upward and downward movement of the vessel through the rolling of the sea and the corresponding movement of the water, and thus propel the vessel on her course.

Claim.—The arrangement and combination of the inclined surfaces or projections B D and the elastic fins or wings A with the hull of the vessel, substantially as and for the purposes shown and described.

No. 20,657.—Samuel Nowlan, of New York, N. Y.—*Improved Air Cells for giving Buoyancy to Ships and other Vessels.*—Patent dated June 22, 1858.—This invention consists in a permanent arrangement beneath the deck of a series of cylindrical vessels or wrappers E, made of a yielding, strong, and thin material, which may be inflated with air from an air pump H, located outside on the upper deck. These vessels may be attached to belts or bands and may be wound up on reels R R^1 in order to remove them to some place out of the way.

The inventor says: I *claim* the arrangement of a series of cylindrical air vessels beneath the deck or decks of vessels in combination with the reels and their appurtenances, whereby the said air vessels may be readily removed from or brought into position at pleasure to operate substantially in the manner as specified.

I also claim the flexible induction tube communicating through the hollow reel shaft with the air pump and the air vessels, by means of one or more suitable valves, arranged in the manner and for the purposes described.

No. 21,609 —John Lewis, of Elizabeth City, N. J.—*Improved Balance Sail Rig for Ships.*—Patent dated September 28, 1858.—Patented in England September 4, 1855.—This invention relates to the peculiar mode of constructing and working a set of yards or spars, connected by frame work, so as to move on a centre or pivot, the said frame being balanced on said pivot so as to turn easily thereon, and

also receiving sails so set as to present nearly the same extent of surface on each side of said centre and thus be balanced in their action.

The inventor says: I *claim* the spring beam *b* applied between the pyramidal frame or shears *c c* and the sides of the vessel, and connected to both the frame and vessel in substantially the manner and for the purposes specified.

I claim constructing a frame to receive sails by the horizontal yards combined with the double ranges of spars and braces, substantially in the manner specified, whereby the said yards are permanently sustained at the desired distances apart, and a clear space is left from end to end of said yards for spreading the sails without their coming in contact with the said spars and braces as described.

I also claim the sail frame constructed as aforesaid and combined with the pyramidal shears *c c* by the joint *x* near the middle of said sail frame, whereby the aforesaid sail and frame are sustained and permitted to be turned in the manner and for the purposes specified.

No. 19,737.—CHARLES MALIPHANT, of New York, N. Y., assignor to THOMAS WEST, of said New York.—*Improved Ship's Bulkhead.*—Patent dated March 23, 1858.—The nature of this invention consists in the use of double diagonal planking, with felt or equivalent material saturated with turpentine between said planking. The plankings are placed between stanchions, whereby the bulkhead is rendered perfectly tight, and the working of the vessel or the shrinking of the planks cannot cause the said bulkhead to leak.

Claim.—The arrangement of two or more thicknesses of crossed planking, the interposed felt or other equivalent material, and the stanchions with each other, substantially as specified, and for the purpose set forth.

No. 20,131.—JAMES R. TAYLOR, of New York, N. Y., assignor to WILLIAM SKIDDY, of said New York.—*Improved Ship's Capstan.*—Patent dated April 27, 1858.—This improvement lies in having the gear wheels for increasing the power supported and carried upon a separate or detached plate, located at the base of the capstan, and maintained in position by the passage of the spindle through it, but to which said spindle is not attached.

Claim.—Freely revolving plate *e* for carrying the intermediate gear wheels, in combination with the capstan head, and with the shifting stop *p*, substantially as described.

No. 19,043.—JOHN REEVES, of Brooklyn, N. Y.—*Improvement in Construction of Ships.*—Patent dated January 5, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

Claim.—Tying the bilge timbers or planks of a ship's hull together, and also preventing vibrations of the sides of the hull by means of strong knees, which conform to the curve of the bilge, and diagonal braces which attach to said knees, and bear in opposite directions through said knees against the bilge and top sides of the hull, substantially as and for the purposes set forth.

No. 20,233.—SAMUEL VERY, jr., of Salem, Mass.—*Improvement in Working Ship's Lower Sails in Courses.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Constructing what are commonly known as the "courses" of a vessel, viz, the foresail, mainsail, and cross-jack, with a central clew for a sheet or tack in addition to the usual sheet and tack of such sail, for the purpose of enabling a lighter crew to handle those sails, as set forth.

No. 20,877.—ROSWELL W. HASKINS, of Buffalo, N. Y.—*Improved Method of Coppering the Interior of Ships to Protect them from Lightning* —Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to lightning rods in any mode in which they are now used.

But I *claim* protecting vessels from lightning by means of metal linings, arranged substantially as described.

No. 21,134.—PETER H. JACKSON, of New York, N. Y.—*Improved Ship's Windlass.*—Patent dated August 10 1858.—The nature of this invention consists in applying a movable brace or bit at the end of the windlass shaft in such a manner as to sustain said shaft when in use, or when disconnected to be entirely out of the way, so that a chain can be slipped on to or off the windlass barrel with great facility.

Claim.—The bit *l* taking the end of the shaft *b* as specified, when combined with the brace *n*, block *o*, and key *i*, or their equivalents, substantially as and for the purposes set forth.

No. 19,332.—DANIEL AMMEN, of the United States Navy.—*Improved Signal Lantern.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The peculiar construction and arrangement described of fixed colored screens or glasses to bowsprit cap lanterns, whereby only one color can be seen from any given point at the same time, which consists in the application of fixed red and green glasses or screens indicating respectively "port" and "starboard" sides, when these colored glasses or screens form arcs of 90°, or thereabout, upon the cylinder of the lantern, and when separated by a white glass or screen forming an arc of 45°, or thereabout, substantially as set forth.

No. 20,321.—RICHARD F. BRIDWELL, of St. Louis, Missouri.—*Improved Sounding Apparatus.*—Patent dated May 25, 1858.—This invention consists in the application of a lever *c* to the bow of the vessel in such a manner that the said lever can vibrate in either direction.

A is the hull of the vessel and I is the cutwater around which the strap *b* is passed and secured to the hull of the vessel. This strap has a journal made on it directly in front of the cutwater, as shown at *m*, and on this journal a cam block *o* is placed, which is made so as to vibrate on the journal; *d* is a vibrating crotch-bar which has a

square end on it equal to the cam bar *o* and the cam on the end of lever *c*, the cams being designed to act against the said square surface on the end of the catch-bar.

The inventor says: I do not claim broadly the application of a lever to the bow of a vessel to indicate the depth of water beneath the bottom.

But I *claim* the use of a lever applied to the bow of a vessel so constructed, combined, or arranged as to vibrate in either direction, substantially in the manner described for the purpose specified.

No. 21,919.—Ross WINANS and THOMAS WINANS, of Baltimore, Maryland—*Improvement in Construction of Ocean Steamers.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the combination of a vertical transverse trunk within the hull of a vessel, with a screw propeller of large diameter, whose blades shall project beyond the outline of the hull, substantially as set forth.

No. 19,139.—JOHN FRANZ, of Boston, Massachusetts.—*Table-Rack for Steamers, Ships, &c.*—Patent dated January 19, 1858.—A marks the table and B the rack in both figures. This improved rack is made of wood of the same size as the top of the table to which it is to be applied. The rack is elevated above the surface of the table by means of strips under its edge as shown in the engravings; the outer edge of this strip projects downward to embrace the edge of the table. The rack is perforated with holes corresponding in number and size with the ordinary pieces of table service to be employed.

The inventor says: I do not claim a fixed rack, for that has been used before in stewards' pantries, for holding ships' crockery and table furniture.

Neither do I claim a perforated metallic plate used to cover a hot water bath, nor a perforated false bottom for butlers' trays.

But I *claim* the adjustable, removable, perforated wooden rack for vessels' tables, before described, constructed and used substantially in the manner and for the purpose specified.

No. 19,813.—ISAAC MOORE, of Brooklyn, New York, assignor to Himself and FRANCIS N. GOVE, of said Brooklyn.—*Improvement in Steering Apparatus.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not limit myself to the relative sizes of the gears *e* and *f*, nor to the exact arrangement of the screws and nuts, as all these parts are well known and might be varied to suit particular circumstances. And I do not claim a yielding motion between the steering wheel and rudder head, as this has before been allowed by means of springs and by ropes of a slightly yielding nature; but I am not aware of any previous instance in which the screws acting on the rudder head have been allowed an endwise motion resisted by srpings or equivalent yielding pressure as specified.

Therefore what I *claim* is the manner described of relieving the rudder stock of any sudden strain or concussion by the endwise motion allowed to the screws *x x*, in combination with the springs *l l*, or equivalent yielding pressure, as and for the purposes specified.

No. 20,239.—STEPHEN B. CRAM and CHARLES WEED, of Boston, Mass.—Assignors to STEPHEN B. CRAM, of said Boston.—*Improved Steering Apparatus.*—Patent dated May 11, 1858 --As the wheel is turned in the direction of the arrow, the nut G is caused to travel aft on the shaft E; this draws on the cord *f* attached to the after part, and on the cord *p* attached to the forward part of the cap I, and revolves it in the direction of its arrows. As the strain is brought on both sides of the nut G in the same direction, little or no torsion can be given to the nut.

When the motion of the wheel F is reversed, and the nut is drawn forward or in the opposite direction, the ropes *g* and *n* are drawn upon in a similar manner.

The inventors say: We *claim* the screw *a* and nut G, in combination with the ropes, operating in the manner substantially as set forth.

Second. And in combination with the above, we claim the described tightening apparatus, or any equivalent thereof, arranged in the manner set forth for the purpose specified.

Third. And in combination with the described arrangement of ropes or chains as applied to "mechanical steerers," we claim the employment of springs operating as described for the purpose specified.

No. 21, 210.—FRANKLIN A. MORLEY, of Sodus Point, N. Y.—*Improved Steering Apparatus.*—Patent dated August 17, 1858.—The claim and ongravings explain the nature of this invention.

The inventor says: I *claim* the combination of gears and shafts, arranged substantially as described, for operating the rudders of vessels, and at the same time allow them ample room to traverse perpendicularly and vibrate slightly horizontally.

And in combination with the above, I claim making the journals of the shaft I longer than the boxes in which it turns, or elongating the hole in the box E so that the shaft can vibrate horizontally on both of these devices, combined to accommodate the pinions J J and make them act with the same power or force on each of the gears K K as described.

No. 22,453.—JESSE REED, of Marshfield, Mass.—*Improved Steering Apparatus.*—Patent dated December 28, 1858.—In operating this invention, as the wheel F is turned in the direction of its arrow the nuts G recede from each other, the rods H being drawn through the lugs d^2 until the nuts are hard up against the blocks D, when the ends of the guide rods will be drawn out of the bearings D, or, if found convenient, these rods may be made of such length that their ends will remain in the bearings D, which will make them still more firm and unyielding to any lateral strain.

Claim.—First. The duplex screw-shaft E, in combination with the nuts G and guide rods H, the rods being each permanently connected

with one of the nuts and passed through the lug d^2 on the other nut, and operating in the manner substantially as specified.

Second. In combination with the above, connecting the nut G to the rudder-head by means of the arm I, bulb K, and rod *b*, operating substantially as described.

No. 21,852.—Van Buren Ryerson, of New York, N. Y.—*Improved Submarine Explorer.*—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not wish to be understood that I limit my claim to the special form and construction specified, as these may be greatly varied within the range of my invention, so long as the principle or character of my invention is retained.

What I *claim* is the method of controlling the rising and sinking power of the apparatus, by means of a reservoir or reservoirs of compressed air, connected and combined with a working chamber or chambers, and rising and sinking therewith, substantially as described, so that the operators within, by the use of the compressed air, can readily control the rising and sinking power of the apparatus without communication with the surface, substantially as set forth.

I also claim a submarine explorer, in which the rising and sinking power is controlled by a reservoir or reservoirs of compressed air making part thereof, and rising and sinking therewith, and in which there are two or more working chambers, substantially as described; the dividing the said working chambers by a hatchway, which can be closed water and air tight, substantially as described, to sustain the apparatus with the top above water, when said top is open for any purpose, as set forth.

I also claim, in combination with the reservoir or reservoirs of compressed air, connected and combined with one or more working chambers, and rising and sinking therewith, substantially as described, the employment of one or more ballast chambers at or near the bottom, and so arranged substantially as described, that at the will of the operators they can be made to communicate with the compressed air reservoir or reservoirs and with the surrounding water, as described, to increase the lifting or sinking power of the apparatus, as set forth.

I also claim, in a submarine explorer, combining with the working chamber or chambers thereof the employment of a spray or shower of water, which, at the will of the operators inside, may be discharged at any time required to purify the air by absorption, substantially as described.

I also claim, in combination with the reservoir or reservoirs for compressed air, combined and moving with one or more working chambers, the employment of a pump which can be worked by the operators within, and which communicates with the reservoir or reservoirs of compressed air, and also by means of a flexible pipe and float provided with a self-acting valve, with the atmosphere above, substantially as described, so that in case of accident the operators within can replenish the air in the reservoirs to enable them to control the apparatus, as described.

No. 21,906.—John Sample, of Meadville, Miss.—*Improved Tiller Rope Protector.*—Patent dated October 26, 1858.—This invention consists in the application of a protector to the tiller ropes, which will shield them from the action of the fire and until the boat can be run to the shore.

Claim.—Placing a double casing of metal, made in sections so as to reach their interior, and with air space between them, around, over, or under the tiller ropes of vessels, to protect them from the accidents of fire, substantially as described.

No. 22,088.—Jesse F. Potts, of Apalachicola, Fla.—*Improved Centre Boards for Vessels.*—Patent dated November 16, 1858.—The principle of this invention consists in the construction and arrangement of a centre board so as to be easily adjusted, and to present the greatest area on its side with the least practicable draught or depth of water. For this purpose it is also requisite that the board be capable of being moved upward and downward, and to be kept in a position always parallel to itself.

Claim.—The two or more hinges or parallel bars D and D, as described, when arranged in the manner and for the purposes set forth.

No. 21,917.—Ross Winans and Thomas Winans, of Baltimore, Md.—*Improvement in Steam Vessels.*—Patent dated October 26, 1858.—The object of this invention is to diminish the variation of resistance to the winds and waves which causes a vessel to roll, and also to diminish those resistances which prevent the vessel when "careened," or inclined to one side from "righting," or returning to its nominal upright position, while at the same time is obtained increased strength and stowage and a capacity for greater average speed. These objects are accomplished by giving to the hull such a form that the transverse section of the exterior in any part will be represented by a circle.

Claim.—Constructing the hull of a steam-vessel in the form of a spindle, substantially as described.

No. 20,673.—William Webster, of Jefferson County, Washington Territory.—*Improvement in Masting and Rigging Vessels.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim,* first, substituting for the compound and connected masts now in use on large vessels, independent and disconnected masts made of a single stick of timber, as and for the purpose described.

Second. Attaching the masts to the hull by shrouds placed at the angle with the mast as described and represented.

Third. The truss bands E G for attaching the yards to the masts, and holding them at any desired point thereon, constructed and operating as described.

Fourth. The lift bands K K, to which the lifts and slings are attached, constructed and applied as described.

No. 19,841.—W. Y. Gill, of Henderson, Ky.—*Improved Means for Protecting Tiller Ropes of Vessels from Fire.*—Patent dated April 6,

1858.---This invention consists in having the tiller ropes fitted in metal tubes, which tubes are enclosed by others of larger diameter, so that a space is allowed between them to be filled with any proper non-conducting material. These tubes are to extend from the wheel-house to the tiller, so that the entire length of the ropes, or the parts most exposed, will be fully protected.

The inventor says: I do not claim, broadly, the protecting of articles from fire by enclosing the same within a double case, the space between its sides being filled with a non-conducting material, for this is a well-known means of protecting articles from heat, and may be seen in the various fire-proof safes, refrigerators, water-coolers, &c., in common use.

But I *claim* enclosing the tiller ropes G of steam vessels by a double tubing *b d*, connected with double boxes *c f*, or their equivalants, to form the necessary elbows, the spaces between the tubes and boxes being filled with a proper non-conducting material *e*, and the whole arranged and applied substantially as shown and described, for the purpose set forth.

No. 21,534.—GURDON CONKLING, of Conklingsville, N. Y., assignor W. T. CONKLING, of said Conklingsville.—*Improvement in the Mode of Launching Vessels.*—Patent dated September 14, 1858.—The object of this invention is to facilitate the starting of a vessel on its ways, and thereby obviate the delay and embarrassment usually attending the launching of vessels, especially those of large dimensions. It consists in the employment or use of runners provided with balls, and used in connexion with ways, whereby the desired end is obtained by simple and economical means.

Claim.—The inventor says: I am aware that balls have been used for raising vessels on ways, and they have also been used as anti-friction devices in various ways.

I do not claim, broadly, therefore, the employment or use of balls, separately considered.

But I claim the runners *c*, balls *a*, and ways A, combined and arranged substantially as and for the purpose set forth.

No. 20,426.—HENRY HALLOCK, of Brookhaven, N. Y.—*Buoyant Life-Preserving State Rooms for Navigable Vessels.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement specified, whereby the state-rooms of boats are rendered capable of self-detaching in the event of the hull of the boat sinking, and when detached, of floating squarely upon the water, and of affording ventilation, light, food, and fresh water, and a means whereby their drifting can be controlled from the inside by the occupants, all for the purposes set forth.

No. 19,996.—BENJAMIN JOLINE, of Westfield, N. Y.—*Improvement in Centre-boards of Navigable Vessels.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, broadly, suspending a centre-board within its trunk by chains or ropes, for this has been previously done.

But I *claim* suspending the front end of the centre-board C within its trunk A by means of the bridle D, in combination with the bolt *e* and slot *d*, or their equivalents, to serve as a guide, the parts being arranged to operate substantially as and for the purpose set forth.

No. 22,002.—SILAS YERKES, Jr., of Philadelphia, Pa., assignor to Himself and GEORGE YERKES, of said Philadelphia.—*Improved Rudder for Vessels.*—Patent dated November 2, 1858.—This invention consists in making a rudder in two parts, denominated "main rudder" and "outside rudder," of which the former is hinged in the same manner as a common rudder to the stern-post of the vessel, and the other one is hinged in a similar manner to the back of the first one, and has screwed to it a concentric toothed gear, which gears with stationary toothed arc concentric with the first one. The main rudder is operated like a common rudder, and by its action the outside one is caused to move in the same direction, but faster, and the two combined are caused to produce a greater effect on the water by a given movement of the steering apparatus than a single rudder presenting the same area of surface.

Claim.—The gearing of the outer or aftermost of the two hinged portions of the rudder with a fixed gear or toothed arc attached to the vessel, substantially as and for the purpose specified.

No. 19,047.—J. C. SALOMON and G. W. MORRIS, of Baltimore, Md.—*Improvement in Lightening Sea-going Steam Vessels.*—Patent dated January 5, 1858.—The nature of this invention consists in devices for releasing steam vessels from the burden of their engines and boilers by means of unshipping or detaching a certain portion of the frames, &c., in sections, and which sustain or act as supports of the boiler and engine, and thus freeing such vessels of the boiler and engine by dropping them into the sea.

Claim.—We claim so attaching the engine and support of the boiler to movable or detachable bottoms and sides of the vessel, that they may be dropped out, and thus relieve the vessel of its weight, in the manner set forth.

No. 21,918.—ROSS WINANS and THOMAS WINANS, of Baltimore, Md.—*Improvement in Steam Vessels.*—Patent dated October 26, 1858.—This invention consists in the combination of a hull, which may be represented by a spindle, divided transversely near the middle of its length with a transverse vertical propeller occupying a space between the two portions of the spindle, which are secured together by a suitable framing, or sleeve, firmly attached to their adjacent ends and extending over the propeller, thus combining the two ends and a connecting frame into a structure possessing the requisite rigidity and strength. This invention also comprises the frame, which is called a "sleeve," and the series of plates which are called "ribs," for constructing the ends of this frame respectively with the adjacent ends of the two compartments of the vessel, steadying the vessel in the manner of a keel,

and together with the sleeve directing the water to and from the propeller; and it further consists of means for affording ingress to, and egress from, each of the two compartments of the vessel, a communication between and a means of ventilating them.

The inventors say: We *claim* first, the combination of a spindle-shaped hull, formed of two separate water-tight vessels, united by a sleeve or framing with a propeller, arranged and operating substantially as set forth.

Second. The sleeve in combination with the ribs, or standards, for connecting the two end portions of the spindle-shaped hull, steadying the vessel as a keel does, and directing the course of the water as it enters and leaves the space occupied by the propeller.

Third. The combination of the two end portions of the spindle-shaped hull, with the towers and bridge between them, for the purpose of affording ingress to and egress from each end of the hull, and a means of communication between them, and also supplying a suitable means for the ventilation of the two parts of the hull, substantially as set forth.

No. 21,920.—Ross Winans and Thomas Winans, of Baltimore Md.—*Improvement in the Connection of Steam engines with propellers of Steam Vessels.*—Patent dated October 26, 1858.—This invention is designed to secure greater compactness in the arrangement of the engines and propeller than has hitherto been attained, particularly in ocean steamers; to secure for both the engines and the propeller the best position for them in the vessel, and to connect them without employing long shafts.

Claim.—The combination of two engines, or sets of engines, with an intermediate vertical transverse propelling wheel, to the shaft of which the engines are directly connected, substantially as set forth.

No. 20,578.—Milo Osborn, of Osbornville, Ohio.—*Improvement in Apparatus for raising Sunken Vessels.*—Patent dated June 15, 1858.—The sinker H is a heavy mass of metal, of sufficient weight to sink the buoy. From the upper side of this weight projects a rod J to the upper end of which is attached the hook K; at the lower end of the rod J is a sliding hook I which takes hold of the staple I^1 in the lower end of the buoy F. Two other rods J^1 J^1 are secured to the upper side of the sinker H.

Claim.—The sinker arranged with the rod I, adjustable hooks J and K, and bale J^1, and in combination with the buoy F and clasp G, substantially as described, the same operating in connection with the cables A and D, in the manner and for the purpose set forth.

No. 21,532 —Aldridge Winham, of New York, N. Y.—*Improvement in Apparatus for Raising Sunken Vessels.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the construction, arrangement, and combination of the rigid and elastic inflatable air vessels A and B, together constituting the raiser when so united, and so small as to be conveniently carried by any vessel which they can raise, essentially in the manner and for the purposes fully set forth.

I also claim the portable shoe *d*, so constructed of wood and iron, or other material, as to be managoable under water, so as to be easily applicable to the sunken vessel, to receive the cable for raising, and protect the vessel from abrasion or jamming by the cable, essentially in the manner and for the purposes fully set forth.

I also claim the inflatable elastic stopper L, so constructed as to be easily thrust through a leak or opening in the vessel, and afterwards inflated with air which stops the opening, so that the sunken vessel may be exhausted of water to assist its raising, essentially in the manner and for the purposes fully set forth.

No. 19,500.—Frederick G. Ford, of New York, N. Y., and Pascal Plant, of Washington, District of Columbia.—*Improvement in Method of Raising Sunken Vessels.*—Patent dated March 2, 1858.—This invention consists in the employment or use of a chain E, used in connexion with a tube C, whereby chains may be passed underneath and around sunken vessels, and also vessels in a sinking condition, and by means of inflated bags or other suitable air vessels, which are attached to the chains G that are passed underneath the vessel, which may be raised or kept afloat by their buoyant power. This invention may also be applied to raising of obstructions from the beds of rivers and harbors.

The inventors say: We do not claim the employment or use of inflated bags for raising sunken vessels, for such means have been previously used.

But we *claim* the chain E, constructed substantially as shown and provided with one or more internal chains G H, and used in connexion with the tube C and chain E, to wit: the framing B provided with the pulley I and pinions F D, which gear into the racks *a e*, made respectively in the tube C and chain E, substantially as and for the purpose set forth.

No. 20,287.—Patrick McLaughlin, of Camden, Maine.—*Machine for Worming, Parcelling, and Serving the Rigging of Vessels.*—Patent dated May 18, 1858.—In using this machine the rope S is led from the windlass P throught the hollow shafts of the mallets and is secured to the gallows Q, it is then drawn taut by the windlass, the mallets being supplied with yarn and parcelling, the machine is set in motion when the carriage D will be fed along in the direction of its arrow, then as the mallets are revolved the worming will be put on by the mallet R, the carriage then travels along until the part of the rope that has been wormed passes through between the posts H and I, when the end of the parcelling is attached and the mallet V continues to wind the parcelling around over the worming, then as the carriage progresses further and the portion of the rope which has been parcelled comes out beyond the post K, the yarn V is attached and the mallet X serves the yarn over the parcelling, completing the operation.

Claim.—The described machine, consisting of an arrangement of devices for worming, parcelling, and serving rope, in combination with

suitable devices for holding and straining the same, operating in the manner substantially as described.

No. 22,475.—HENRY R. ROWLANDS, of Boston, Mass.—*Improved Apparatus for Walking on the Water.*—Patent dated December 28, 1858.—The operator standing on the steps *c c* belays taut the forward float lines and slackens the after ones, then, by taking hold of the stanchions H H, he advances one foot forward, similar to the action in walking, the water forcing open the after floats; a short pause then ensues, and the float falls, by its own weight, to its first position, thereby preventing a retrograde motion of the boat while the other is advancing in the same manner. To back water, the after floats are raised and the forward floats lowered.

Claim.—The construction and use of the apparatus by the arrangement of the metal floats *o o*, the metal ballast bands *m m*, and the wooden stanchions H H, in a manner substantially as and for the purpose described.

No. 19,787.—JOSEPH P. MANTON, of Providence, R. I.—*Improvement in Windlasses.*—Patent dated March 30, 1858.—This is an improvement in that class of windlasses in which the drum may be operated with two different speeds, and power obtained when necessary by sacrificing speed, and *vice versa*. The invention consists in the peculiar arrangement of pawls *g h* and gearing Q Q^1 R F G, whereby the desired end is attained.

The inventor says: I do not claim the brakes, for they have been previously used; and I am also aware that pawls, ratchets, and gearing have been used and arranged in various ways for the purpose of varying the speed and power of windlass drums by simply reversing the movement of the driving-shaft or arbor.

I, therefore, do not claim broadly such device, irrespective of the described arrangement of parts.

But I *claim* the arrangement of the pawls *g h*, wheel N, hub P, ratchets S, and gearing Q Q^1 R F G, so as to operate as and for the purpose set forth.

No. 20,427.—DAVID D. HAMMOND, of Duxbury, Mass.—*Improved Windlass.*—Patent dated June 1, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the sector-shaped cams and movable cogged wheels travelling in guides, when attached to a bridle which actuates the pawl of the ratchet-wheel of a windlass, as described.

No. 20,555.—JOHN HARVEY, of Carmel, Maine.—*Improvement in Windlasses.*—Patent dated June 15, 1858.—By turning the wheel C by the line H, so as to wind up the ropes 3 and 4 upon the larger cylinders D D, the ropes 1 and 2 on the smaller ones will unwind therefrom and a constant power will be gained. The windlass is formed cylindrical at E E^1, and of a less diameter than it is at D D; beyond the parts E E it is constructed conical or tapering, as shown at I I.

Claim.—The mode of obtaining power by a windlass and ropes, constructed and arranged substantially as specified; and I particularly claim making the windlass with the conical or tapering parts I in conjunction with the cylindrical parts D E, or either, as described.

No. 21,280.—SAMUEL N. SMITH, of New York, N. Y.—*Improved Windlass.*—Patent dated August 24, 1858.—This invention consists in the peculiar means employed for applying or transmitting power to the windlass shaft, whereby the strength of the operators may be applied to the same very uniformly and advantageously.

Claim.—The lever L provided with the rack K, which gears into the rack J, in connexion with the rods M M and levers N N, connected by the links O with the arms I I, of the boxes H H; the whole being arranged for joint operation as and for the purposes set forth.

VIII.—MATHEMATICAL INSTRUMENTS.

No. 21,621.—JOHN B. NEWBROUGH, of St. Louis, Missouri.—*Improved Machine for Adding Numbers.*—Patent dated September 28, 1858.—The nature of this invention consists in the arrangement of two wheels, or rather a dial and a wheel placed horizontal and parallel with each other inside of a box; and in combination a lever or finger piece which operates on the dial or larger wheel by passing through a slot in the box, a pointer being so fastened to the finger piece that it will point to the figures of the index, marked on the outside of the box; thus making the operation for adding numbers merely the moving back and forth of the finger piece on the index to the numbers required to be added.

Claim.—The obstructing wheel, containing a successive number of slots, corresponding to the circles of figures on the dial, when arranged in combination with the dial, to produce the result as shown and described.

No. 21,236.—LEONARD N. NUTZ, of Alton, Illinois, assignor to IRWIN B. RANDLE and ELIAS HIBBARD, of Madison county, Illinois.—*Improvement in Addometers.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that machines, with a series of circular indicators and a corresponding number of sets of keys, have been made to effect the same purpose; but in these there were no means of connecting or disconnecting at pleasure the keys and the several wheels, so as to make the same set of keys register in turn the additions of the several columns.

I therefore do not claim broadly registering the result of the addition of figures in columns, by means of movable indicators acted upon by the keys of a finger board.

But I *claim* the feathered shaft D, when combined and arranged with a series of indicators *c c c*, and a set of keys, substantially as above described, for the purpose of enabling the operator to add up and register any number of columns of figures in succession by means of the same set of keys.

No. 21,243.—JABEZ BURNS, of New York, N. Y.—*Improved Addometer.*—Patent dated August 24, 1858.—This invention consists in the toothed wheels I^1 I^2 I^3 I^4, when arranged in the manner described, relatively to the index plates, in combination with the toothed wheels of the registering index cylinders, and with the stop, whereby the same teeth which actuate the wheels of the registering cylinder can be used as a means whereby to always turn the wheels the proper distance to accomplish any required movement of the registering cylinders.

Claim.—First. The toothed wheels I^1 I^2 I^3 I^4, when arranged, in the particular manner described, relatively to the arc index plates J, in combination with the toothed wheels b^1 b^2 b^3 b^4 b^5 of the registering cylinders a^1 a^2 a^3 a^4 a^5 and stop *j*, substantially as and for the purposes set forth.

Second. The particular arrangement, in combination with the above, of pins b^1 b^2 b^3 b^4 on the side of the finger-wheels I^1 I^2 I^3 I^4, toothed segments k^1 k^2 k^3 k^4 k^5 and pins *c* on the sides of the registering cylinders a^1 a^2 a^3 a^4 a^5, for the purpose set forth.

No. 20,506.—JOHN OAKES, of New York, N. Y.—*Improved Heliographic Instrument for Taking the Sun's Altitude.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I have stated that the main object of my invention is to find the altitude of the sun when the horizon is obscured, but I by no means intend to confine its application to that condition, as it is obvious that it can be used as well when the horizon is visible; but it is under the former condition that it possesses an advantage over the quadrant and sextant.

I do not confine myself to the use of any particular sensitive preparation for the concave surface of the hemisphere.

But I *claim* the hollow hemisphere A, having its concave surface prepared with a sensitive coating, and having an orifice in the centre of its equatorial plane through which to admit the sun's rays, to act upon the said sensitive coating, substantially as and for the purpose set forth.

And I also claim the graduated plate G with its appendages, combined with the hollow hemisphere, substantially as described, for the purpose specified.

No. 22,396.—GEORGE C. AYLING, of Boston, Massachusetts, assignor to Himself and HENRY A. AYLING, of said Boston.—*Improved Instrument for Measuring Altitudes, &c.*—Patent dated December 21, 1858.—The principal new feature of this invention which distinguishes it from that described in United States patent No. 15,162, is to be found not only in an arrangement of the index glass with respect to the detector glass so as to enable the latter to be moved either into parallelism with or at right-angles to the former, but in the addition not only of an index or vernier to the detector arm, but a divided arc therefor to the index plate, or that which supports the index glass.

Claim.—The arrangement of the index glass with respect to the detector glass so as to enable the latter to be moved either into parallelism with or at right-angles to the former, and combining with the detector glass and the main divided arc and index a secondary index and divided arc, applied to register the movements of the detector glass, substantially as described.

21,921.—SAMUEL S. YOUNG, of Eaton, Ohio.—*Improved Arithmetical Proof-Rule.*—Patent dated October 26, 1858.—This invention consists of an instrument of wood or any other suitable material, and of the manner of using said instrument or machine to accomplish the purpose intended, which is that of a perfect arithmetical proof-rule.

Claim.—The described instrument for proving the result of arithmetical calculations, when constructed and operated substantially in the manner and for the purposes set forth.

No. 21,941.—O. L. CASTLE, of Upper Alton, Illinois.—*Improved Arithmometer for Addition.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, combining the shaft D of the driving wheel C, which serves to give motion to the register, with the keys F F, by means of a series of ratchet wheels on the said shaft and a series of levers of different lengths which work on said shaft as a fulcrum, and are connected with the keys, when the whole are arranged as set forth.

Second. Combining the register wheels of lower denomination with those of higher denomination by means of the pawls *t t*, ratchet wheels *s s*, and stationary plates *u*, the whole applied, arranged, and operating substantially as described, for the purpose set forth.

Third. The springs *w w w*, with their elastic arms 13, applied to the register wheels, in combination with the stationary plates *u u u*, and their projections 14 14 14, to operate as and for the purpose set forth.

No. 22,075.—HENRY GLOVER, of New York, N. Y.—*Improvement in Astronomical Instruments.*—Patent dated November 16, 1858.—This invention has for its object measuring the angular distance of one or more objects from each other, and is an improvement on that class of reflecting instruments of the sextant and quadrant kind. By means of it the operator is enabled to measure, at one and the same time, not only the angular distance of two celestial or other similarly situated objects, but their altitude above the horizon also.

The inventor says: I *claim*, first, the use of the double reflectors or mirrors G G, in combination with a vertical sight, whether the said mirrors are fixed or made adjustable, substantially as set forth.

Second. I claim the second graduated arc E, in combination with

the main instrument A, and with the second mirror G^1, in the manner and for the purposes set forth.

Third. I claim the supplemental arc I, in combination with the level J, and with the main instrument A, in the manner and for the purpose set forth.

No. 22,125.—Calvin Kline, of Brooklyn, New York.—*Improved Method of Neutralizing Local Attraction of the Needle.*—Patent dated November 23, 1858.—The nature of this invention consists in the arrangement of one or more magnets in a horizontal position, below or above the needle of the compass whose opposite poles lie in the horizontal planes, having their common neutral centre in the needle's axis of rotation, and on opposite sides thereof; by which arrangement the opposite poles of the magnet, or magnets, are caused to act upon the needle to force it into the same direction; and in so applying the so arranged magnet, or magnets, as to make it, or them, adjustable on a centre coinciding as nearly as practicable with the vertical axis about which the needle turns, that their poles may be made to point in any direction necessary to compensate for the local attraction, and may have their direction varied to meet any variation in the point, or points of local attraction that may be produced by different cargoes or by other causes.

Claim.—Applying and arranging the magnet, or magnets, in a horizontal position, or positions, below or above the needle of the compass, with opposite poles in the vertical plane of the axis about which the needle turns, and on opposite sides thereof, and in such a manner as to be adjustable on centres lying in, or as nearly as practicable in, the vertical axis about which the needle turns, that their poles may be made to point in any direction necessary to compensate for local attraction and have such direction varied as may become necessary, substantially as herein set forth.

No. 21,435.—Joseph D. Mann, of Chelsea, Mass.—*Improvement in Calipers and Dividers.*—Patent dated September 7, 1858.—This invention relates to a novel means for adjusting and securing at any desired point the legs of the implement. It consists in having the ends of the legs which surround their pivots made circular and eccentric with the pivots, and having said circular portions toothed with a screw fitted between and gearing into them, by turning which the legs are operated or moved. The above parts are placed within a suitable socket, and the screw provided with a jam-nut to prevent the casual movement of the same.

Claim.—Having the parts *a* of the legs made of circular form geared or toothed as shown, and the screw C placed between them and gearing therein, the above parts being fitted within the socket B, and the screw provided with nuts E G, when arranged as described and for the purpose set forth.

No. 21,865.—Thomas Morrison, of New York, N. Y., assignor to Aaron S. Solomons, of said New York.—*Improved Chronometer Escapement.*—Patent dated October 19, 1858.—By the improvements in this invention, first, the detent lever is perfectly balanced and is moved back and forth mechanically, so as to be free from all friction, and unimpeded by the detent spring.

Second. There being no spring, the resistance of which is to be overcome, the heavy balance wheel is unnecessary, and the friction, wear, and risk of breakage of its pivots is materially reduced.

Third. The expensive parts of the common chronometer are superseded by others of simpler construction and less cost.

The inventor says: I *claim*, first, Vibrating the detent of a chronometer (or single beat) escapement by direct mechanical action, substantially as described.

Second. I claim the detent lever vibrating on pivots or a staff, when operating in the manner set forth.

Third. I claim the arrangement and operation of the pallet *n*, in the manner and for the purposes specified.

No. 19,519.—Holly Skinner, of Huron, Ohio.—*Improved Calendar Clock.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* first. The extra movable tooth *m* and leap-year wheel G, applied to the year wheel F, to operate in the manner described, for the purpose of regulating the effective length of the tooth which represents the month of February.

Second. The arrangement of the month wheel C, its attached pinion *t* and pin 4, the rack bar H and its pawl *q*, the spring *v*, or its equivalent, the lever D E and its stud *i*, or its equivalent, the catch K and the stop 7, the whole being applied to operate upon and be controlled by the year wheel of a calendar movement, as and for the purpose set forth.

No. 19,472.—Russel Peck, of Bristol, Conn., assignor to Himself and G. H. Wooster, of New York, N. Y.—*Improved Lathe for Cutting Tenons for Clock Movements.*—Patent dated February 23, 1858.—This invention consists in the employment or use of two cutter-heads attached to vibrating mandrels C C, so that both operate or move simultaneously, and using in connexion with the cutter-heads a clamp J K, peculiarly constructed with a gauge.

The inventor says: I do not claim any of the described parts separately or irrespective of the arrangement as shown, for they or their equivalents, when separately considered, have been used for analogous purposes.

But I *claim* the clamp formed of the bars J K, when arranged and combined with the mandrels C C and gauge I, substantially as and for the purposes set forth.

No. 19,351.—Aaron D. Crane, of Boston, Mass.—*Improved Public Clock.*—Patent dated February 16, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, 1st. Winding up and renewing the motive power at regular intervals for keeping the pendulum in motion so as to supersede the necessity of winding up by hand, and so as to drive the pendulum independently of the other movements of the clock, by the arrangement of devices described, or their equivalents.

2d. I claim winding up the cord and weight that drives the pendulum, by means of the drop lever catch, or its equivalent, operating by its downward movement upon the hooked arm, and thereby turning the drum upon which the cord is wound, substantially as described.

3d. I claim the arrangement of devices for winding up every hour the cord and weight whereby the hands are kept in motion, in combination with the drop lever catch, whereby the escapements are operated in such a manner as to give an intermittent rotary motion to the wheel for carrying the hands and prevent its moving more than one tooth at a time.

And in combination with the foregoing, I claim the means employed for carrying the hour hand, the same consisting of the notched or tooth wheel, moving eccentrically and imparting the necessary motion to the wheel O^1, as set forth.

No. 22,413.—WRIGHT L. COFFINBERRY, of Grand Rapids, Mich.—*Improved Compensating Pendulum for Clocks.*—Patent dated December 28, 1858.—The nature of this invention consists in the combination of two metals of different degrees of expansibility so arranged and adapted as to completely overcome all the expansion and contraction of any simple pendulum rod, and can be used in any pendulum clock.

Claim.—The combination of two metals of different expansibility in the manner and for the purposes set forth.

No. 20,786.—STANISLAS FOURNIER, of New Orleans, Louisiana.—*Improved Registering Attachment for Clocks.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First. I *claim*, in combination with the clock, the wheel C by which I give motion to the wheel D that moves the rack F for a portion of the twenty-four hours; this I claim when either using the wheel D and the rack F, as set forth, or any other analogous mode by which the apparatus can be made to register substantially the same, as regards the time specified.

Second. I claim the carriage K, in combination with the rack F, when the action of the clock, through the use of the rack, or its equivalent, gives motion to the carriage, and holds the index bar M over the card, ready to have the time indicated, as already set forth, and for the purpose specified.

No. 22,388.—WILLIAM TUCKER, of Blackstone, Massachusetts.—*Improved Dynanometer.*—Patent dated December 21, 1858.—A grooved slider D encompasses the shaft and slides freely in a longitudinal direction thereon, it being prevented from turning on a shaft by a spline or feather *a*. It is formed with a groove *b* cut around and in its entire periphery to receive the fork *c* of a bifurcated lever or index pointer E, which works against a stationary divided arc or limb F, and turns on a fulcrum *d*. The slider D is connected with the pulley A by a screw connexion G, the same consisting in a male screw *e* extending from the side of the pulley centrically with the shaft, and made to screw into a female screw *f* cut in the slider.

Claim.—The combination of the grooved slider D, and its screw connexion G, with the index pointer E, or its equivalent, and the spring C and pulley A, or its equivalent, applied to a shaft B, substantially as described, the slider having a feather connexion *a* with the said shaft, as explained.

No. 19,058.—JOHN E. EARLE, of Leicester, Massachusetts, assignor to Himself and SAMUEL SHEPERD, of Nashua, New Hampshire.—*Improved Mathematical Divider.*—Patent dated January 5, 1858.—In this improvement the spindle or axle D which passes through the inclined plane C connects the legs B B by pins E E. The inclined plane turns upon the axle, and having bearings upon the legs at points F F and G G, consequently when the inclined plane is turned upon the axle, and the highest part H is brought nearer the points F F, and the lower or thinnest part I towards the points G G, the extremities *a a* will be forced apart and remain in any desired position, and in like manner to open or close according as the inclined plane may be turned.

Claim.—Operating compasses, dividers, or calipers, by means of a circular revolving cam, as described.

No. 19,589.—ANTON SCHAEFER, of New York, N. Y.—*Improved Mathematical Dividers.*—Patent dated March 9, 1858.—*a b* b^1 a^1 is a parallelogram applied to the divider, of which the joint pin 2 of the arms *a* and *b* is fixed in a stanchion P attached to pin 3, upon which the legs of the divider A and B turn. The lower part of the stanchion P is provided with a slot *o*, in which the joint pin 4 of the arms a^1 and b^1 works up and down. The arms *a* and *b* are lengthened and connected with the secondary legs A^1 and B^1, at a distance below their joints 5 and 6 equal to the distance from the pin 2 and 3.

Claim.—The application and use of a parallelogram to dividers, in the manner and for the purpose specified.

No. 21 041.—WILLIAM W. WYTHES, of Philadelphia, Penn.—*Improved Drawing Instrument.*—Patent dated July 27, 1858.—This invention consists of a beam A, on which is an adjustable point and an adjustable pencil-holder, so arranged in connexion with a disk, endless chain, and other devices, that a rotary motion is imparted from the disk to the pencil-holder, while the latter is on the adjustable centre, thus causing the pencil to produce a variety of figures, the form of which depends upon the relative position with each other of the above named parts.

The inventor says: I wish it to be understood that I do not desire to confine myself to the precise form or arrangement of the several parts illustrated and described.

But I *claim*, first, causing the adjustable pencil-holder to revolve as the beam is turned on the adjustable centre *m*, by means of the disk G, and endless chain I, with the wheels and pulleys, or their equivalents, acting in conjunction with the same, for the purpose specified.

Second. The adjustable sliding piece, K, with its spindle *q*, and adjustable pencil-holder L, when constructed and arranged as and for the purpose set forth.

Third. The spindle *d*, with its adjustable bar N, and pulley *f*, and the spindle *e*, with its adjustable bar N, and pulley *h*, in combination with the adjustable point *m*, and endless chain I, the whole being arranged on the beam A, substantially in the manner and for the purpose specified.

No. 19,642.—JOSEPH LACASSAGNE and RODOLPHE THIERS, of Lyons, France.—*Improved Apparatus for Regulating and Measuring the Intensity of Electric Currents.*—Patent dated March 16, 1858.—This apparatus is founded upon the combination of the following three well known principles:

First. When a galvanic current is made to pass through a liquid that is less conducting than the wires of the battery the intensity or quantity of electricity set in motion in a given time is inversely proportional to the resistance which it experiences passing through the liquid, and this resistance may be regulated either by increasing or diminishing the conducting powers of the liquid or by increasing or reducing the number of contact points immersed in the same.

Second. When the surfaces of the conductors immersed are of such metal as is not attacked by the liquid, platina for instance, gases may be obtained in the free state which are evolved by decomposition of the liquid by the electric current, the quantity of gas obtained being proportional to the intensity of the current or to the quantity of electricity to which the immersing liquid has given passage.

Third. The attracting power of an electro magnet varies, *cæteris paribus*, in the same proportion as the intensity of the current which creates the same.

Claim.—Combining the application of the three principles specified, so as to form an apparatus for regulating and measuring the force or intensity of the electric current produced by any battery, and applicable to telegraphing and motive purposes, substantially as set forth.

No. 19,766.—SAMUEL GARDINER, Jr., of New York, N. Y.—*Improved Method of Lighting Gas by Electricity.*—Patent dated March 30, 1858.—This invention relates to the lighting of gas as it issues from a burner by the heat generated by the passage of a current of electricity through a coil of platinum *b* wire, forming part of an electric conductor, and placed near the orifice of the burner. It also relates to the employment of a platinum coil near a burner to be heated by the flame to a sufficient degree to reignite the gas if the light should be extinguished.

Claim.—Placing a coil of platinum wire, or its equivalent, in the relative position to the jet of gas, as described, for the purpose of lighting the jet by electricity, and for the reigniting it when blown out, under the circumstances and for the purposes set forth.

No. 21,781.—CHARLES W. SMITH, of Evans, N. Y.—*Improved Method of Lighting Street Lamps by Electricity.*—Patent dated October 12, 1858.—The nature of this invention will be understood from an examination of the claim and engravings.

The inventor says: I *claim*, first, the combination and arrangement

of a circuit-changer with different circuits of conducting wires, in which are included a number of street lamps, in such a manner that the lamps in one circuit only may be lighted simultaneously by means of the battery current.

Second. The combination of conducting wires with devices for operating by electricity such a circuit-changer at a station remote from the operator.

Third. The arrangement of the magnet A, the brass plate C, the lever D, and the pawl E, substantially as and for the purposes described.

No. 19,460.—ARCHELAUS WILSON, of Boston, Mass.—*Improved method of lighting Gas by Electro-Galvanic Batteries.*—Patent dated February 23, 1858.—The circuit of the battery F being closed, the coils E are rendered magnetic, and the armature G is drawn towards them as far as allowed by the regulating nuts on the pin S; this vibrates the rods O and brings the thin platina wire *o* immediately over the openings in the tip *g*, at the same time the points L are brought into contact with the elastic strips K, which are connected with the two poles of the battery I, and the circuit of this battery is closed, by which the wire *o* becomes heated and ignites the gas as it escapes from the tip.

The inventor says: I *claim* combining with a gas or other burner a vibrating electric conductor, substantially as and for the purpose specified, so that after producing ignition the conductor shall be removed from the flame, substantially as described.

And I also claim the employment of the motive power of an electro-magnet with the combined vibrating electric conductor and burner, substantially as described.

No. 19,176.—LEWIS TROOST, of Mobile, Alabama, assignor to JOHN A. M. BATTLE, of Mobile, Alabama.—*Improved Method of Registering the speed, back and forward, and distances passed over by Railroad trains by means of Electro-Galvanic Batteries.*—Patented in England June 15, 1857; patented in France June 18, 1857.—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I wish it to be particularly understood that I do not confine myself to the use of any of the particular mechanical devices described, nor to the use of any particular marks or characters in the several registrations, as such may be varied and modified without departing from the principle of my invention.

But I *claim*, first, the method described of recording the performance of a railway train on its journey by the combination of a registration of time, and one or more registrations of distance, such registrations being made in lines parallel with or contiguous to each other, to show by comparison with each other the speed, movements, and stoppages of the train, substantially as specified.

Second. The indication of the backward movements of the train by a registration of a different character to that of the forward movements, but in the same relation to the registration of time, so as to show the time occupied and the distance passed over in backing, and

to enable such distance to be deducted from the distance run forward, and the distance run from the starting point to be correctly ascertained.

No. 19,132.—Stephen D. Carpenter, of Madison, Wis.—*Improved application of Electro-Magnetic Batteries to car brakes.*—Patent dated January 19, 1858.—This invention consists in attaching two electro-magnets to the shoe-bars of each pair of wheels, one to each bar, whereby the power will be applied in the most direct manner.

The inventor says: I do not claim, broadly and irrespective of the arrangement shown, the application of electro-magnets to car brakes for operating the same.

I *claim* the employment or use of electro-magnets, one or more, attached directly to the bars C and springs G G, for the purpose set forth.

I further claim the particular manner of attaching the magnets to the shoe-bars, viz: by means of the links *b* and screw bolts *c*, substantially as shown, whereby the magnets may be adjusted for the purpose of graduating the pressure of the shoes upon the wheels when the circuit is closed.

No. 21,105.—Frederick Yeiser, of Lexington, Kentucky.—*Improved Electro-Magnetic Engine.*—Patent dated August 3, 1858.—This invention consists in a certain system of balanced beams or frames carrying soft iron bars at each end, applied to be operated upon alternately by two series of electro-magnets in such a manner as to receive an oscillating motion, and having combined with them certain mechanism through which their oscillating motion is caused to produce the rotary motion of a shaft.

Claim.—The employment of a series of balanced beams F with bars G, arranged and combined with the magnets C, frame H, and rods J, substantially as and for the purposes set forth.

No. 22,071.—Moses G. Farmer, of Salem, Mass.—*Improved Electro-Magnetic Fire Alarm Apparatus.*—Patent dated November 10, 1858. This invention consists in the employment of the snail and dial of the well known clock striking movement, with a lifting piece or key, in combination with an electric circuit and a means of making and breaking the circuit.

The inventor says: I *claim*, first, the dial, the snail, the key or lifting piece A 2, in combination with an electric circuit and with the means of making and breaking the circuit, for the purpose of striking a definite number of blows upon one or more bells, and of repeating the same, and of registering or indicating the number of the blows so struck, as described.

Second. The arrangement of the circuit lever *l*, the lifting piece A 2, and pin *i* 2, so that the circuit shall be closed on the dropping of the lifting piece from off the pin, as set forth.

Third. The arrangement of the circuit lever *e*, rack W, operating in the manner set forth, whereby the circuit is completed by the falling of the rack, and broken when the required number of blows have been struck, as set forth.

Fourth. The combination of the circuit levers *l* and *e*, operating in the manner substantially as set forth for the purpose described.

Fifth. I claim the arrangement of the arm *f*, the arms *a* and *b*, or their equivalents, for the purpose of effecting electric communication alternately with the time magnet D, and the striking magnet H, essentially as described.

No. 20,970.—William Whiting, of Roxbury, Mass.—*Improved Electro-Magnetic House Alarm.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The improved house alarm described, consisting of a combination of the following elements, viz: First, a series of electro-magnetic circuits B; second, an indicator B, to designate the respective circuits; third, an alarm apparatus; fourth, the window or door springs *i*—the whole operating as set forth to sound the alarm, and indicate the circuit attacked.

No. 19,042.—George M. Phelps, of Troy, N Y.—*Improvement in Electro-Magnetic Speed Governor.*—Patent dated January 5, 1858.—This improvement consists in causing any suitable governor or indicator, of variable motion, to regulate the speed of the machine or instrument with or by which such governor or indicator is driven, by making the governor or indicator control and regulate, by closing and breaking the electric circuit, the motive action of a current of electricity upon an electro-magnet, or other electro-magnetic device arranged to work, or to regulate the action of whatever contrivance or mechanism is employed to change the speed of the machine.

Claim.—Causing a centrifugal or other suitable speed governor to regulate the motion of the machine or instrument with, or by which such governor is driven, by making the governor close and break a current of electricity, which operates an electro-magnetic contrivance, arranged to work whatever device or mechanism is employed, to change the speed of the machine or instrument, as described.

No. 22,347.—E. G. Chormann, of Philadelphia, Pa.—*Improved Ellipsograph.*—Patent dated December 21, 1858.—E is a semi-circular plate, having formed in it a curved slot *b*, concentric with the pin *p*. Said slot is to accommodate a thumb screw *a*, which projects through it from the arm D, and by which the said arm D is retained at any point in its arc of motion.

Claim.—I *claim*, first, constructing the shoes *i* and i^1 in two parts swiveled together as specified, in combination with the adjusting screw shaft d^1, the whole arranged and operating as described.

Second. In combination with the screw adjustment of the movable shoe, the arrangement of the pencil or dry point carrier *f*, on a screw shaft C, in order that the relative lengths of the axes may be readily varied to the smallest extent, or a series of concentric ellipses be drawn varying very slightly in size.

Third. Arranging the drawing apparatus with a vibrating adjustable arm D, on a vertically adjustable arm B^1, as described for the purpose set forth.

No. 19,759.—George Doyle, of Ottawa, Illinois.—*Improved Device for Preventing Corrosion of the Binding Screws in Galvanic Batteries.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Making the connexions of the battery by fitting the jars with covers B of glass, glazed or enameled earthenware, gutta percha, or other insulating substance, with holes *a* in them to receive the shanks *b* of the binding screw sockets, and screwing the said sockets through the said holes into the clamps for the plates with interposed washers of India rubber, leather, or similar protecting material, all substantially as described.

No. 19,245.—Joseph Elmendorf, of Penn Yan, New York.—*Improved Method of Attaching the Electrodes to the Poles of Galvanic Batteries.*—Patent dated February 2, 1858.—The nature of this improvement consists in a method of uniting the poles with the zinc and platinum plates, whereby greater constancy and uniformity of action is secured. In this improvement the binding screws are entirely dispensed with. The connexions are formed with a fusible alloy of the following composition: 20 parts of pure tin, 10 parts of cadmium, 1 part of bismuth. Small brass sockets K K are soldered to the zinc and platinum plates into which the wires are inserted, and a drop of the alloy secures them.

Claim.—The method of attaching the electrodes by means of a fusible alloy composed of the ingredients and proportions substantially as specified.

No. 19,209.—Ebenezer Seaver, of Boston, Massachusetts.—*Improved Galvanic Battery.*—Patent dated January 26, 1858.—A is the tub or vessel containing the solution of the sulphate of copper, which is maintained at the point of saturation in any suitable manner; B is a porous cup of a diameter sufficiently great to enclose the porous cup C, which contains the zinc D. When the battery is set up the vessels A and B are filled with a saturated solution of sulphate of copper, and the vessel C with pure water; the solution within the cup B is soon reduced in strength and recruits itself from the vessel A. The solution within the vessel A may thus be kept saturated, while that within the cup B will be weaker, the latter remaining, so long as the battery is in constant use, of a uniform strength.

Claim.—The employment of two or more porous cups, the one within the other, in the manner and for the purpose substantially as set forth.

No. 22,029.—Joseph R. Palmenberg, of New York, N. Y.—*Improved Galvano-Electric Machine.*—Patent dated November 9, 1858.—A is a wooden block in which the battery B and the necessary stands, cups, &c., are fastened. The coil or helix of copper wire C is secured inside the block A, as well as the spring-hammer D, and the whole is then covered by a plate E having a provision for milled head screw F to pass through, for the purpose of regulating the spring-hammer D.

Claim.—The arrangement and construction of a magneto-galvano-electrical machine, in the manner substantially as described, having

the helix and spring-hammer, &c., situated in the inner part of the block or stand which supports all the other parts, and protected from any external danger through which the action of the apparatus might be deranged, substantially as specified.

No. 19,392.—J. W. Wetmore, of Erie, Pa.—*Improved Gravimotometer.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the new use of magnetic induction to form a gravimotometer, by means of the magnets on the equator of the globe A, so that when A is revolved on the vertical axis it will cause the iron globe B to revolve in an orbit about A, and also on its vertical axis.

I also claim the machine described as an improved orrery, because the revolutions correspond in cause and directions with the actual revolutions of the planets, all substantially as set forth.

No. 20,326.—Charles L. Clark, of Rochester, N. Y.—*Improved Device for Actuating the Index of Hygrometers.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim to have invented the employment of a twisted cord operating on the principle described, to indicate the hygrometric condition of the atmosphere.

But I *claim* the combination of the slotted weight D with the shaft E, as shown and described, whereby shaft E is actuated by the horizontal rotation of weight D, without obstructing the vertical movement of the latter.

No. 22,378.—Joseph Redhead, of Woodville, Miss.—*Improved Self-Adjustable Levelling Instrument.*—Patent dated December 21, 1858.—A represents a metallic case, made like an ordinary compass case, in which are arranged two bubbles *a b* at right angles to each other, so as to indicate when the case is level. There is a cross-bar *c* underneath the case, which can move on pins or studs *d d*, firmly connected to the bottom of the case, there being spiral or other openings *e e* between the bar and case, and nuts *f f* run over the screws on the ends of the studs for adjusting the cross-bar to the case. This cross-bar has four arms extending at right angles to each other, and the two bubbles may be placed so that one shall lie over the line of each pair of arms of said cross-bars.

A steel point *i* directly under the centre of the instrument is fastened to the cross-bar *c*, and a rod *n*, to the lower end of which is a ball or counterpoise *m*, is also connected with the cross-bar.

Claim.—Combining with the dish or case A an inclined rod and ball or weights *n*, so that when said case is set upon an inclined staff by its steel point the ball will swing in the case into a level position for the purpose of making a levelling instrument for ascertaining the ascent or descent of ground, as set forth.

No. 19,819.—Oren White, of Racine, Wisconsin, assignor to Henry C. Janes, of said Racine.—*Improvement in Lightning Conductors.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, a lightning conductor consisting of iron wires enwrapped by sheet copper, for the purpose of increasing the strength and the conducting power of the rod without materially lessening its flexibility or greatly increasing the expense of manufacture, as set forth.

Second. The sheet metal joint or clutch L, for connecting the additional rods or points to the main rod, as described.

No. 20,916.—Victor Schrage, of Cincinnati, Ohio.—*Improved Device for Securing Lightning-Rods.*—Patent dated July 13, 1858.—The nature of this improvement consists in the combined arrangement of a spring *d* with the insulator *a*, with which the rod J is attached and detached with the insulator without having to slip the insulators over the ends of the rods in attaching the rods to buildings.

The inventor says: I am aware of other attachments being made for the same purpose, and therefore do not broadly claim attaching and detaching rods after this manner.

But I *claim* the spiral spring *d* as constructed and arranged to the insulator *a* in the manner and with the means represented for the purposes described.

No. 21,905.—Elkanah C. Rogers, of Boston, Massachusetts.—*Improved Method of Insulating and Supporting Lightning-Rods.*—Patent dated October 26, 1858.—The insulator cap, as shown in the engravings, is cylindrical in form, and made hollow to receive an insulating cylinder E, made of glass, wood, or other suitable material, by which the cap may be electrically insulated from the shank, or part F, which serves to support it. The supports of the two insulators D D^2 are shown as sustained in position by screws *f*.

The inventor says: I *claim* making the insulator cap *c* with the adjustable or turning loop *a* applied to it, and arranged so as to operate substantially as described.

I also claim combining with the rod, or conductor, an adjustable rest G applied to it and the insulator cap, substantially in the manner and so to operate as specified.

I also claim combining with or arranging in the cap *c* of the insulator, and with respect to the insulating material, an annular ring L, applied substantially in manner and for the purpose set forth.

No. 22,188.—N. N. McLeod, of St. Louis, Missouri.—*Improved Supporting Insulator for Lightning-Rods.*—Patent dated November 30, 1858.—This invention involves no new principle in insulation, but consists in providing a more efficient, economical, and convenient means of securing the rod to the building, or rather in securing the rod to the insulator and the insulator to the building.

The inventor says: I *claim* so cutting the groove in the edge of the glass as to form the elliptical body, shown at A^1, whereby the insulator is attached to the building in the manner described.

And I also claim the combination of the two straps *d d* with the glass and with the pointed conductor, constructed and arranged substantially in the manner set forth for the purpose specified.

No. 19,379.—Nathaniel Parks, of Rome, New York.—*Improved Receiving Magnet.*—Patent dated February 16, 1858.—A A^1 A^2 is the electro-magnet, B B^1 the helices. The leg A^2 of the magnet fills only a part of the bore of the helix, the remaining space being left for the vibrations of the permanent magnet *a*. In contact with the leg A is an adjustable piece of soft iron C, the end of which is made to approach the magnet *a* and attract it, thus combining the repulsive and attractive forces in moving this magnet whenever the electro-magnet is charged.

The inventor says: I *claim*, of my improvement in receiving magnets for telegraphs, opening and closing the circuit by means of a vibrating permanent magnet enclosed within one of the helices, together with an electro-magnet, and operated upon by both poles of the electro-magnet in the manner set forth.

No. 22,411.—Job Brown, of Lawn Ridge, Illinois.—*Improvement in Grain Measure.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As an improved article of manufacture, a grain tally, having a slide H operated by a pendant *g* and spring I, a lever F, pall E, ratchet-wheel D, and indicating belt C; the whole combined and arranged as shown and described.

No. 20,186.—George W. Atkins, of Milton, Delaware.—*Improvement in Self-Regulating Grain Measurer.*—Patent dated May 11, 1858.—The nature of this invention consists in so arranging and combining together a spring platform B and a pair of ratchet-wheels C C^1, with pawls and springs attached, that when the usual measure of grain is placed upon the platform it shall cause the latter to descend a short distance, moving a pawl, which is attached thereto, and as the said measure is lifted off the said platform shall spring upwards, so as to cause the said pawl to force round the ratchet-wheel the length of the notch which it has just previously passed over, and at the same time indicate the movement *audibly* by a bell *v*, and also *visibly* by an index hand E^1, and so that the said ratchet-wheel, on the completion of each full rotation on its axis, shall let go a spring lever, which is connected by a pawl with a second ratchet-wheel, so as to cause it to move the latter round on its axis the length of one of its notches, causing it to indicate the movement both *audibly* and *visibly*, the axis of each ratchet-wheel carrying the point of an index hand around a dial plate which is numbered.

The inventor says: First, I *claim* the arrangement of the platform B in combination with a box or case A, so that the said platform shall have an up and down motion, by turning as a lever upon the hinge H, or its equivalent, and being supported by means of the double

cross-lever G and spring F in such a manner as to yield downwardly under the weight of the measure of grain when it is placed thereon and spring upwardly on moving the same, substantially in the manner and for the purpose set forth and described.

Second. I also claim, in combination with the said ratchet-wheels, pawls, lever, indexes, and platform, arranged and operating together substantially as described, the two bells *v* and *y*, or their equivalents, for the purpose of indicating audibly both the single and hundreds of measures of grain registered by the index, as described.

No. 22,241.—E. A. Preston, of Battle Creek, Michigan.—*Improved Method of Measuring and Recording by the Tape.*—Patent dated December 7, 1858.—The nature of this invention consists in arranging the tape measure on a barrel containing a spring for the purpose of drawing in the tape in such relation to the drum that the tape while it unwinds from the barrel passes over a certain portion of the surface of the drum and causes the same to rotate; said drum being so arranged by means of a ratchet-wheel and pawl that it is free to rotate in one direction, while the pawl and ratchet-wheel prevent its rotation in the other, so that by the rotation and a certain arrangement of gear wheels the amount of tape drawn out during a number of consecutive operations is registered by hands moving on a dial with required marks and figures on the face of the box containing this arrangement.

Claim.—The described arrangement of a tape measure whereby the same is made self-registering by means of the drum E, the pawl *f*, and the ratchet-wheel F, in combination with the spring *c*, arranged in the barrel D, and with the pinions G H I and J, and the wheels G^1 H^1 I^1 and K, constructed and arranged substantially as set forth.

No. 19,031.—Seneca C. Kennard, of South New Market, N. H.—*Improved Machine for Measuring the Superfices of Boards.*—Patent dated January 5, 1858.—In operating this machine a board to be measured by it is laid on the top surface of the table A, and with one edge close against the inner surface of the ledge B, the other edge of the board being pressed upon by the lever C or wheel F. If, under these circumstances, a board be moved endwise through the machine the roller F will be put in motion and will communicate with the disk *k*, which in its turn will rotate the wheel *l*, whereby motion will be imparted to the index pointer *n* on the divided limb or index plate *o*.

Claim.—The combination of the stationary ledge B, or its equivalent, the arm or lever C, the mechanism carried by such lever and the indicator apparatus; the whole being constructed and made to operate substantially in the manner and for the purpose set forth.

No. 19,153.—Charles W. Rice, of Worcester, Massachusetts, and John E. Harrington, of Millbury, Massachusetts.—*Improvement in Compound Pendulum.*—Patent dated January 19, 1858.—In this improvement the rod A is constructed in the usual form at the top, for the purpose of suspending it and connecting the lower end of the rod to the hook L that holds the pendulum weight R by means of the strap D, or its equivalent. This strap may be made in one piece, passing around the ends of the bar B, or of two pieces with their ends fastened to the end of the bar. The strap is connected between its two outer angles *o o* by an adjustable expansive bar or connexion B, by which the distance between these two angles of the strap may be increased or diminished.

The inventors say: We *claim*, first, the adjustable connexion B, or its equivalent.

Second. The strap D, by altering the angles of which we are enabled to increase or decrease the effect of the expansion and contraction of the connexion B in raising or lowering the weight R of the pendulum, all substantially as described.

No. 19,479.—Dana Bickford, of Westerly, Rhode Island.—*Improved Compound Pendulum.*—Patent dated March 2, 1858.—As the rod A expands by increased temperature it allows the lever cross-piece to descend, but the rods C C expanding upwards at the same time slide the clamps F F up the rod A, and the rods E E expanding in a greater degree downwards from the clamps F F depresses the ends of the levers G G, upon which they bear, and cause the other ends to be raised, and to raise the weight B on the rod A. A contrary effect is produced when the rod A contracts.

Claim.—The arrangement and combination, substantially as shown and described, of the rods E, levers G, and the bob B, so that by the expansion and contraction of rods E the position of bob B upon the rod A will be changed for the purpose set forth.

No. 19,798.—Andrew Slevin, of Ann Arbor, Mich.—*Improvement in applying Pendulum Power.*—Patent dated March 30, 1858.—The nature of this invention consists in a pendulum G fixed on shaft H, moving on two friction rollers W; on the shaft H there are two bevel-wheels I and J fitted loosely to said shaft H and gearing into the pinion L; on the upright shaft N V V are two ratchets, placed reversely to each other and keyed on shaft H; U U are two pawls attached to the two bevel-wheels I and J and operating on the ratchets; K is a bevel wheel on the lower part of the upright shaft N and gearing into the pinion M on shaft Q; O is a fly-wheel on shaft Q; R is a crank on end of shaft with a connecting rod S to the projecting arm T.

The inventor says: I am already aware that bevel-wheels, pawls, ratchets, pendulum, &c., have been heretofore in use for some mechanical purpose or other, and therefore I do not claim any one of them separately, nor do I claim the bevel-wheels, pawls, and ratchets, causing thereby of themselves rotary motion.

But I *claim* the peculiar combination of the pendulum, bevel-wheels, pawls, and ratchets above specified, for the purpose of obtaining a rotary motion from the reciprocating motion of the pendulum for the uses and purposes described and set forth.

No. 19,091.—Charles R. Iliff, of Falmouth Ky.—*Improved Plotting Instrument.*—Patent dated January 12, 1858.—This instrument is composed simply of two limbs, one of which has its short end formed

with a quadrant or arc of a circle, said arc being graduated or laid off in degrees and minutes and subdivided into equal parts, as shown in the engravings.

The inventor says: I am fully aware that quadrants, graduated scales, and verniers have been used for various purposes, consequently I do not claim the invention of such devices.

But I *claim* the construction of a portable pocket plotting instrument, embracing the graduated arc of a circle, or quadrant, the pointed graduated limbs and the sliding-scale verniers, substantially as described and for the purposes set forth.

No. 19,817.—JOHN L. ROWE, of New York, N. Y., assignor to FREDERICK STEVENS, of said New York.—*Improved Method of Attaching the Plumb Line to a Plumb and Level Indicator.*—Patent dated March 30, 1858.—This invention consists in placing within a suitable case A a levelling spirit-tube B, a loaded index D fitted or hung over a graduated arc *a* and a plumb-line. On the shaft E a line or cord H is wound which has a bob I attached to its end.

The inventor says: I do not claim the employment of two spirit-levels.

Nor do I claim the employment of a pivoted-pointer to indicate the plumb.

But I *claim* the attachment to a plumb-level indicator, made substantially as described, of the reel E and cord H, as and for the purposes set forth.

No. 20,356.—JOSIAH LYMAN, of Lenox, Mass.—*Improved Protractor.*—Patent dated May 25, 1858.—P represents the protractor graduated at 70° (seventy degrees) on each side of zero. It is made of rolled brass one-eighth of an inch thick. N. denotes north, E. east, and W. west. The figures on each side of N. indicate degrees of arc or angle and the complement of the same. V denotes the protractor vernier, reading to minutes of bronze one-eighth of an inch thick; P *i o* denotes the pivot orifice; O, three orifices for lessening the weight; Pr. is the protractor rule, made of steel plate, three feet long from the protractor face, two inches wide, and one-sixteenth of an inch thick, riveted to the protractor proper.

Claim.—First. The arrangement of the several verniers, limbs, scales, and rule, in one instrument, in the manner described for the purposes set forth.

Second. The peculiar arrangement of the sliding vernier scale by which it can be applied with equal readiness and facility to either side of the rule so as to read the given angle and its complement.

No. 19,062.—JAMES C. LANE, of Brooklyn, N. Y., assignor to Himself and T. H. BARNES, of New York, N. Y.—*Improved Method of determining the Artificial Horizon for Quadrants, &c.*—Patent dated January 5, 1858.—In describing his improvement the inventor says: To a sextant of the usual construction, with an index glass, horizon glass, and eye-piece, I add a vertical mirror or reflecting surface *a*,

the plane of which is perpendicular to a continuation of the visual ray passing from the eye-piece and intersecting a hair line *b*, or its equivalent, which is placed in the frame of the horizon glass or at any point between the mirror *a* and the eye where it can be seen by the eye with or without the aid of a lens.

Claim.—The combination of the eye-piece, hair-line, and vertical mirror, when attached to and used in connexion with a sextant, quadrant, or similar instrument, in the manner and for the purpose set forth.

No. 22,081.—CHARLES T. LIERNUR, of Mobile, Ala.—*Improved Method of Registering Speed of Railroad Trains.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First. I *claim* in the indicating apparatus the governor A B C D E placed in the lower part of a casing which can be used as a car-seat, said governor having its weights so united by connecting-rods and levers as to cause them to remain in their centrifugal and centripetal action, uninfluenced by any horizontal jars and shocks of the car.

Second. I claim the compensation beam K, or its equivalent, with its rods and levers, to bring over the motion of the cross-head of the governor to the indicator, so arranged as to cause the vertical jolts and jars received by the various moving parts to absorb one another, and the indicator X which points out the degrees of speed on the index W, the whole so arranged as to enable passengers and conductors to be constantly informed of the exact speed of the train, as substantially described.

Third. In the registering apparatus I claim the circular register of metallic or other paper with its radiating and circular lines expressive of distance and speed, said register receiving any degree of retarded motion from the car axle by means of the worms B^1 and B^2 and the worm wheels C^1 and D^1, and the pencil-holder Z with its adjustable pencil, substantially as described above, the whole so arranged that the various degrees of speed on all parts of the road shall be noted down on the circular register.

No. 21,101.—S. LLOYD WIEGAND, of Philadelphia, Pa.—*Improved Method of Registering the Motion of Machinery.*—Patent dated August 3, 1858.—The nature of this invention consists in the combination of a series of zones B B^1 B^2 or wheels containing numeral characters, with a series of pawls or ratchets E E^1 E^2 moved by a lever D and susceptible of rotation thereby, used in conjunction with a case A, which has sufficient friction upon the zones to retain them in the positions in which they are placed by the ratchets, and also to impart a rotative motion to the zones when it is desired to reverse the direction of their motion.

The inventor says: I *claim*, first, reversing the motion of the zones or indicating dials by friction applied to them in the manner set forth.

Second. The arrangement of the spring L, to act as a detent in reversing, in the manner described.

No. 19,105.—L. C. Stevens, of Pine Meadow, Conn.—*Improved Carpenters' Rule.*—Patent dated January 12, 1858.—The claim and engravings describe the nature of this invention.

The inventor says: I do not claim any of the parts composing this instrument when received separately.

But I *claim* a measuring-rule made as set forth, viz., having a movable blade and spirit level attached thereto, as described, the whole constituting an instrument which may be used either as a rule, square, level, level plumb, indicator, &c.

No. 20,943.—William O. C. Fritschler, of Brooklyn, N. Y.—*Improved Carpenters' Rule.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement and combination of the level *a* with the movable arm *i*, furnished with a spirit level upon the centre, so that by means of the arc *g* and the screw *h* the glasses *c* and *d* may be so placed as to indicate the precise position in relation to the "plumb and level," whatever may be the variation of angle the part *b* may necessarily assume, the said variation being indicated by the scale on the arc *e*, all of which is fully described.

No. 21,784.—Merriwether Jeff Thompson, of St. Joseph, Mo.—*Improved Rule for Describing Polygonal Forms.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Being fully aware that instruments have been employed formed with segments of circles and arc having graduation degrees and semi-degrees described by radial lines proceeding from one common centre; therefore such graduations, calculations, and arrangements of lines and figures I do not claim.

But I *claim* the construction, use, and application of a mitre bevel gauge formed with an arc of a circle, whereon are described various given tabular numbers so as to indicate by fixed lines, angles, or dots, any required mitre line indicating its respective polygonal shape and measurement (without describing and subdividing a circumference,) but through means of corresponding tabular numbers, substantially in the manner set forth and described.

No. 20,431.—William Howard, of Flushing, N. Y.—*Improved Signal Lantern.*—Patent dated June 1, 1858.—This invention consists in the employment of a conical and convex reflector, so contrived and arranged as to form a chamber for the reception of the lamp, and at the same time throw the light in a concentrated form on a lens, which is placed on the smaller end of the conical reflector.

Claim.—The arrangement of the conical reflector B with its large end placed towards the deflector D, as set forth and described.

No. 20,706.—Samuel Gardiner, jr., and Levi Blossom, of New York, N. Y.—*Improved Electric Signal Lights.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of a platinum coil C, or its effective equivalent, which is illuminated by electricity with a transparent signal lantern B; said combination being effected by arranging the coil C within the lantern B upon two conducting wires D D, which are connected with an electro-galvanic battery.

No. 21,656.—Jacob D. Custer, of Morristown, Pa.—*Improvement in Fog-Signal Machines.*—Patent dated October 5, 1858.—The nature of this invention consists in furnishing fog-signal machines, magnetic telegraph registering machines, &c., with a spur wheel and pinion-retaining power, on the reaction principle which shall be convenient to graduate so as to keep the proper balance of power in time of winding, so that the machine shall not lose or gain, and which retaining power shall be convenient to oil, and as durable as any other parts of the machine; the spur-wheels and pinions all being on the outside where they can be made as strong as desired.

The inventor says: I *claim* the application to fog-signal machines, magnetic telegraph registering machines, &c., of my improved retaining power, including pinion I, wheel J, shaft K, pinion L, wheel Q, click spring *o*, and balance piece H, when arranged and combined as above described, to form an adjustable and durable retaining power, substantially as set forth.

No. 21,688.—Henry Maule, of Philadelphia, Pa.—*Improvement in the Mode of transmitting Magnetic Signals on Railroads.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Securing to a railroad a series of conducting rails independent of those of the track, and placed in pairs, one pair being disconnected from the next pair throughout the series, and each pair of conducting rails being arranged to connect with a galvanic battery on the train by the devices described, or their equivalents, one rail of each pair to one pole, and the other to the other pole of the said battery, and the latter being connected to any suitable indicating apparatus situated on the train as set forth and for the purpose specified.

No. 20,402.—William Boyd, of Washington, D. C.—*Improved Mechanism for Operating Semaphoric Signals.*—Patent dated June 1, 1858.—The nature of this invention consists in the combination and arrangement of parts for actuating three conical flags stretched on frames, their colors being red, white, and blue. Each can be moved irrespective of the others by means of a pulley and cord, or their equivalents, and each moves on its axle independent of the action or movement of the other two flags. By means of a sliding pole working in grooves of a frame the flags can be hoisted and lowered at pleasure.

The inventor says: I do not claim broadly signalizing by revolving signs or flags, whose position represent certain figures, letters, or numbers.

But I *claim* the particular mechanism, described and shown, for operating such signs or flags when combined and arranged substantially as set forth.

No. 20,046.—Geo. N. Cummings, of Hartford, Conn.—*Improvement in the Mode of Constructing Joints.*—Patent dated April 27, 1858.—The nature of this improvement consists in the formation of an improved joint to the connexion of the temple bow with the rim of the glass frame.

Claim.—The double conical-shaped tube joint D to spectacles, in the manner substantially as set forth and described.

No. 21,982 —Charles A. Saxe, of Philadelphia, Pa.—*Improved Method of Adjusting the Plummet without moving the Tripod in Surveying Instruments.*—Patent dated November 2, 1858.—The nature of this invention consists in constructing the head of the tripod and lower plate of the instrument or ball plate, upon which rest the levelling screws, in such a manner that the ball plate to which is attached the instrument may be moved, and thereby bring the centre or axis to any point within the circle of the head plate.

Claim.—The arrangement described for placing surveying instruments' centres over any point within the circle K without moving the legs of the instrument and unscrewing the levelling screws, but by unscrewing the screws C C, moving the ball plate A, and revolving the ring H, as described.

No. 20,908.—J. M. Wampler, of Baltimore, Md.—*Improved Automatic Mechanism for Operating the Surveyors' Graphodometer.*—Patent dated July 13, 1858.—The nature of this invention consists in the combination in a suitable vehicle of automatic mechanism for recording courses, distances, and levels.

In the engravings A marks the frame of the machine; B a roll of paper on which the results are recorded; C the axle of the last retarding wheel; D a box having two compartments; E E^1 are rollers over which the record paper passes; F F^1 are rollers to keep the paper in place by pressure; G are guides for pencil bars; H a bar to which weight W is swung; I the connecting joint between H and *t;* K is a bent lever connecting weight W with pencil bar Y.

Claim.—The combination with a moving strip of paper, or other proper material, arranged on any suitable vehicle of automatic mechanism for taking and recording distances and courses or distances and levels, or distances, courses, and levels, substantially as described and shown.

No. 19,356.—John A. Finn, of Simpson county, Ky.—*Improved Surveyors' Protractor* —Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and illustrations.

Claim.—The forming of two concave protractors and combining them with a convex protractor, square and scale of admeasurement, so as to form one instrument, by which plotting of every description may be done with greater facility and equal if not superior accuracy.

No. 20,915.—William J. Young, of Philadelphia, Pa.—*Improved Tripod Head for Surveyors.*—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing the head of a surveyors' tripod in such a manner that the portion to which the instrument and plumb line are attached may be adjustable in any direction horizontally to the portion to which the legs are jointed, when the usual levelling screws *i* serve the purpose of binding the two portions of the head D and A together after adjustment, as set forth and for the purpose specified.

No. 19,027.—John J. Hayden, of Rising Sun, Indiana.—*Improved Method of Operating Telegram Keys* —Patent dated January 5, 1858.—The nature of this invention consists in placing as many levers side by side as you desire to make letters or figures, each lever having elevated upon its upper edge the number of dots and lines, which, according to the Morse combination, constitute any given letter or figure, and placing the levers when complete underneath a finger-board whose surface is perforated with openings through which the raised dots and lines may protrude, the surface of said finger-board being fluted so that the slots or openings may be in the centre of the groove or flute. In the front part of the lever is placed a wire staple, with the points downward, and the lever is secured by means of a screw at the point marked with the letter *b*, and caused to spring back to its place upon being pressed down, by passing the finger along the flutes over the dots and lines by means of a spring at the opposite end of the lever from where the staple is placed, at the point marked by the letter *c*.

Claim.—The particular formation of the levers into dots, lines, and spaces of any desired length, thereby securing perfect mathematical accuracy in the formation of the ciphers which compose the "Morse Telegraph Alphabet."

No. 19,278.—Louis Brauer, of Washington, D. C., assignor to Himself, L. G. Brandebury, and Joseph B. Stewart, of said Washington.—*Improved Apparatus for Paying out Telegraphic Cables.*—Patent dated February 2, 1858.—This invention is designed to overcome the difficulty which has heretofore attended the laying of telegraph cable across the ocean. It provides a spring pulley frame for supporting and weighing the draught on the cable, and receiving all sudden shocks by being combined with the valves of the propelling engine and with the valves of the engine of the paying out apparatus, increases or cuts off the supply of steam as necessity requires, and thus controls the paying out of the cable or the speed of the steamer.

Claim.—I claim the arrangement of the spring pulley-frame with the paying out apparatus and the valves of both the paying out engine and propelling engine or either of the same separately, substantially as and for the purposes set forth.

No. 21,371 —George Scott, of Wiscasset, Me.—*Apparatus for Paying out Telegraph Cable.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* in combination with a delivering roller, or a system of delivering rollers A B, a tilting lever G, or its equivalent, and a brake mechanism, or any equivalent therefor, for arresting

or controlling the revolution of the delivering roller or rollers, the whole being made to operate in such manner as to increase the paying out or delivery of the cable under increase of tension of it, as described.

I also claim, when the lever is applied to a brake apparatus and a guide roller K, essentially as described, combining the guide roller with it by means of a spring, or making the outer arm of the lever as a spring for the purpose of enabling such spring to operate the lever, in manner and under circumstances as set forth.

I also claim combining the inertia weight with the spring lever so as to cause such to operate as specified, under a sudden upheaval of the stern of the vessel.

No. 21,634.—Owen G. Warren, of New York, N. Y.—*Improvement in Method of Laying Submarine Telegraph Cables.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the use of a reel A immersed in the water to deliver a telegraph cable at the bottom of the sea, constructed and operated substantially as described.

I also claim the combination of the reel-boat B with the reel for the convenience of using the brake or operating engine in the manner described.

No. 21,629.—Samuel Samuels, of Brooklyn, N. Y.—*Improvement in Method of Laying Submarine Telegraph Cables.*—Patent dated Sepber 28, 1858.—This invention consists in passing a submarine telegraph cable from the ship, or other vessel from which it is paid out, through an opening in the bottom thereof, as near as convenient or practicable midway between the stem and stern, at or near the point where the least motion is produced by the pitching of the vessel.

The inventor says: I *claim* passing the cable from the ship or vessel through the bottom thereof, at or near the point specified, substantially as and for the purpose set forth.

And I also claim the employment, to conduct the cable to the bottom of the vessel and to exclude the water from the opening in the bottom where the cable leaves it, of a tube, the whole or the lower part of which has a downward inclination toward the stern of the vessel, substantially as and for the purpose specified.

No. 21,492.—Moses G. Farmer, of Salem, Mass., and John M. Batchelder, of Cambridge, Mass.—*Improvement in Telegraph Insulators.*—Patent dated September 14, 1858.—In making this improved telegraph wire insulator a cast iron hook H, about four inches in length and three-fourths of an inch in diameter, forms the support for the telegraph wire, the horns of the hook at the lower end being double, as at A B, and the upper part cylindrical. About three inches in length of the upper part of the hook is covered with hard India-rubber. This compound is applied to the hook in a plastic state, covering the end of the shank and about two-thirds of its length, as seen at C; the hook with its covering of rubber is embedded in pulverized soap-stone and placed in heaters or ovens, where it is exposed to a temperature of about three hundred degrees F. for about ten hours, until it becomes hard. On being taken from the heater the rubber C is found firmly attached to the hook. It is now placed in an engine lathe and a screw cut upon it.

Claim.—The iron wire supporter or hook in combination with a screw insulator made of hard India-rubber and attached to the hook or shank, in the manner described.

No. 20,698.—Giovanni Caselli, of Florence Italy.—*Improved Pantographic Telegraph.*—Patent dated June 29, 1858.—A description of this invention would require too much space to be given here. The claim and engravings will give an idea of the invention.

The inventor says: I do not claim the general use of electricity for producing fac similes upon chemically prepared paper or other material.

But I *claim* the mode of rapidly transmitting the fac similes of writings, drawings, cyphers, and arbitrary signs in colored characters, upon ordinary white or chemically prepared paper, substantially as described.

I also claim the mode of receiving and transmitting different despatches at the same time and with a single wire, as described.

I also claim the use of local piles, with circuit always closed, for the production of the characters in chemically prepared paper, as described.

No. 21,329.—Moses G. Farmer, of Salem, Mass.—*Improved Method of Sending and Receiving Messages simultaneously over the same Telegraphic Wire.*—Patent dated August 31, 1858.—The object of this invention is to receive messages simultaneously over the same wire and upon one instrument, and this is accomplished by the employment of an accessory battery to each instrument, in combination with the main batteries and main magnets, and with a means of reversing the current of each of the main batteries.

Claim.—The employment of an accessory magnet and an accessory battery to each instrument in combination with the main batteries and main magnets, and with a means of reversing the direction of the current of each of the main batteries, in the manner substantially as set forth.

No. 19,116.—John Absterdam, of Boston, Mass.—*Improved Construction of Telegraphic Cables.*—Patent dated January 19, 1858.—In the engravings A represents a cable formed with corrugations or flextures, as shown at *a b c*. In figure 1 *d* is the circuit wire or strand, while *e e* represents an insulating covering of gutta-percha or other suitable flexible material, such covering being surrounded by, or having wound on it, a metallic covering *f f* formed of twisted strands of steel wire in the usual way. The metallic portion of the cable being practically inelastic with reference to its insulating and protecting covering, the whole is formed either with corrugations or flexules.

The inventor *claims*, as a new or improved manufacture, an electric telegraph cable (or one constructed in part of metallic wire,) as made, so as to be elastic lengthwise, or with such corrugations or bends in the circuit wire or wires, and its or their external covering, or simply in the circuit wire or wires, or in the circuit or other wires, as will insure elasticity of the cable in a longitudinal direction, as specified.

No. 22,082.—Rufus Kendrick and Alpheus W. Arkerson, of Cambridgeport, Massachusetts.—*Improved Telegraphic Instrument.*—Patent dated November 16, 1858.—F is the ordinary finger-key of a Morse instrument, which may retain its location on the table where the instrument is placed, and this improvement placed in a suitable position by the side of the finger-key. The circuit closers *c c*, in order to insure certainty of contact, may one or both be elastic, or the lower one may have a little cup or hollow in its top to contain a drop of mercury, into which the point of the upper may dip.

The inventors say: We *claim* the application to the finger-key of a telegraph instrument, of a rocking shaft or its equivalent, to which a succession of vibratory motions of the proper proportionate durations for producing the characters required is communicated, as specified.

We also claim the construction and arrangement of the rocking shaft B with its dogs *i i i*, &c., and of the keys D D D, &c., operating in combination, substantially as set forth.

No. 21,132.—George B. Hicks, of Cleveland, Ohio.—*Improvement in Telegraphic Instruments.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the described devices, or their equivalents, by means of which two armature levers, one of which is upon the receiving instrument and the other upon the recording instrument, are moved simultaneously, as seen in figures 4 and 6, in order to render it impossible for any portion of the current from M^2 or N^2 to pass through the magnets M M or N N, figures 2 and 5, except when required to change the position of lever G G^1.

I claim the described arrangement for so connecting a circuit through the armature levers of the receiving and recording (local) magnets, figures 4 and 6, that a current may be diverted through the magnets M M or N N, figures 2 and 5, at the pleasure of a distant operator, and thereby changing the position of the lever G G, figures 2 and 5, for the purpose of enabling the operators upon two distant circuits to transmit intelligence from one circuit to the other without the aid of an intermediate operator, by the means and in the manner specified.

I claim the employment of the devices named, or their equivalents, whereby a current from the battery *s* may be diverted from one magnet M M to another N N, as set forth, by means of the arm I (upon the lever G G, figures 2 and 5,) striking upon Z Z^1, as the lever G G^1 is depressed at X or X^1.

No. 20,982.—Edmund F. Barnes, of Brooklyn, N. Y.—*Improved Self-Adjusting and Embossing Telegraphic Machine.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim generally the use of the power of electricity or magnetism for telegraphic messages at a distance, and recording them either in printed letters or characters, nor the general arrangement of the wires, posts, or electric circuit or circuits, as these are old and well known.

But I *claim* the use and application of the combined permanent and electro-magnets in the resident magnet, substantially as set forth and described.

I claim also the arrangement of the springs *k* and *s*, or their equivalent, in connexion with the circuit breaker shaft C and type-wheel shaft T, by which the circuit breaker arm *d* and type-wheel R are caused to return to a given starting point after the completion of each letter, thereby causing the instrument to be kept constantly self-regulated.

I claim also the use and arrangement or combination of the circuit breaker wheel D with its undulated periphery, and the hammer *l* and anvil *i*, placed and arranged substantially as described, so that the revolution of the wheel D shall alternately connect and disconnect such hammer and anvil, and also connected with the main battery and line, for the purpose of closing and breaking the main telegraphic circuit, substantially as set forth and described.

I claim also the arrangement substantially as described of the hollow shaft C and clutch *f*, and arm *d*, and the connexion therewith, substantially as set forth, of the swing frame B, by which the clutch wheel *g* is made to take hold of such clutch *f* on the hollow shaft C, to carry forward such shaft C, and the circuit breaker, and the arm *d*, whenever any key is depressed, substantially as set forth.

I claim also the arrangement and combination of the vibrating lever J and its nipple *n*, with the escapement wheel *o*, constructed as described, to cause the type-wheel shaft to revolve step by step at every vibration of such lever, substantially as and for the purposes set forth.

I claim also the use and arrangement of the spring L with its adjusting slide and adjusting screws, substantially as set forth and described, for the purpose of regulating the action of the vibrating lever J.

I claim also the arrangement and combination of the imprinting cam *p*, the paper propelling eccentric *y*, and the type-wheel releasing plane b^1, substantially as set forth, being attached to each other and placed upon a common shaft or otherwise, but so that it is impossible that they should get into different relative positions.

I claim also, in connexion with such imprinting cam and paper propelling eccentric and type-wheel releasing plane, the arrangement and combination of the rod *z*, bar *y*, and imprinting press *x*, and the rod c^1 and the rod *o*, which together cause the letter to be imprinted, the paper to be propelled far enough for the next letter, and the detent cog-wheel P to be forced down so that the type-wheel may return to its starting point and again forced up to clutch the type-wheel, and also cause each of these several things to be done at and in its proper time.

I also claim the arrangement of the armature H, constructed of

alternate plates of conducting and non-conducting metals, when combined with an electro-magnet and used in connexion with telegraphic instruments for the purpose of securing a more rapid vibration of such armature.

I also claim the arrangement of the coiled spring, as described, about the type-wheel shaft T, such spring being set up and held at a given tension, and such tension being increased only a certain amount by the friction for the purpose of securing prompt action to such shaft, as described.

I also claim generally the arrangement and combination of the said several parts described, substantially as and for the purposes set forth.

No. 21,024.—Thomas Reeve, Joseph Reeve, and Sidney M. Tyler, of Brooklyn, New York.—*Improved Mode of Operating the Mechanism of Printing Telegraphic Machines.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: What we *claim* as improvements in the mechanical arrangement of Barnes' telegraphic instrument is, first, arranging the keys in a flat plate or key-board A in a semi-circular form, substantially as described, securing thereby a direct connexion between such keys and the swing frame.

Second. Applying the points or clutches 12 12 at a distance from the shaft *e*, and in combination therewith, making such a shaft a round instead of square, for the purposes set forth.

Third. The use and application of an independent friction, constructed substantially as described, upon the type-wheel shaft, to secure, in connexion with the coiled spring, more prompt and instantaneous action to such shaft and the type-wheel thereon, whenever the magnet releases the escapement wheel *o*.

Fourth. Disconnecting the receiving portions of the instruments from the transmitting portions, to assist the operator in transmitting substantially as described.

No. 20,930.—Edmund F. Barnes, of Brooklyn, New York.—*Improved Combination of Electro and Permanent Magnets to Render Telegraphing Magnets Easy of Adjustment.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination and use in a telegraphic line, or in connexion with telegraphic instruments, of the permanent magnet with the electro-magnet, arranged and connected substantially as and upon the principles set forth, to prevent the disturbing effect of atmospheric electricity, &c., as described.

I also claim constructing the permanent magnet B when used, substantially as described, as an armature of the electro-magnet A, with soft iron inserted therein, substantially as set forth, to render its action more forcible in connexion with the electro-magnet.

No. 20,348.—Simeon Holton, jr., of Middlebury, Vermont.—*Improved Thermostat.*—Patent dated May 25, 1858.—This invention consists in certain means of adjustment, whereby the pointer *a* is

made to indicate correctly upon the dial C the variations of the temperature.

The inventor says: I claim no part of the instrument, but the means of adjusting the movement of the pointer relatively to the expansion and contraction of the compound bar.

But I *claim* the slotted plates *l* and *j* carrying the pin K, and the notch in which it works applied to the compound bar and the lever G, substantially as described, to vary the effective length of one arm of said lever, and yet preserve its proper relation to the compound bar, and operating as set forth.

No. 21,020.—Charles R. M. Pohlé, of Richmond, Virginia.—*Improved Combination of the Needle and Sun-Dial to ascertain Time.*—Patent dated July 27, 1858.—In the engravings C represents the magnet resting upon a balancing-pin in the centre hollow space B; A the surface for the dial to rest upon, A^1 the hand placed upon the dial with hinges so as to fold up and carry in pocket; B^1 the open space through which is seen the magnet needle to get the point of the compass.

The inventor says: I do not claim as my invention the magnet needle, nor do I claim as my invention the sun-dial.

What I *claim* is combining the magnetic needle with the sun-dial, so that the point of compass is at all times at hand, and thereby the time of day ascertained from the dial by holding the dial horizontal and due north and south.

No. 20,201.—Henry C. Fay, of Troy, New York.—*Improvement in Time Keepers.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I disclaim the invention of a jointed verge, or one with movable detents, as that has been used by John Harrison and others.—(Vide "Reid on Clock and Watch-Making," page 205.)

But I *claim* the invention of a verge with movable detents, so constructed that in the vibrations of the pendulum or balance each detent will be carried on, nearly on, or past its dead centre, so as to greatly lessen the recoil of the movement.

No. 20,252.—Samuel Carpenter, of Flushing, N. Y.—*Improved Escapement for Time Keepers.*—Patent dated May 18, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I do not claim the detent spring D, as that is used in all chronometers.

But I *claim*, first, so constructing a scape wheel with two rims or rows of vertical teeth, or their equivalent, as to admit the potance or lower bearing of the staff which carries the pallets and balance to b placed between said rims or rows of teeth, for the purpose of giving double action to the pallets, by which means the watch is prevented from setting by a sudden jerk, as a tooth of one or other of the rims will be acting on its corresponding pallet.

Second. I claim the pallets in combination with the wheel and detent spring, as specified.

No. 21,146.—Eugene Paulus, of Philadelphia, Pa.—*Improved Escapement for Time Keepers.*—Patent dated August 10, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I *claim* the modification of the duplex escape wheel A in suppressing the upright row of cogs, the manner of giving the impulse directly by it with a pin jewel set in the main roller E mounted on the balance axis; the detent with its fork, toothed for gearing with the pinion of the resting cylinder, and its particular arrangement on the escape wheel axis; the arrangement of the resting cylinder with its pinion; the particular disposition of the lifting roller acting in the fork; the new and more solid arrangement to hold the escapement without bridges, but with simple pillars supporting two small plates secured with pins or screws, the whole constructed and operating as described, constitute a new escapement, which I introduce under the name of "Paulus escapement."

No. 21,738.—Josiah Bishop, of Austin, Texas.—*Improved Escapement for Time Keepers.*—Patent dated October 12, 1858.—The nature of this invention consists in so forming the detents on the lever and arranging them in relation to the notches of the escape wheel and pallets on the balance arbor, as to render the movements of the clock or watch to which they are attached more regular and less liable to get out of order.

Claim.—The combination of the lever E, springs G H, and the detents formed on the former, arranged in the relation to the escapement wheel described, with the pallets L M and said escapement wheel, so as to enable the balance wheel to perform its oscillations without pressure from the motive power of the clock, or to be retarded by any other resistance, except that necessary to be overcome by the vibrations of the detent lever E during the action of the pallet L on the end of the spring K as set forth.

No. 21,425.—Joseph Jennet, of Meadville, Pennsylvania.—*Improvement in the Escapement of Time Keepers.*—Patent dated September 7, 1858.—The balance wheel C has cogs on its periphery; this gears into a pinion E on the shaft of the second balance D. The first balance C is moved by the fork P and jewel pin O on the "collet" F in the same manner that the balance wheel of a common detached lever watch is moved, and this balance C causes the balance D to revolve alternately a number of times in one direction and then a number of times in the other at every movement of the fork P, and thereby makes a steady motion and causes the watch to be less liable to injury from jars and jolts.

Claim.—The first balance wheel C, constructed with cogs on its periphery gearing into the pinion E, and the second balance wheel D, moved thereby in the manner described, the whole being arranged in the manner and for the purposes set forth.

No. 22,428.—Edwin B. Thorn, of Boston, Massachusetts.—*Improved Method of Adjusting the Tripper to the Escapement Lever of Time Keepers.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a compensating scroll or coil D, composed of two metals of variable expansive properties and applied to a hair-spring balance, but I *claim* the movable plate E, or its equivalent, supported so as to be capable of turning on a pivot, or its equivalent, carried by the stand, the same being for the adjustment of the beat or the pin or tripper of the lever as specified.

No. 22,110.—Jonathan Dillon, of Washington, D. C.—*Improved Method of Regulating the Winding of Time Keepers.*—Patent dated November 23, 1858.—This invention does not consist in the mode of inserting or fastening the piece in the groove or slot, or in the mere shape thereof, as other forms might be substituted, but it consists in the application of the principle of deriving the power from the coils of the spring, causing the spring to act upon or regulate itself and become its own governor, thereby preventing the possibility of straining the hook, or otherwise injuring the teeth of the barrel pinion or other appliance into which they act.

Claim.—The described method of making springs or coils self-regulating by the use of the slot and lever, or by any other similar devices acting substantially in the same manner for the purposes and uses named.

No. 19,744.—Dana Bickford, of Westerly, R. I.—*Improved Regulator for Time Keepers.*—Patent dated March 30, 1858.—A is a straight lever, with a segment-shaped piece B, which is grooved to receive the compensating curb C, in which are placed the curb pins *a a*, which regulate the effective length of the hair spring. The compensating curb C is made of such length that its entire expansion and contraction will move the pins *a a* along the hair spring a little further than is necessary to effect the compensation, and is secured in the groove of the segment B by one of a number of set screws 1 2 3 4 5 6 7 8, which screw through tapped holes arranged side by side as near as possible to each other on the outer side of the groove.

The inventor says: I do not claim the compensating curb.

But I *claim* fitting the compensating curb to a curved groove, or its equivalent, furnished with a number of set screws, which operate as described, to secure the curb in its place and to adjust or vary the effective length thereof, and thus constitute a means of correcting its compensation.

No. 22,305.—George P. Reed, of Roxbury, Mass.—*Improved Escapement for Time Pieces.*—Patent dated December 14, 1858.—The nature of this invention consists in the combination of a double impulse pallet, and a double detent lifting pallet applied respectively to the balance-wheel axis, and the detent lever of the escape wheel, and to operate therewith so as to cause the balance wheel to receive impulse from the escape wheel during each vibration or swing of said balance wheel.

Claim.—The improved escapement as constructed with its two impulse cams, or a double impulse pallet J applied to the balance-

wheel axle, and to operate with the escape-wheel A, substantially as specified, in combination with the double detent, lever-lifting reverse cams or pallet F, applied to the detent lever of the escape-wheel A, and operated by a cam screw P, or its equivalent, supporting the axle of the balance essentially as explained.

No. 21,895.—Robert C. Matthewson, of San Francisco, Cal.—*Improved Transit Instrument.*—Patent dated October 26, 1858.—The compass box and tripod are constructed in any of the usual forms of the ordinary transit. The standards S S', the horizontal axis H, and the vertical arc A, with slight changes are also fixed as the common transit. The telescope T is permanently attached to the vertical axis V, which is fixed at right angles to the horizontal axis H, and revolves about it exactly over the centre of the compass-box.

The telescope T revolves around the equatorial circle E with a vernier N, by which the annular motion of the telescope can be read off from the equatorial circle E.

Claim.—The manner in which the instrument is constructed, so as to ascertain the longitude, and run a true parallel of latitude by fore and back lights.

No. 19,966.—Elihu Bliss, of Newark, N. J., assignor to Baldwin, & Co., of said Newark.—*Improvement in Watch Cases.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, arranging the pendant so as to form one of the centres on which the body of the watch turns, and by which it is permanently attached to the outer case, whereby the pendant itself forms a handle to reverse the body of the watch on the outer case, for the purpose described.

Second. Arranging the case holding the works of the watch within a secondary ring *b* pivoted to the outer case, so that the body of the watch can be turned in a plane parallel to its face, in order to change the position of the figures on the dial plate when the watch is reversed in the outer case.

Third. The arrangement of the push-piece *f*, and pin *h*, as described, so as to act on the spring holding catch of the close bizzle of the outer case when on either side of the pendant.

No. 19,972.—John F. Watson, of St. John's Square, Clerkenwell, Middlesex county, England, assignor to James Adams, of same place, assignor to Bigelow, Brothers & Kennard, and Palmers & Batchelders, of Boston, Mass.—*Improvement in Watch Cases.*—Patent dated April 13, 1852.—This improvement consists in attaching the pendant D or handle to the outer case B instead of the body of the watch, which admits of the inner case being swiveled to the outer. And also in arranging the pivots on which the body of the watch turns or springs, by which it is held to the outer case in such position that when the dial is shown through the open frame the figure XII will be opposite the pendant, and when the body of the watch is reversed, the figure XII will be upward at right angles to the pendant.

The inventor says: I *claim*, first, attaching the pendant to the outer instead of the inner case as heretofore done, for the purposes herein set forth.

Second. The arrangement of the pivots on which the watch turns, or the springs for holding the body of the watch to the case, in relation to the figures on the dial plate, and to the pendant on the outer case, as described.

No. 20,554.—James M. Durand, of Newark, N. J.—*Improvement in Watch Cases.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Connecting the inner case A of a watch to the outer one B by a hinge and pivot *a*, so that said inner case may be raised up and turned over to make a hunting or open-faced watch without opening but one of the bizzles C D, as set forth.

No. 22,254.—Auguste Lachat, of New York, N. Y.—*Improvement in Watch Cases.*—Patent dated December 7, 1858.—The inventor says: My improvements are a simple and ready method of constructing the case of a watch, in order that it may either have the appearance of an open-faced or of a hunting watch, as desired being of the kind known as magic "cases;" and a second feature lies in a method of so constructing the "push pin" which passes through the pendant, that the front cap of a hunting cover cannot be accidentally opened whenever it may be desired to have that part of the case kept close.

The inventor says:—I *claim* the method of constructing a "magic" watch-case, substantially as described.

I also claim making the head of the push-pin movable, in the manner and for the purpose set forth.

No. 20,942.—Edwin Field, of Providence, R. I.—*Improvement in Making Watch Cases.*—Patent dated July 20, 1858.—The nature of this invention consists in the peculiar formation of the face of the rolls, by means of which the stock is delivered in a finished state, requiring thereafter no turning or reducing in size or form. Also in imparting a circular form to the stock after it has passed through the rolls, and the proper incline or bevel to the bevel stock, by coiling the same upon a screw mandrel, the threads of which are properly formed to receive it.

The inventor says: I do not claim, broadly, any peculiar formation of the faces of rolls, whereby metallic stock generally may be delivered therefrom finished in its required form.

Nor do I claim any peculiarity of form thereof, for working gold or other plated stock exclusively, or for delivering such stock in any required form or shape, in a finished state direct from the rolls.

Nor do I restrict myself to the precise form described, to the exclusion of another or more perfect one for the purpose.

First. I *claim* the use of the rolls S S, in connexion with the rolls F F, constructed and operating as specified.

Second. I claim the peculiar shaped threads E 1 E 2 of the mandrel E, to prevent flattening, and for properly stretching the centre stock

in coiling the same in the first instance E¹, and for shaping and imparting a proper incline to the bevel stock in the second instance E 2.

No. 22,397.—Samuel Baldwin, of Newark, N. J., assignor to Baldwin & Co., of said Newark.—*Improvement in Watch Faces.*—Patent dated December 21, 1858.—In the engravings a watch case is shown embracing these improvements, and consists of a single case, to the central ring A of which is hinged on one side a closed back B, and to the opposite side an open bizzle *c*. A slight flange or projection *a*, is formed around the inner edge of the open bizzle, to which is fitted a metallic cap D, which snaps over, and is held by this flange, covering the dial as in ordinary hunting watches.

Claim.—Arranging the figures of the dial without turning the works of the watch in a plane parallel to its face, substantially as described, so that they may be in the proper positions in relation to the pendant, whether the dial faces the open or closed bizzle of the case.

No. 20,491.—Charles S. Jacot, of New York, N. Y.—*Improvement in Stop Watch.*—Patent dated June 8, 1858.—The nature of this invention consists in combining the whip or fly *i*, with the anchor escapement *e*, in such a manner that each vibration of said anchor escapement, either one way or the other, shall allow one arm of said whip *i* to pass, and thus indicate quarter or other integral parts of a second by a hand on the arbor 2 of said fly.

Claim.—The manner described of allowing motion to the independent train by a pin, or its equivalent, on the escapement lever acting on the arms of the "whip" or "fly," and letting one arm pass at each pulsation of the balance, as specified.

No. 20,403.—Matthias W. Baldwin, of Philadelphia, Pa.—*Improved Attachment for Watches to ascertain the time without looking at the Watch.*—Patent dated June 1, 1858.—This improvement consists in an attachment applicable directly to the ordinary watch, for the purpose of striking the hours, and half hours, and quarter hours, when required. This improvement can be applied directly to any watch without deranging its existing machinery, and by means of it any person can tell the hour and quarter hour indicated on the face at night or any other time.

Claim.—The snail wheels *e* and *f*, or either of them, the lever *g h i*, the arm *k*, and the segment ratchet, combined and arranged as described.

No 20,888.—Jacob Muma, of Hanover, Pa.—*Improvement in the Escapement of Watches.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The escapement, consisting of a single escape wheel A and two geared balances B B, with cylinders or cylindrical segments *h h** engaging with the said escape wheel on opposite sides of its axis, when said escape wheel A and balances B B, with their segments *h h** are arranged in relation to each other, with their axes in the same plane, and the gear of the said single escape wheel A, with the segments *h h**, serve the double purpose of escape and of giving impulse to the balances, as specified.

No. 22,174.—David Bucklin Fitts, of Holliston, Mass.—*Improved Device to Prevent Injury from Rupture of the Main Spring of Watches.*—Patent dated November 30, 1858.—The object of this invention is to prevent injury to the train, or the usual bad effects which result from the sudden recoil of the main spring in case of its rupture when wound or partially wound up; its nature consists not only in the application of the main or other wheel of the train to the barrel so as to be capable of being revolved independently thereof, but in the application to such wheel and its arbor or that of the barrel, of a mechanism termed a "reverse motion."

Claim.—The separation of the barrel and the main or other gear wheel of the train, so that the two can revolve independently of each other, as described, and the application thereto, substantially as specified, of mechanism described and termed a reverse motion, the same being for the purpose as explained.

IX.—CIVIL ENGINEERING.

No. 22,472.—Samuel Eakins, of Philadelphia, Pa., assignor to Himself and M. S. Wickersham, of said Philadelphia.—*Improvement in Method of Blasting or Removing Submarine Bodies.*—Patent dated December 28, 1858.—This invention consists in the construction of a piece of ordnance to be employed under water for the removal of rocks and other bodies, by firing balls or other projectiles at them, of a series of adjustable legs so applied as to support it in such varied positions as may be desirable.

Claim.—The combination with a piece of ordnance, to be employed under water for the removal of rocks or other bodies by the operation described of a series of adjustable, legs applied and operating substantially as and for the purpose set forth.

No. 19,170.—Asahel G. Batchelder, of Lowell, Mass., assignor to Hiram E. Pearson and A. M. Butterfield, of Lowell, Mass.—*Improvement in Window Blind Fixtures.*—Patent dated January 19, 1858.—To the lower and inner corners of the blind is attached the stands G with wood screws; these stands have a mortise formed in them, as seen at L, through which the bar D passes, and on which these stands and blinds slide, their shutting movement being stopped by the control stand J and the guide H and spring I at the top of the blind; the blinds are stopped when entirely open by the spring I and guide H, and by the stands G coming in contact with the stands K on the window stool.

Claim.—The application of a stand clasping the rail, in combination with the spring and guide rod, in the manner and for the purpose set forth.

No. 21,292.—James Wyman, of Schaghticoke, N. Y.—*Improved Machine for Setting the Staples in Blind Slats.*—Patent dated August 24, 1858.—The nature of this invention consists in the arrangement and combination of the vertically sliding punch, spring supporting and stop bar upon which the staples are hung, and by which their descent, except when forced down by the punch, is prevented, spring feeding slide and grooved sliding bar or anvil, on which the slats, or the rods which support the same, are placed, while staples are being set into the same.

It also consists in combination with the above, in furnishing the grooved sliding bar with ratchet teeth on its under side, and with a dog on its upper side near its front end, and arranging said bar in such relation to an adjustable spring pawl on the standard which supports said bar, and an adjustable gauge-plate, that the proper distance between each staple driven into the rods, which carry and adjust the slats, can be accurately gauged.

The inventor says: I *claim*, first, the arrangement and combination of the vertically sliding punch D, spring supporting and stop bar E, spring feeding slide G, and grooved sliding bar or anvil B, substantially as and for the purposes set forth.

Second. The combination with the above, the ratchet teeth K of the sliding bar or anvil B, dog M, spring pawl L, and adjustable gauge plate N, substantially as and for the purposes set forth.

No. 19,795.—John C. F. Salomon, of Baltimore, Md.—*Improvement in Railroad Brakes.*—Patent dated March 30, 1858.—This invention consists in introducing small adjustable auxiliary wheels C C between the main wheels B B B^1 B^1 of the truck, so that when the train is passing around curves, those wheels which are in line with the inward or shortest curve of the track, may be suspended above the rails, while the small wheels rest on the rails and perform the office of the large wheels. It also consists in combination with the small wheels of a brake, which acts with a downward pressure upon the upper part of the periphery of the main wheels, so that the brakes may be applied to the main wheels and the speed of the train retarded.

The inventor says: I *claim*, first, The employment of small auxiliary wheels between the main wheels of the locomotive and several cars of the train, said wheels being adjustable up and down, substantially as and for the purposes set forth.

Second, The combination with the said auxiliary suspending and compensating wheels of a brake, which is constructed and arranged substantially as and for the purpose set forth.

No. 20,396.—Joseph Harris, of Allegheny, Pa.—*Improvement in Railroad Brakes.*—Patent dated May 25, 1858.—This invention consists in the use of a cross-arm on each car in the train, in combination with a chain shaft on one car, connected by chains, ropes, or rods, for the purpose of adjusting the brakes and setting them in operation.

The inventor says: I *claim*, first, The combination of the cross-arms *c c* on each of several cars, with a chain shaft on one car connected as described by chains, rods, or ropes for the purpose of adjusting and operating the brakes *k k* in the manner substantially as set forth.

Second, The combination of the tumbler *h* with the extension shafts *f f*, the purchase-rods *m m*, and springs *s s*, to act automatically as a railroad brake, substantially in the manner described.

No. 22,280.—William Edge, of Downingtown, Pa.—*Improvement in Railroad Brake.*—Patent dated December 14, 1858.—The claim and engravings expain the nature of this invention.

Claim.—The application to railroad cars of vertical self-acting safety car-brake, consisting of a flanged safety-block F, cam-wheel M, axle U, lever N, chains H and I, connecting rods K, bumper Q, wheel-block S, pedestal E, and shafts P, the whole combined and operated substantially as described in said specification.

No. 21,120.—C. L. Daboll, of New London, Con.—*Improvement in Applying Brakes to Hand-Trucks.*—Patent dated August 10, 1858.—This brake is so arranged as to act at all times automatically adverse to the line of motion, and that too, whether the truck be drawn or pushed from behind, enabling the operator to keep the load under easy control in descending an inclined surface; an improvement useful to warehousemen, &c.

Claim.—The application of the described devices to hand-trucks, in the manner and for the purposes set forth.

No. 20,105.—Edward H. Tracy, of New York, N. Y.—*Improvement in the Frames or Caissons of Breakwater, &c.*—Patent dated April 27, 1858.—This invention is designed to obviate the difficulty attending the washing away of the foundation of breakwaters. The claim and engravings will explain its nature.

Claim.—Constructing the frames A of breakwaters with longitudinal compartments C D, two or more, the inner compartment or compartments being provided with a flooring or bottom E, and the outer compartment being open at its lower end, substantially as and for the purpose set forth.

No. 20,414.—Thomas Durden, of Montgomery, Alabama.—*Improvement in Bridges.*—Patent dated June 1, 1858.—This bridge is composed of an arch made of iron tubes A extending across the roadway, and connected with interposed locks and wooden framing. The tension rods F F combine with the sills D and posts E, to prevent the depression and longitudinal extension of the arch, and the posts H H and braces G G combine to prevent the rising of the arch, and to distribute the weight from any point along the whole arch.

Claim.—Forming the arch of a series of metallic tubes A arranged transversely, and combined with blocks B B, binders C, bolts *a* or *b*, and cores *f*, substantially as shown and described.

No. 21,203.—Stephen H. Long, of United States Army.—*Improvement in Bridges.*—Patent dated August 17, 1858.—The nature of this invention consists, first, in the combination of the suspension truss

frame with an inverted suspension arch or arches, or with suspension arch stays; and, secondly, the introduction into the truss of the auxiliary stays as a means of strengthening and fortifying the truss frames of the bridge.

The inventor says: I *claim*, first, the combination of the suspension truss frame with the suspension arch or arches, or the arch stay, substantially in the manner and for the purposes set forth.

I also claim, in combination with the truss frame the auxiliary stays, arranged therein as a means of strengthening and fortifying said truss frame, as stated.

No. 21,388.—Lucius E. Truesdell, of Warren, Massachusetts.—*Improvement in Bridge.*—Patent dated August 31, 1858.—This invention consists in the use and combination of a double series of horizontal ribs and chords with a series of diagonal or vertical braces or their equivalents, by means of which the strain or tension of the various parts under a rolling weight is in a measure neutralized by the tendency of these parts to distribute it more evenly throughout the whole structure, thereby giving greater strength, rigidity, and firmness to the bridge, with less weight of material than is obtained by other modes of constructing them.

The inventor says: I *claim*, first, an iron bridge constructed with a series of horizontal chords C, in combination with vertical standards B, and diagonal braces A, or their equivalents, when the whole is arranged and connected together in the manner substantially as and for the purposes set forth.

Second. I claim constructing the clamp D in the manner and for the purposes substantially set forth.

No. 22,106.—John C. Briggs, of Concord, New Hampshire.—*Improvement in Truss Bridges.*—Patent dated November 23, 1858.—This invention consists in the application of springs to the bearings of either the posts, main braces, counter braces, iron rods of all descriptions, or to any compressed joint in trusses constructed of either wood, iron, or wood and iron combined.

Claim.—The application of India rubber or equivalent springs to the compressed joints of truss frames and truss beams, substantially in the manner and for the purposes described.

No. 20,987.—Albert D. Briggs, of Springfield, Massachusetts.—*Improvement in the Bearing Blocks of Truss Bridges.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim separately any of the parts of the truss frame.

But I *claim* the method of increasing the bearing surfaces for the bearing blocks *d d e e*, by the employment of the combination of blocks or keys c^1 c^1 and blocks *h h*, the former being tightly fitted between the chord sticks and the said bearing blocks, and the latter between the ends of said bearing blocks outside of the chord sticks, substantially as described.

No. 20,082.—David H. Morrison, of Dayton, Ohio.—*Improvement in Metallic Shoe for Truss Bridges.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not confine myself to three bearing surfaces, as a very slight modification of the shoe admits of two bearing surfaces for the chord and two for the post.

But I *claim* the combination of metallic shoes or angle pieces with the several parts of wooden trusses in such manner that the cuts or gains made in the timbers of the trusses against which the bearing surfaces on the shoe rest are at right angles, or nearly so, to the fibres of the timbers, as at *a b c*, for the purpose of preventing the injurious effects of shrinkage, there being on every shoe at least three such bearing surfaces, one each for the chord, post, and brace.

No. 19,573.—William McKibbin, of San Francisco, California.—*Improvement in Constructing Framing of Bridges.*—Patent dated March 9, 1858.—This invention consists in a novel method of clamping and securing together the ends of metal bars, and of uniting plates with the said bars, by which great strength is obtained. This invention is applicable in almost all cases where it is required to connect the ends of iron bars, whether or not it is required to combine plates with the bars.

Claim.—The combination of the slotted lugs *a a* on the ends of the bars, the slotted plates *c* and *d*, and the wedges or keys *e e*, substantially as described, for the purpose set forth.

No. 22,204.—Joseph W. Sprague, of Rochester N. Y.—*Improvement in Stop Gate for Canals, &c.*—Patent dated November 30, 1858.—When this invention is applied to canals, it would, under ordinary circumstances, lie below the level of the bottom of the canal, but when a break or leak occurs it may be easily and quickly raised so as to form a dam to prevent the flow of water until the necessary repairs can be made. As applied to streams it would form a dam for slack-water navigation. It can be raised and lowered as the occasion may require.

The inventor says: I *claim*, 1st. The use of the revolving frames A A and their combination with the cross timbers B C D E and with the planks H I.

2d. The use of the revolving lever O in connexion with the check chain T, as described.

No. 19,682.—John B. Cornell, of New York, N. Y.—*Improvement in Fire Proof Ceiling.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—My improved method of constructing fire-proof ceilings beneath wooden beams, viz: by suspending combined metallic lath sections *b b* beneath the aforesaid beams, and then coating said sections on both sides, substantially as set forth.

No. 19,375.—Francis McGhan, of Washington, D. C.—*Improvement in Water Closets.*—Patent dated February 16, 1858.—Behind the valve *f* is a chamber D entirely closed except at the top where the pipe

m enters. This pipe is in communication with the waste chamber C by channel *n*, which gives an outlet from chamber D into the waste chamber. This communication is regulated by a valve *v* at the lower end of rod *r*, so that when the valve rests upon its seat the flow of water from chamber D will be stopped.

Claim.—The chamber D behind valve *f*, in adjustable communication with the water-head, and having a waste discharge by the operation of the lever tilting the pan, substantially as and for the purpose set forth.

No. 20,142.—William S. Carr, of New York, N. Y.—*Improvement in the Water Closet.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The concave ring or cup *m* screwed on to the hollow column *l*, in the manner and for the purpose specified, when this is used for passing the rod to the lever of pan water closets, substantially as specified.

No. 21,294.—Isaac Edelman, of Philadelphia, Penn., assignor to G. W. Edelman, of said Philadelphia.—*Improved Water Closet.*—Patent dated August 24, 1858.—This invention consists in surrounding the pipe which contains the basin with a casing attached to and communicating with a ventilating pipe or flue and this flue with the exterior atmosphere, the whole being arranged for the purpose of effectually ventilating both the soil-pipe and the well for receiving the soil, thereby obviating the offensive smells and noxious exhalations common to water closets, and this without employing the usual valve beneath the basin.

Claim.—The casing G, pipe F, soil-pipe H, and exterior pipe I, when constructed and arranged with respect to each other, and when communicating with a ventilating pipe or flue, substantially as and for the purpose set forth.

No. 21,407.—George Blanchard, of New York, N. Y.—*Improved Water Closet.*—Patent dated August 7, 1858.—The nature of this invention consists in a metallic or wooden frame C C attached to the stanchion K by means of a bolt or pin L, so that the frame may easily swing or rock to and fro, and having a rod or bolt B running horizontally through the bottom of the frame, so that the two feet pedals A A may gravitate upon the bolts, to keep the frame and seat J properly adjusted.

Claim.—The arrangement of the swinging frame C C, the pedals A A, the bolt B B, the seat J, the two bars E and F, the platform D, substantially as described, and for the purpose specified.

No. 21,734.—Frederick H. Bartholomew, of New York, N. Y.—*Improved Water Closet.*—Patent dated October 12, 1858.—The nature of this invention consists in providing for water closets a cistern, or drip or leak chamber, arranged on the top of or over the trunk of a closet, and placing a supply-cock within or above said drip-box or cistern, so that any waste or leak or drip from the cock shall be conducted into the trunk, so as to insure the keeping of the floor dry. Also, in providing a lever and cam for the purpose of operating a cock so arranged, and an adjustable standard.

The inventor says: First. I *claim* the use of a drip-box or leak-chamber, arranged above the closet and below and around the supply-cock substantially as described.

Second. I claim arranging the supply-cock upon the cover of the closet, whether the drip-box be employed or not, substantially as described.

Third. I claim the adjusting-screw D, the cam M, and the lever H, or the equivalent thereof, arranged for the purposes substantially as described.

Fourth. I also claim the laterally adjustable standard, substantially as described and for the purpose set forth.

No. 19,030.—James Ingram, of New York, N. Y.—*Grab for Clearing Conduits.*—Patent dated January 5, 1858.—The nature of this invention consists in the use of a grab so constructed that the fingers *d* of the same cannot be forced beyond the obstruction out of the pipe *a*, and in combination with the same. A clamp or follower *e e* is used, acting against any article in the pipe so as to work the same backwards and forwards, if necessary, until it becomes loose enough to be drawn out of the pipe or drain.

Claim.—The fingers *d*, or their equivalents, set and moving on the pipe or slide *a*, and actuated by the rod *b* substantially as and for the purposes specified, and in combination with said fingers *a* so set and actuating, I claim the clamp-plate *e* on the rod *c*, for the purposes specified.

No. 19,646 —John G. Miller, of Swanton, Maryland.—*Improved Door Register.*—Patent dated March 16, 1858.—In the operation of this machine the canvass D^1 D^1 are secured to their respective spools. The face-plate J and slate K are secured in position, the keys E and F are made to operate the shaft B B and B^1 B^1 in either direction, thus bringing the inscriptions so that they will appear through the apertures in the face-plate J, as seen in the engraving.

The inventor says: I do not claim the employment of the spools, or the rollers, or the canvass for this purpose, as these have been used before; but I *claim* the peculiar arrangement of the spools A A^1 and shafts B B^1, with the rollers C C, and canvass D D^1, substantially as set forth, and these in combination with the face of stationary inscriptions and the slate, as fully described.

No. 21,754.—John C. Harkness, of Washington, D. C.—*Improvement in Self-closing Door.*—Patent dated October 12, 1858.—The nature of this invention consists in so arranging the doors known as "bulk-head doors," or those which are used as the inner doors of vestibules, &c., in such a manner that they may be easily opened by pushing or pulling on either side, shall be self-shutting, and when shut shall be self-secured against any ordinary draught of wind.

Claim.—The ball E projecting through the socket in the bridle F, and

falling into a socket in the plate G in the sill, in combination with the weight, cord, and pulleys, the whole arranged and operating substantially in the manner and for the purpose described and set forth.

No. 19,673.—GEORGE C. BIGELOW, of Worcester, Mass.—*Improvement in Self-adjusting Door Sill.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that strips have been arranged in and on doors to close the space between the door and sills, and that strips have been used in windows that were forced out by springs behind them. These I do not claim.

But I *claim* constructing a movable door sill that shall be level or even with the floor when the door is opened, and when it is closed shall be raised to form a close fit to the bottom of the door, by means of the spring levers D, substantially as set forth and described.

No. 19,217.—JOSEPH TINNEY, of Westfield, New York.—*Improved Weather-strip for Doors.*—Patent dated January 26, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says: I am aware that weather-strips have been constructed with diagonal slots, taking pins in the door in such a manner that an endwise motion given by shutting the door causes the strip to press against the sill or casing, but such I do not claim.

Nor do I claim the employment of springs differently arranged and otherwise combined for giving a yielding or elastic pressure to weather-strips.

But I *claim* the employment of curved slots in weather-strips with upwardly curved or convex springs or bearings on the lower side thereof, substantially in the manner and for the purposes specified.

No. 20,590.—MICHAEL M. SHELLABERGER, of Joliet, Ill.—*Improvement in Weather-strip for Doors.*—Patent dated June 15, 1858.—A metal plate C bent upwards at its ends, F F, and pivoted to the casing or frame of the door forms the weather-strip; the horizontal portion of the plate extends the whole length of the door sill, and a slide is connected with one of the end pieces of the strip and so arranged that, as the door is closed, the plate will be inclined or tilted, so that its upper edge will pass underneath a plate I, attached permanently to the door, the whole being arranged so as to obtain a perfect weather-proof strip.

The inventor says: I do not claim, broadly, a hinged door or weather-strip so arranged as to be actuated by the opening and closing of the door, for many such devices have been used.

But I *claim* the plate or strip C, provided with end pieces E F, pivoted to the casing A, as shown, namely, by pivots or screws *b* passing through oblong slots *a* in the end pieces, and having one of the plates connected to a slide G, as shown, and provided with a catch *f*, which, when the door is closed, passes within a recess H in the door, and over a plate I, the above parts being used in connexion with the plate J, or its equivalent, and the whole being arranged to operate as and for the purpose set forth.

No. 22,052.—GEORGE WOOD and JOHN KING, of Philadelphia, Pa., assignors to Themselves and WILLIAM LAWRENCE, of said Philadelphia. —*Improvement in Dredging Crane.*—Patent dated November 9, 1858. —This invention consists in a certain combination of a post, with a pulley on top, a jib with two pulleys and a barrel and clutch; the whole being arranged for joint action on the deck of a vessel, and forming a crane for facilitating the operation of dredging, and dispensing with the usual manual exertion required in the ordinary mode of performing that operation.

The inventors say: Without claiming broadly, the elevating jib E, as hinged to the post of the crane, such a device having been heretofore used in connexion with hoisting apparatus, we *claim*, first, the post D with its pulley G and H, and the barrel with its clutch M, when arranged for joint action on the deck of the vessel, substantially as and for the purpose set forth.

Second. The carrier F, with its pulley G, and its hollow stem, as arranged to turn in the socket in the end of the jib, in the manner and for the purpose specified.

No. 19,908.—E. B. BISHOP, of Shreveport, Ala.—*Improvement in Dredging Machines.*—Patent dated April 13, 1858 —This invention consists in having two screw excavators placed at the bow or front end of a boat; the screws being placed angularly with each other and so arranged that as they are rotated and the boat propelled along, the bed or bottom of the river or harbor will be scooped out and thrown at either side, thereby deepening the channel. The screws are so arranged that they may be raised or lowered as desired.

The inventor says: I am aware that screw shafts have been proposed for use as snow clearers on railroads, and therefore I do not claim them broadly.

But I *claim* the combination with the bow of the boat A, of two spirally flanched shafts F F, in the manner substantially as described, for the purpose of dredging or deepening the channels of rivers, &c.

No. 21, 613.—ABEL MINARD, of New York, N. Y.—*Improvement in Dredging Machine.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the spring catch E, lever F, and curve G, with the lid or shutter of the bucket C, for the purpose of tripping the lid to empty the bucket of its contents, as described.

Second. The attachment of the dredge wheel B, the engine I, and chute J, to the hinged frame or platform H, as described; which attachment allows the chute J to retain its relative position to the dredge wheel at all points of the latter's elevation, and the engine I, to be connected to the wheel to work it at all points of its elevation, without the intervention of other connexions or gearing than that shown.

No. 22, 458.—JAMES STEWART, of New London, Conn.—*Improved Dredging Machine.*—Patent dated December 28, 1858 —The nature of this invention consists in so constructing and arranging the dredge

ing machinery as to clear a channel the whole width of the boat and wheels which propel the boat that carries and works the dredging machinery. Also, in feeding the dredging buckets up to their work by the side paddle wheels which propel the boat. Lastly, in arranging the windlass barrels which raise the dredging apparatus out of the water, on the same shaft that operates the dredging chains, so that they may be locked to the shaft to raise the dredging apparatus without stopping the engine or machinery.

The inventor says: I *claim* the arrangement of the three series of dredging buckets in the same dredging machine, substantially as described and shown, for the purpose of excavating a channel in the earth, throughout the entire width of the boat.

I also claim raising the windlass barrels which raise the dredging apparatus out of the water, on the same shaft that operates the dredging chains, so that they may be locked to the shaft to raise the dredging apparatus without stopping the chains of dredging buckets, substantially as described.

No. 21,140.—William Lewis, of Harrisburg, Pa.—*Improvement in Rock Drills.*—Patent dated August 10, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the peculiarly constructed lifting jaw *c*, with the peculiarly constructed vibrating flexible frame D *a*, and inclined planes E E^1, whether operated by a lever or other mechanical device, substantially as set forth.

Second. The peculiarly constructed vibrating flexible frame D *a*, for holding the lifters together, and shifting them out of the way alternately, substantially as set forth.

Third. The united use of the lever E and strap *b*, for operating on the litting jaw *c*, incline plane E^2, for turning the bar B, and flexible vibrating frame D *a*, for throwing the jaw out of gear with the drill bar B, substantially as and for the purposes specified.

No. 21,205.—W. H. Loomis & John Hewitt, of St. Louis, Mo.—*Improvement in Rock Drills.*—Patent dated August 17, 1858.—The nature of this invention consists, first, in providing the drill with grooved guide-rods which shall follow the drill-bar down as fast as the drill advances in the rock, so as to keep the guides of the said bar always the same distance from its top and bottom end.

Second. In introducing a friction box between the cams and drill-bar, whereby the said bar will be lifted by the action of the said cams without injury from them.

Claim.—The combination of the two grooved guide rods A A with the drill-bar and the two palls J J, and nuts I I, whereby the two guide-rods are allowed to fall with the drill-bar, so as to keep the top and bottom guides always the same distance from the end of the drill-bar, all substantially as set forth.

No. 22 046.—Lyman White & T. Bumgarner, of Davenport, Iowa.—*Improvement in Rock Drills.*—Patent dated November 9, 1858.—This invention consists in operating the drill and giving it its driving

power by means of a cam, and giving the feed motion to the drill by means of a ratchet and screw peculiarly arranged and operated, the working parts being connected with a swinging or adjustable frame, and the whole arranged so that the drill is operated by a positive movement, the feed motion rendered capable of being graduated as desired, and the drill allowed to be placed at different degrees of inclination, according to the work to be performed.

The inventors say: We *claim*, first, the combination of the cam D, swinging adjustable frame B, slide-bar E, and screw rod G, containing the drill-rod K, arranged substantially as and for the purpose set forth.

Second. The combination of the adjustable plate J attached to the frame B, arm I, nut H, with collar K, and pawl *j* attached, the whole being arranged substantially as described.

Third. We claim the spring *u* interposed between the lower collar *t* on the drill-rod and the lower end of the screw-rod G, for the purpose specified.

Fourth. We claim placing the screw-rod G on the drill-rod K between two adjustable collars *t t*, substantially as shown and described, so that when the screw-rod has been fed or moved down the distance of its length, it may by loosening or detaching the collars be raised on the drill-rod and secured upon it higher up in order to continue the work.

No. 20,563.—Oliver Hyde, of Benicia, Cal.—*Improvement in Post and Pile Driver.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the suspending of the gin from the top by any of the mechanical appliances known to accomplish that end, thereby enabling a post-driving machine to accommodate itself to any unevenness of the ground over which it may be moving.

I also claim the sextant-formed frame B to keep the gin in position.

No. 22,317.—Washington Van Dusen, of Philadelphia, Pa.—*Improvement in adjustable Cradle for Dry Docks and Marine Railways.*—Patent dated December 14, 1858.—This invention relates to the cradles of marine railways, and consists in so constructing the cradle-bars and arranging the same in relation to each other and attaching them by bars and chains to sliding blocks attached to the lower ends of vertical screw-shafts arranged together on one side of the cradle, by which said sliding blocks and cradle-bars can be raised and lowered so as to properly adjust the latter to the bottom of the vessel they are intended to sustain, by the turning of said screws on one side of the vessel.

Claim.—The combination and arrangement of the cradle-bars I R, jointed, connecting and sliding bars M N R^1, chains H H^1, and sliding lifting screw blocks F, respectively connected together, and to the cradle frames B, or ribs E, in such manner and in such relation to each other as to enable the cradle-bars I R to be adjusted to the bilge of the vessel desired to be hauled up and to sustain the same by operating the lifting screws F on one side of the cradle frames B, substantially as described.

No. 20,912.—John Wüst, of Philadelphia, Pa.—*Improvement in Self-dumping Coal Bucket.*—Patent dated July 13, 1858.—The object of this improvement is the construction of a self-dumping coal bucket, to be used in removing coal from one place to another, and in discharging it at the place of discharge without requiring the aid of an assistant at the place of discharge.

Claim.—The employment of the handle B B^1 B^2 attached by pivots below the centre of gravity of the bucket, in combination with the sliding-rods G H, and the spring-bolt L, or their equivalents, arranged and operating substantially as described

No. 20,155.—William H. Henderson, of Franklin, Ind.—*Improvement in the Braces of Eave Troughs.*—Patent dated May 4, 1858.—B is the trough, D is the cornice, E the roof, A the brace, *a a* the pins which pass through the brace and secure it in position; C is a strap of tin or other metal, secured at one end to the brace A, and at the other to the roof. The brace A is made in the form in figure 3, that portion of the brace marked *x* being hollow to allow of the pin *a* passing through it, for the purpose of securing the trough and brace in position.

Claim.—The arrangement of the brace A as constructed in the trough, and with the pins *a a*, for the purpose set forth, and also this arrangement in combination with the strap C, for the better security of the trough as is fully described.

No. 20,511.—Nathan Saunders and F. T. Sherman, of Chicago, Ill.—*Improvement in Excavating Machine.*—Patent dated June 8, 1858.—The dipper shaft C consists of two parallel beams and racks *g g* attached to each beam, each having sufficent space between them to admit the slide rest and the rope *f*. These racks gear with the pinions *s s* fixed to shaft *q*, driven by pulley R and rope *e*, by means of pulley P and crank *i*. Between the pinions *s s* is the rotating slide rest A, turning on shaft *q*. This rest is bifurcated at the upper part, and each branch x^2 is fitted at the top so as to slide freely on the ways or guides *b b*, as seen in figure 2.

Claim.—The extension fulcrum piece in combination with the dipper shaft, in the manner set forth, so that when the dipper shaft arrives at the point necessary for shifting the fulcrum, the fulcrum piece may be thrown into gear, and be carried to the extremity of the crane, for the purposes set forth.

No. 21,206.—William R. Maffet, of Wilkesbarre, Pa.—*Improvement in Excavating Machines.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement of excavating implements on either end of the beam, in such manner that the weight of one scoop or implement is made to counterbalance and assist the other, the said beam being capable of moving longitudinally forward or backward, and of swinging to the right or left, or up or down, each motion being had separately or in combination, whereby the loading of one digging implement, and the dumping of the other form part of the same operation, as described.

Second. Constructing and arranging the toothed picker and scoop, in such a manner that they may be turned with respect to the beam, substantially as set forth.

Third. In combination with the arrangement for turning the scoop and picker on the beam, I claim attaching them, so that they may separately be turned on their own axis, whereby the toothed picker may be made to perform the duty of both a digger and a rake, and the scoop that of a shovel and hoe or scraper, substantially as specified.

No. 19,565.—William K. Johnston, of Rock Island, Illinois.—*Machine for excavating Post Holes*—Patent dated March 9, 1858.—The operation of this machine is as follows: The driving wheel *a a a* is turned in a direction "with the sun," the cogged bar *h h* is moved in its slot away from its auger shaft *e*, which connects the portion of a screw nut with the screw on the shaft, and disconnecting the cogged bar from the wheel *g*. The cogs on the wheels *a a a* turn the wheel or pinion *b b*, and with it the shaft of the auger. The screw on the upper portion of the shaft, working in the half-nut, causes the shaft to descend, thus forcing the auger into the ground at the same time that it is turning round. As the auger shaft descends it carries down with it the gate G G and its attached cog-wheel *g*.

The inventor says: I do not confine myself to a driving wheel of the form described, but contemplate using a wheel for that purpose, having a central shaft, and cogs on the outside, I have also contemplated the using of two augers at once, one at each end of the general framework, and both moved by the same driving wheel.

But I *claim* the arrangement of the pinion *b*, the shaft *e*, the gate G, the wheel *g*, the cogged-bar *h*, carrying the half-nut *f*, the whole arranged and operating as described, for the purpose described.

No. 19,104.—J. D. Smith, of Panton, Vermont.—*Improvement in Excavators.*—Patent dated January 12, 1858.—The operation of this invention is as follows: As the machine is drawn along the plough J is guided by an attendant, and the mould-board K throws the earth on the depressed and adjoining end of the platform. The platform is rotated in the direction indicated by the arrows seen in fig. 2. By the friction of the wheel C at one end, and its contact with the ground at the opposite end, the earth, as it is thrown on the platform is conveyed around by it and discharged therefrom by the strip G, the outer end of which projects beyond the peripnery of the platform as seen in the engravings.

The inventor says: I *claim* the employment of a flat circular platform A, having one of its sides supported by vertical travelling wheels C placed below the platform and running upon the ground.

I also claim the employment of an adjustable discharging strip G when arranged and operating as shown.

No. 22,279.—S. S. Curtis, of Croton Corners, New York.—*Improvement in Excavators.*—Patent dated December 14, 1858.—A is one of the wheels of the truck, or cart, of which B is the axle. A frame C is attached to the axle having the parts D D which support the friction pulleys E. The scoop F is attached to the axle B by the branching strap G which encircles and turns upon it. A chain H is connected with forward part of the scoop on each side, which passes over the pulleys E E and is wound up around the crank shaft I.

Claim.—The combination of the eccentric scoop F, with the adjustable gauge-stops and braces K K, or their equivalent, arranged and operating substantially in the manner and for the purpose set forth.

No. 19,353.—John Drown, of Huron, New York.—*Improved Field Fence.*—Patent dated February 16, 1858.—The sections of the fence are made by nailing to the rails A A upright pickets *a a*; the pickets *b b* are nailed to the rails opposite to the end pickets *a a* to support the rails on that side. The ends of each rail A A of adjacent sections are halved together at *c c*, the ends of the lower rails rest in chairs B B, which serve as a foundation for the fence. The notch *d* receives the end of the lower rails which rest there, are made wedging downward so as to fit the notch in the chain.

Claim.—The combination of the wedging clamps and chairs, with the perpendicular tension wires or rods, arranged and operating together, substantially in the manner and for the purpose specified.

No. 19,491.—Peter S. Carhardtt, of Collamer, New York.—*Improved Field Fence.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the mutually binding connexion of panels of portable fences, consisting of rails having angular grooves so as to lap over and to fit into the batten; said rails being arranged in relation to the batten in the manner and for the purposes specified.

Second. In combination with pairs of panels connected in the manner set forth, I claim the shoes or sockets made of planks of triangular form, fitting into the spaces between the batten of both pannels so as to secure their relative position in a permanent manner, substantially as set forth.

No. 19,566.—John H. Jones and Newton W. Smith, of Lebanon, Ohio.—*Improved Field Fence.*—Patent dated March 9, 1858.—The nature of this improvement consists in constructing a fence in such a manner as to dispense with lapping and double battens at each end of the panels, and arrange a system of bracing with the fence, by which it can be lowered and raised without moving the braces.

Claim.—The means for uniting the panels by projecting one-half of the bars from each end of the panel, and one-half of their length into the adjoining panel, between the battens, and connecting them together with pins P or otherwise, substantially the same, which mode of uniting dispenses with the lapping and double batten as before stated.

No. 19,873.—Benning Rowells, of Ossian, New York.—*Improved Field Fence.*—Patent dated April 6, 1858.—The claim and engraving explains the nature of this invention.

Claim.—The method of connecting the panels and the braces with each other, by interlocking the upper and lower rails with the brace post, in the manner as described, whereby the panels are firmly connected with each other and interlock with the posts, without the aid of independent connecting devices.

No. 19,990.—Benedict Gabriel, of Elmira, New York.—*Improved Field Fence.*—Patent dated April 20, 1858.—The objects of this invention are to produce a fence that may be made wholly of one kind of stuff, such as ordinary inch boards, and one which is readily made, transported and set up.

Claim.—Constructing the post halves A A, with points *f f*, having their inner edges wedging, so as to force said points further apart in the act of driving the post into the ground, arranged in combination with the step B B, substantially in the manner and for the purpose specified.

No. 20,071.—Ebenezer E. Lewis, of Geneva, New York.—*Improved Field Fence.*—Patent dated April 27, 1858.—This improvement consists in so constructing the ends of the fence panels that they will lock into the posts and permit the posts to slide between them, so that the panels will be independent of the posts, in order that the posts may be driven further into the ground when disturbed by the frost or rot without disturbing the panels, and the panels may be removed without disturbing the posts, and yet have them connected while together in a permanent and durable manner, the post being surrounded and protected by the peculiar construction of the ends of the panels.

Claim.—The combination of the panels and posts of a fence, when arranged independent of each other, substantially in the manner and for the purposes set forth.

No. 20,599.—Henry S. Wentworth, of Norvell, Michigan.—*Improved Field Fence.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that the tapered or pyramidal posts are not new. I am also aware that the panels have been secured to these posts by various devices, among which notches in cross-bars are included. I claim none of these devices.

The particular improvement which constitutes my said invention, and which I *claim* as having been originally and first invented by me is, the combination with tapered movable posts of movable panels attached alternately upon opposite sides, as shown and described.

No. 20,560.—Thomas Hoge, of Waynesburg, Pennsylvania.—*Improved Field Fence.*—Patent dated June 15, 1858.—This invention consists in a new mode of bracing the fence with a single brace *d*, attached to a chair *f* with a movable pin *m*. Also in a round hole or mortise through the sill or chair *f*, and passing the projecting ends of

the bottom boards of the panel through this hole, which allows them to turn in it. It also consists in placing the batten C[1] at one end of the panel slightly inclined, so as to bring the two end battens close together at the top, while at the bottom it is far enough back to allow the bottom board of the next panel to be hinged on.

The inventor says: I do not claim forming a hinge joint as being new, as that has been done before, though different from mine.

Neither do I claim the use of the brace, or any other part, in any form in which it has been known or used.

But I *claim* the round hole or mortise through the sill or chair *f*, with the projecting ends of the boards b^1 b^1 passing through said hole or mortise, and the adjustable brace *d*, with a hole or series of holes in its upper end, and the battens c^1, arranged as described, for the purposes set forth.

No. 21,074.—CORNELIUS HORTON, of Phelps, New York.—*Improved Field Fence.*—Patent dated August 3, 1858.—The nature of this invention consists in certain methods of constructing a straight portable fence in panels made of boards A and slats B, supported by braces C, and fastened by a staple and key near the top of the braces, the connexions passing through the slats or ends of the panels at the joint.

Claim.—The combination of the staple with the two panels, the braces, and the key or pin, all being arranged and operated substantially in the manner and for the purpose set forth.

No. 21,073.—DAVID M. HEIKES, of Franklin township, York county, Pa.—*Improved Field Fence.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of the fence into separate panels P by framing the posts *g*, uprights, and rails together by means of bevelled tenons and mortises, and the application of the circular braces *i*, by the application of which the fence can readily be raised or lowered at one end from a horizontal to any angular position, and the posts and uprights will in every case stand perpendicular to the ground.

No. 21,843.—JOHN B. MITCHELL, of Wayne, N. Y.—*Improved Field Fence.*—Patent dated October 19, 1858.—This fence is constructed in sections, consisting of panels composed of a suitable number of strips. These are secured together by nailing two narrow strips or battens upon opposite sides at each end, and two in the middle, using hard wood for the purpose and wrought nails. Upon one end of each panel is placed two short battens *a*, distant one or two feet from the ends, and at the opposite end an extra batten *b*, upon one side of the panel only.

Claim.—The combination of the slotted post D with the panels, when constructed with the slides *c* and auxilliary battens *a* and *b*, so as to form a fence readily convertible from a straight to an angular one substantially in the manner and for the purposes set forth.

No. 22,202.—CORNELIUS QUACKENBUSH, of Huron, N. Y.—*Improved Brace Post for Field Fences.*—Patent dated November 30, 1858.—The sections or panels A A of the fence are made in the usual manner, except that the ends of the lower rails project somewhat beyond the others, as seen at *a a*, for the purpose of keeping the lower sides of the sections united and in place.

Claim.—The arrangement of the supporting braces B B and connecting brace C, pivoted together and combined with the fence sections in such a manner that the weight of the fence continually acts in firmly supporting and clamping together the sections substantially as specified.

No. 20,005.—L. S. ROBISON, of Gypsum, N. Y.—*Improved Portable Field Fence.*—Patent dated April 20, 1858—Across the end of each panel is fastened a cross bar B, and beyond this cross bar each horizontal bar projects. These bars, however, which project at one end of the panel, do not project beyond the cross bar B at the opposite end, but each horizontal bar, alternating with those in the first set, does project and ends as does the first in a projection *e e*, which may be formed simply of a block of wood nailed on.

Claim.—Any method of constructing a fence which will be portable and easily put up by means of the panels constructed substantially as described, with the cross bar B and the blocks *e e* on the end of the projecting horizontal bars.

No. 19,724.—HEBER G. SEEKINS, of Elyria, Ohio.—*Improved Post for Field Fences.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The foot piece A, having recess *a* and lugs *c c* in combination with the posts, said posts having apertures *d* d^1 and recesses *f* f^1, said apertures and recesses so partitioned as to correspond with aperture *a* and lugs *c* c^1 of foot piece A, in the manner and for the purpose substantially as set forth and described.

No. 20,400.—ALBERT BETTELEY, of Boston, Mass.—*Improved Lattice Iron Fence.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this improvement.

Claim.—Uniting the bars of a lattice at their crossings, by suitable pieces having holes or tubes through them, at any desired angle with each other, but in different and parallel planes which embrace the bars, substantially in the manner set forth.

No. 21,064.—WILLIAM BUSH, of Harrisburg, Pa.—*Improved Metallic Fence.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of the base rail B with a continuous dovetail groove, into which are slipped the panels A, with a corresponding tenon, and the top rail with continuous groove, fitting on the top of the panels as described, the whole constructed and operating as described, and for the purposes set forth.

No. 21,315.—Robert J. Brown, of Perry, Pa.—*Improved Portable Fence.*—Patent dated August 31, 1858.—The rails A of the worm fence each has at one end a dovetail tenon *a* and at the other a dovetail gain *b*, cut about half through the rail, corresponding in size and form with the tenon *a* and bevelled at an angle that will give the desired ground plan of the fence, the gain of each alternate rail being inclined in the opposite direction.

Claim.—Constructing a portable fence, without posts, by locking the panels together by means of dovetail tenons and gains in the manner specified. Also, in combination with the above, the use of right and left hand screws, in the manner and for the purpose specified.

No. 21,260.—John B. Johnson, of Linden, Ind.—*Improved Portable Field Fence.*—Patent dated August 24, 1858.—The nature of this invention consists in the mode of locking the panels at the top by the brace, so that they are held together longitudinally, and in so locking the panels at the bottom by the stay, that they cannot be pushed together or slipped by one another.

Claim.—The mode of locking the panels at the top as described, so as to prevent their being drawn apart longitudinally or endwise: And also the mode of locking the panels at the bottom as described, so as to prevent them from being pushed, or slipped by one another, when the parts are arranged in relation to each other as set forth.

No. 21,529.—Archibald B. Vandemark and Madison Vandemark, of Phelps, N. Y.—*Improved Portable Field Fence.*—Patent dated September 14, 1858.—This fence is made in separate panels, one of which is shown in figure 1, and when put up and adjusted, it supports itself and stands self-fastened without the use of posts, clamps, keys or other appliances.

Claim.—The placing the locking batten *h* on the same side of the rails with the end batten *g*, and its combination therewith, and with the locking batten *e*, and end batten *f*, and forming a lock, substantially as described, and for the purpose specified.

No. 21,549.—Peter S. Carhart, of Collamer, N. Y.—*Improved Portable Field Fence.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, constructing the panels of a portable fence, having their bearings on sills, or their equivalents below, shorter at their tops than their bottoms, substantially in the manner and for the purposes specified.

Second. In combination with panels constructed as described, I claim the sills provided with one or more cross blocks, arranged to project between or on either side of the end battens of the panels, to support and guide them, as set forth.

Third. I claim the employment for tightening up the panels and uniting them firmly and expeditiously with the sill of the key or wedge *f* in combination with the brace or strap *e*, substantially as specified.

No. 19,863.—Rensselaer Merrill, of Elmira, N. Y.—*Improved Fence Post.*—Patent dated April 6, 1858.—The shoe H consists of a flat cast iron plate, the corners of which are deflected toward the perpendicular, as seen at *b*. When buried in the earth these points serve to anchor it by preventing any sidewise or slanting movement to which it might be subjected in soft, wet, or yielding soil. The shoe acts in connexion with the portions of the members *a*, that are beneath the surface, mutually resisting any tendency to throw the post out of the perpendicular.

Claim.—The shoe or foot plate H, constructed as described, with deflected plates *l*, and slotted openings *g*, in combination with the skeleton post *a* and flanges *e*, substantially as and for the purpose set forth.

No. 19,434 —Rensselaer Merrill, of Elmira, N. Y.—*Improved Device for Connecting the Panels of Field Fences.*—Patent dated February 23, 1858.—Every alternate panel is secured by a foot piece and braces at each end G G, while the intermediate ones are hung as follows: The projecting rails *b b* and *c c* of the permanent panels are halved away at their upper sides, and the projecting rails on the movable panel H, are halved to correspond at *d d*. The cap *e* is laid on so as to project as far as the rails *b b*, and therefore forms a species of hinge joint.

The inventor says: I do not claim simply hinging one panel to another, as that has before been done.

But I *claim* the combination and arrangement of the alternate anchored or fixed panels G, with the movable panels H, when the same are connected by means of the hooked or recessed locking joints and keys, in the manner and for the purpose set forth.

No. 19,159 —William D. Sheldon, of Huron, N. Y.—*Improved Method of Connecting the Panels of Field Fences.*—Patent dated January 19, 1858.—The nature of this invention is explained by the claim and engravings.

The inventor says: I wish it to be understood that I distinctly disclaim the use of notched shoulders on the rails in connexion with coupling pins, or their equivalents; nor do I claim the employment of the pickets in other combinations to assist in locking the fence.

But I *claim* the combination of the end pickets of the sections of the fence with coupling pins or spikes, substantially as described, so that the fence may be put together or taken apart by simply hooking on or lifting off the alternate lengths or sections, for the purposes specified.

No. 21,037.—Charles Van De Mark, of Oak's Corners, New York.—*Improved Triangular Brace for Locking the Panels of Field Fences.*—Patent dated July 27, 1858 —The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the panels, or the mode of locking the same together, as the same are embraced in my aforesaid patent.

Neither do I claim triangular braces to support the panels of a fence, as the same have before been used.

But I am not aware of any previous instance in which a triangular brace has been introduced within an opening in one panel in such a manner that the insertion of the end locking-board *h* of the next panel through the same opening shall hold the aforesaid triangular brace in the proper position, and also connect the panels together.

I *claim*, as an improvement on the patent of June 2, 1857, the brace *i*, constructed as specified, when combined with panels formed as set forth, with the end locking-pieces, and set together in a straight or nearly straight line, as described.

No. 21,459.—OLLY WILLIAMS, of St. Louis, Missouri.—*Improved Method of Allowing for Expansion and Contraction of Wire Fence.*—Patent dated September 7, 1858.—The nature of this invention consists in attaching the wires in such a manner that they can expand and contract with freedom, and so that they shall always have the same tension or tightness; and of so arranging them on friction rollers that an angle can be made in the fence without increasing the friction on the wires, and so that each and every wire shall have the same degree of tension.

Claim.—The combination of the shaft B with the post A, and the application of the wires to the said shaft, whereby all the wires are tightened at one and the same time, by one and the same weight, substantially in the manner set forth.

No. 19,174.—BENJAMIN H. SHEDAKER, of Philadelphia, Pennsylvania, assignor to EDWIN BENDER, of Philadelphia, Pennsylvania.—*Improvement in the Construction of Marquetry Floors.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the application of marquetry to floors, nor the securing of one piece of wood in and across the one side of another by means of a dove-tail, half-dowel, or otherwise.

But I *claim* constructing marquetry floors, substantially in the manner and for the purpose set forth and described, namely: I claim constructing marquetry floors by first inlaying or inserting the required differently colored pieces of wood or other material across in the upper sides of the proper flooring boards, (whether these are of like or different colors,) prepared with tongues and grooves in the usual manner required for common flooring, so that the said boards so prepared as set forth may afterwards be laid down and secured directly upon the joists in the usual manner, and so produce a marquetry floor of any surface, pattern, or design, which may be adapted to such mode of construction, without the use of the sub-floor required by other modes.

No. 21,526.—WILLIAM TOBEY, of Naples, New York.—*Improved Gate.*—Patent dated September 14, 1858.—The nature of this invention consists in the manner in which the gates are suspended upon and propelled by the eccentric levers or parallelograms D D.

Claim.—Opening and closing the gate by the use of the parallel pivoted levers D D, when arranged in the manner and for the purposes set forth.

No. 21,645.—SILAS ALLINGTON, of West Dresden, N. Y.—*Improved Gate.*—Patent dated October 5, 1858.—To use or open and close this gate, the lever D is thrown a little above or below a horizontal position when the globular weights *d* roll out or in, and by thus shifting the weight to the outer or inner end of the lever cause the gate to be shut or opened; and when opened or shut the difference of the power (weight) on the lever will cause it to stay in that position until again operated upon.

Claim.—The lever D with its self-shifting weights, and its connexion to the gate in the manner set forth.

No. 19,499.—ANDREW DIETZ, of Raritan, New Jersey.—*Improved Farm Gate.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim the construction of gates so that they can be operated or shut without alighting or dismounting.

But I *claim* the combination or arrangement of the rotating incline *h* and friction roller *g*, substantially as described, for the purpose of causing the gate to open or shut of its own weight, according to the position of such incline *h*, and in connexion therewith the arrangement of the cords *c* c^1, *m* m^1, and their springs or their equivalent, to raise the gate and turn the incline *h*, the whole substantially as and for the purposes set forth.

No. 21,785.—JOSEPH A. TREAT, of Tallmadge, Ohio.—*Improved Farm Gate.*—Patent dated October 12, 1858.—The nature of this invention consists in the use of levers connected with chains or cords arranged and applied to the gate in a peculiar manner, whereby the gate, by actuating or pulling a single chain or cord at one side, may be first raised and then unlatched and opened. The gate being raised and closed by actuating a chain or cord at the opposite side.

The inventor says: I am aware that various plans have been devised for opening and closing gates from vehicles; levers have been used and applied in various forms.

But I am not aware that a system of levers combined and arranged as shown have been employed for elevating, unlatching, and opening and closing gates by the pulling of a single chain or cord.

I do not claim, therefore, separately or in the abstract, any of the parts shown and described.

But I *claim* the levers G H, in combination with the lever E and link *e*, said parts being applied to the gate, arranged and connected by the chains I I F F, substantially as shown and described, to operate as and for the purpose set forth.

No. 22,131.—WILLIAM NEWLOVE, of Penn Yan, N. Y.—*Improved Farm Gate.*—Patent dated November 23, 1858.—A is the platform, made of cast iron, the size is made to correspond with the size of the

gate required ; it is in shape a parallelogram ; it is made to receive the posts at the ends. B represents the posts, they are made of iron, and secured to the platform by means of the screws O, and made as shown in the engravings. C is a covering of plank on the top of the platform. D is the gate. E is a chain that supports and closes the gate; it is secured to anadjustable eye-bolt at the top of the post at one end, and the other end to an adjustable eye-bolt at the upper part of the gate, as shown in the engravings.

The inventor says : I *claim* the combination of the post and hinges, constructed and operating as described.

Second. The chain E or its equivalent, with the means for adjusting the same, as and for the purposes specified.

Third. The catches and latch combined with the means for actuating the same, as arranged in the specification.

No. 20,008.—Joseph Summers, of Raleigh, Virginia.—*Improved Catch Latch for Farm Gates.*—Patent dated April 20, 1858.—With this arrangement the end of the spring latch is prevented from projecting out beyond the closing face of the front batten of the gate when the gate is opened, and thus the annoyance of having the reins, gearing, and garments catching upon the same, in passing through the gate, is avoided.

Claim.—The peculiar formed spring plate K *g* in combination with the spring bolt D as an attachment for farm gates, arranged and operating in the manner set forth, for the purpose of accomplishing the result specified.

No. 20,247.—William F. C. Beattie, of Cornwall, New York.—*Improved Method of Opening and Closing Farm Gates.*—Patent dated May 18, 1858.—When the gate is open, by pulling rod *r*, or pushing rod r^1, catch *d* will be withdrawn from the detent by which the gate is retained against post P^{11}, then by pulling rod r^1, or pushing rod *r*, the gate will be made to revolve on its attachments to post P. A slight twist of either rods *r* r^1 will insert catch *d* into an opening in post P*, and the gate be thus fastened.

Claim.—The combination of the handles *r* r^1 with the latch, in the manner and for the purpose set forth.

No. 22,023.—William G. Hermance, of Geneva, New York.—*Improved Method of Opening and Closing Farm Gates.*—Patent dated November 9, 1858.—In constructing this improved gate the inventor says: I construct the frame in the usual manner with posts firmly set in the ground, and surmounted by a transverse beam or plate, connecting them at the top and properly braced. A A are posts, B B the beam, C C braces. I also construct a double gate consisting of two distinct and independent parts shown at D. These gates are suspended on vibrating beams E E by means of slats F F, firmly fastened to them.

Claim.—The suspension of the gates by means of suspension bars of unequal length with pulleys and slat heads, arranged as set forth.

No. 21,851.—Ezra C. Rowland, of Phelps, New York.—*Improved Method of Opening and Closing Farm Gates by Approaching Vehicles.*—Patent dated October 19, 1858.---H H represent a rod which connects the levers C C with the levers E E. The rods are attached to the levers C C by a joint ; the other end is connected by a slot resting upon the ends of levers E E. Levers E E can be constructed of wood or metal. They act upon the pivot K by means of the rods H H and the levers C C, which act upon the levers D D, which pass through a slot in the top of levers E E.

Claim.---The connexions described of the levers D E, and the endless chain as connected with the gate, for the purpose of forming self-opening and shutting gates.

No. 21,811.—W. T. Boggs, of Cincinnati, Ohio.—*Improved Mode of Opening and Closing Farm Gates.*—Patent dated October 19, 1858.—This invention consists in having a zigzag grooved cam or cylinder placed near the post to which the gate is hung, said cam being connected with a lever which is pivoted to an arm attached to the gate, the above parts being used in connexion with an automatic gate-catch or fastening and a loaded pawl-arm actuating the cam or cylinder, whereby the gate may be opened and closed at either side, and from a vehicle, or on horseback.

The inventor says: I am aware that levers have been applied to gates, connected with cords, and arranged in various ways, for the purpose of allowing the gate to be opened and closed by persons from a vehicle or on horseback ; I therefore do not claim separately the levers described.

But I *claim* the grooved cylinder or cam C, actuated by the loaded pawl-arm E, and used in connexion with the lever F and arm G, as and for the purpose set forth.

I also claim, in combination with the cylinder or cam C, pawl-arm E, lever F, and arm G, the drop-latch I, arranged with the levers *k l*, so that the latch may be operated automatically, as described.

No. 22,261.—Caleb Winegar, of Union Springs, New York.—*Improved Mode of Opening and Closing Farm Gates by Approaching Vehicles.*—Patent dated December 7, 1858.—In this invention the chains are put on in a reversed manner, but one capstan-roller is used, and but one weight. The chains are made fast to the capstan-drum ; the wheels of the carriage pass over the lever or treadle D, which draws the chain B and elevates the weight K, marked 50 pounds, which opens and closes the gate. When the wheel leaves the lever it acts upon the capstan-roller, the ratchet dog M takes effect, and the crank Q is rotated and the gate opened by means of the pitman X.

The inventor says: I *claim*, first, the combination only of two or more capstan-rollers, substantially as described.

Second. The operating of gates by means of winding up the weight, or equivalent spring, with the wheel of a carriage, or by lever, each time in passing and re-passing the gate, sufficient to open or close the gate or gates, substantially as described.

No. 19,630.—Thomas G. Gaylord, of Cincinnati, Ohio.—*Improvement in Wrought-IronGirders.*—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim as new anything in the external form of the metallic tube or bar here exhibited, knowing that there has existed a structure somewhat similar in its general principles, in which, however, a different combination of the parts is employed.

But I *claim* the duplex girder or beam, composed of an upper piece having the form of an inverted Y, and a lower piece having the form of an inverted T, whose stem or "comb" is adapted to fit closely within the apex of the upper piece, substantially as set forth.

No. 20,011.—T. B. White, of New Brighton, Pennsylvania.—*Improvement in Metallic Shoes for the Braces of Truss-Girders.*—Patent dated April 20, 1858.—The nature of this improvement consists in the combination with the diagonal braces in a truss-girder of a metal shoe, constructed with two open grooves running at right angles to the other, and a male shoe constructed with a narrow central tongue or shoulder on its under side, and two lateral lugs, ears, or stops, one on each edge, and with that portion of its under surface which is not occupied by the tongue bevelled.

The inventor says: I do not claim the double shoes irrespective of the mode of construction and combining the same with truss bracing.

But I *claiw* the combination with the diagonal braces C C, in a truss-girder, of the peculiarly constructed metal male and female shoes *b c* and wedges *d d*, substantially as specified, for the purposes of setting up the braces to give camber to or to raise the girder, as set forth.

No. 22,047.—Timothy C. Wood, of Charleston, Michigan —*Improvement in Grubbing-Machine.*—Patent dated November 9, 1858.—A A represent the two wheels of the machine; B is the axle; E is an elliptical block, which is secured to the bottom of the axle; and C is a lever, secured also to the axle. These two are attached as firmly and securely to the axle as though they formed a part of it. D is an upright, which is hinged to the axle as shown at *x x*; *d d* are chairs, which are attached to the under side of the lever C by means of a bolt. To these chairs are attached the hooks *c c*; *a* is a cord, which is secured to the outer extremity of the lever C at one end; the other end passes up between two pulleys on the upper extremity of the upright D, and then passes down so that power may be applied to it.

Claim.—The arrangement of the lever C, the hinged supporter D, the cord *a*, the elliptical block E, and hooks *c c*, all being secured in the carriage substantially in the manner and for the purpose specified.

No. 21,431 —George Martz, of Pottsville, Pennsylvania.—*Improvement in Hoisting and Dumping Apparatus.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the car E, hung and controlled in its up and down movements in the peculiar manner specified, with a sliding gate F and stationary frame A, which are constructed and arranged in the peculiar manner specified, substantially as and for the purposes set forth.

No. 19,237.—Leon Joseph Pomme de Mirimonde, of Paris, France.—*Improvement in Reducing the Friction of Journals of Axles on Railways.*—Patent dated February 2, 1858.—The nature of this improvement will be understood by reference to the claim and illustrations.

The inventor says: I *claim*, first, placing the bearings *d*, in which the journals *e* of the friction rolls run, within the axle-box and supporting them in the shell of said box, as set forth.

I also claim, in combination with the axle or journal *f*, the hanging of the friction rolls independent of each other, so that when the weight comes unequally upon them, by the rocking of the rolling stock, one shall not wrench or cramp the other, and cause it to cut, as described.

I also claim the causing of the axle itself to take and carry up the lubricator from the reservoir to the journals of the friction rollers, and supplying itself through said friction rolls, substantially as described.

I also claim, in combination with the journal *f*, the sectional ring *l* and solid one *m*, with its flexible covering, as a carrying device for taking and conveying the oil from the reservoir to the journals of the friction rolls, as set forth.

No. 20,629.—John B. Cornell, of New York, N. Y.—*Improvement in Metallic Lath.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Forming an improved plaster-supporting metallic surface of a closely united series of sheet metal sections, whose edges are first inclined inwardly and then outwardly into substantially the shape shown, and for the purposes set forth.

No. 21,118.—John B. Cornell, of New York, N. Y.—*Improvement in Metallic Lath Surface.*—Patent dated August 10, 1858.—The improved form given to the metallic sheets *c c* consists of a series of double curves or angles, which enables said sheets to be hung upon a series of hooks *a a* or inclined pins *b b*, projecting from suitable partition studs, and when thus suspended to form a series of pockets or horizontal channels for portions of the coating of plaster to settle into by gravity, and thereby cause said coating to closely and securely adhere to the curved sheets.

The inventor says: I *claim* the described improved shape of the sheet metal sections *c* c^1, which enables them to securely retain coatings of plaster, when the said sections are secured to vertical supports, and which also enables said sections to be securely combined with partition studs without the aid of nails, screws, or bolts, substantially as set forth.

No. 19,487.—Birdsall Cornell, of New York, N. Y.—*Improvement in continuous Metallic Lathing.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by examining the claim and illustration.

The inventor says: I am aware that narrow angular strips of sheet

metal have been combined with each other in such a manner as to form surfaces for the reception of a coating of plaster, and that patents have been granted to Palmer Sumner and to John B. Cornell for varieties of such combinations.

Therefore, I wish it to be distinctly understood that I *claim* forming metallic surfaces for the reception of castings of plaster, &c., of sheets of metal after they have been swaged into alternating elevations and depressions of a retaining shape, substantially as represented in the drawings.

No. 21,386.—William Todd, of Cherryfield, Maine.—*Implement for Rolling and Piling Logs.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination and arrangement of the tapered roller E with the diagonally arranged cylindrical rollers A for facilitating and guiding the movements of logs and heavy timbers, and piling the same in racks or on teams and vessels, substantially as described.

No. 21,908.—Elisha Simkins, of Allegheny, Pa.—*Improvement in Machine for Mining Coal.*—Patent dated October 26, 1858.—This invention consists in a mechanical arrangement for operating picks in such a manner as will give them a back, forward, side and angular motion.

The inventor says: I *claim*, first, the arrangement of the double or compound slide *c* and sliding frame *d* when used in connexion with the stationary frame *a* and operated by the screws *t* and *u* and the nut *s* as herein described, and for the purpose set forth.

Second. The arrangement of the cam *r*, slide rack *h*, wheel *o* 1, shaft 2, shifting piece 8, levers *z* and *y*, ratchet wheel *p* 1 and *p*, and the ratchet palls B 1 and B for the purpose of moving the upper end of shaft 3 back and forward, and for operating the screws *t* and *u* as herein described and set forth.

Third. The arrangement of lever 1 *o*, and the connecting rod *j* for the purpose of regulating the angle of the picks *g* as herein described and as set forth.

Fourth. The arrangement of the flexible connecting rod *r*, the crank *n* 1, the shaft 3, the arms *k*, the pick receivers *l* and the picks *g*, as herein described, and for the purpose specified.

No. 19,543.—C. A. Chamberlin, of Alleghany City, Pa.—*Machine for Mining Coal, &c.*—Patent dated March 9, 1858.—This machine consists of a rotary cutter-wheel F of proper construction and furnished with a proper arrangement of cutters to cut in a direction perpendicular to its axis, arranged in a carriage C C D D which is fitted to travel upon a stationary frame A A B B, and a feed-screw for moving the carriage and cutter-wheel in a direction perpendicular to the axis of the cutter-wheel, for the purpose of moving the said wheel forward as it cuts its way into the coal or other substance to be mined. The machine cuts a groove or narrow cavity directly into the walls of a mine, parallel, in such a manner as to permit the masses above or at the side of the said cavities or grooves to be removed by wedging out or blasting.

The inventor says: I *claim* first, the combination of chisel-edged cutters and oblique edged cutters applied to the cutter-wheel to operate substantially as set forth.

Second. The construction and mode of fitting together the cutter-wheel and the head N in which its axle is supported in the manner substantially as described, whereby the cutter-wheel is enabled to cut its way beyond its axis, as explained.

Third. The arrangement of the main frame, the carriage, and the cutter-wheel, to operate substantially as set forth.

No. 19,592.—Abijah R. Tewkesbury, of East Boston, Massachusetts.—*Improvement in Iron Pavements.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim an iron hexagonal paving block, formed with legs or lugs extending downward from the several corners of its cap, to be united or fixed to other blocks of like character by means of iron slips or bands, such being described in the specification of No. 15,776 of United States patents.

Nor do I claim a pavement block made of metal, and formed of a series of arches alternating in position and connected to ridge or string pieces, and having interstices between the arches, the same being shown in No. 15,479 of United States patents.

Nor do I claim a pavement block made of a hollow cubical box, having an arched or ribbed cup, and formed with round holes through its vertical sides; as my invention, or improved block, as a whole, differs essentially from such.

In the first place, it has but two prongs extended down from the ends of its cap, and such cap is arched in two directions, viz, lengthwise as well as widthwise. My block is of an oblong shape, and each prong is made wedge-shaped, in order that when the block may be driven downwards the wedge-shaped prong will enter the soil, and consolidate the earth which may enter between the two prongs. Furthermore, the concave cap or cup-shaped arch also condenses and consolidates the earth, so as to steady and support the pavement block in lateral, as well as in longitudinal, directions.

I *claim* the improved cast iron pavement block, as made with an arched cap and two wedge-shaped prongs, arranged substantially as described.

No. 22,444.—Richard Montgomery, of New York, N. Y.—*Improvement in Iron Pavements.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a metallic pavement, consisting of a series of parallel arched corrugations reaching or extending from the curbstone on one side of the street to the curbstone on the other side, substantially as shown and described.

I also claim casting or making the upper parts of the corrugations thicker than the lower parts, in the manner and for the purpose set forth.

I also claim supporting or anchoring the pavement, when it is cast n sections, by a grooved central support, as shown and described.

I also claim the dovetailed recesses and projections *k*, in combination with the projections *b c*, for the purpose of holding the pavement in place.

No 21,834.—Peter H. Jackson, of New York, N. Y.—*Improvement in Construction of Metallic Side Pavements.*—Patent dated October 19, 1858.—The nature of this invention consists in so forming the edges of the large iron plates that they receive a wrought iron rod and stanchions, which simultaneously make an open truss to support the plate, and also straighten out the plate, removing any twist or buckling.

Claim.—The combination of the tie rods *h h* and brackets g^1 g^1, formed on the undersides of the plates *a a*, with the stanchions K K, acting to connect said plates to each other, straighten said plates, and strain the said tie rods *h h*, substantially as and for the purpose specified.

No. 20,883.—Tunis W. Loveless, of Corning, New York —*Improvement in Adjustable Pile Driver.*—Patent dated July 13, 1858.—This invention consists in a novel construction of the machine, whereby the monkey guides may be adjusted in a vertical position, in case the ground on which the machine rests is not horizontal, thereby allowing the machine to be expeditiously applied to its work, without the trouble of grading.

Claim.—The frames D E, connected by pivots or joints *c*, and retained in desired positions by the perforated segment plate F and pin *d*, in combination with the bolster H and bars *h h*, attached to the frame D, as shown, and secured in desired position by the racks J J, serrated plates O, and bar or clamp, the whole being arranged substantially as and for the purpose set forth.

No. 21,491.—Adam Defenbaugh, of Walnut Run, Ohio.—*Improvement in Mole Plough.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that underground ditching ploughs have been used, but they have not been sufficiently under the control of the attendant to make them of much use; besides, they only make a ditch parallel with the surface of the ground, while mine will form a ditch with a regular grade or descent.

I *claim* so hanging the beam D, wheels C C, and underground plough H to each other as that the conductor of the machine may, at any time, without seeing the plough, raise and lower it so that the ditch shall have a regular descent, regardless of the undulations of the ground underneath which it is formed, and over which the plough passes.

I also claim, in combination with the underground plough, the scoring wheel *m*, for forming a secondary trench in the bottom of the ditch, for the purpose set forth, and the friction rollers for relieving it, as represented.

No. 22,194.—James Nevison and Edward Nevison, of Morgan, Ohio.—*Improvement in Under Drain Ploughs.*—Patent dated November 30, 1858.—A is the beam to which may be attached the handles B and clevis C in any convenient manner; near the rear end of the beam is secured by any of the ordinary means the upper end of the shank D, and to the lower end is connected the peculiar shaped plough E. The form of this plough can be varied if desirable.

The adjustable pressure roller O, acts when the first drag I enters the opening made by the plough; by this means the earth which is disturbed by the plough is compressed upon the first drag, and the opening or cut caused by the shank D is also closed up at the same time.

Claim.—The adjustable weighted roller O in combination with the plough and drags as set forth, and operating conjointly for the purpose described.

No. 20,352.—T. E. King, Alex King, and Edwin King, of Cherry Valley, Ohio.—*Improved Iron Gate and Fence Post.*—Patent dated May 25, 1858.—This invention consists in the construction of a fence post of cast iron, or other suitable material, of such structure in its several parts that the post can be put together and taken apart at pleasure, and by this means to introduce the rails or panels without the use of pins or bolts; hinges for gates may also be secured in the same manner to the posts as are the rails.

The inventors say: We *claim* a fence post composed of the parts G and K, provided with toothed or serrated edges *a a*, arms B, and keys C, and in combination therewith the wings *i i*, and stud *o*, when constructed and arranged substantially in the manner and for the purpose specified.

We also claim the manner of securing the gate hinges D, by means of the lugs *c c*, and notches *a a*, the same to be held in place by the keys C, as described.

No. 21,750.—William S. Fuller, of Millbury, Mass.—*Improved Construction of Iron Railings.*—Patent dated October 12, 1858.—The nature of this invention consists in the application and arrangement, together and about the connexion rod, of a segmental connexion piece and two sockets therefor, the sockets being arranged in the two abutting palings.

Claim.—As an improvement or new arrangement of parts, viz, the application and arrangement of ring segments, or segmental connexions and their sockets made substantially as described to fence palings and a connexion rod, the same being to effect advantages in the construction of metallic fences.

No. 22,448.—James Nuttall, of New Orleans, La.—*Improved Construction of Iron Railing.*—Patent dated December 28, 1858.—The inventor says: I form rails out of wrought iron plates, which are drawn to the shape required. Those shown in figures 1 and 2, are of the same figure, although the pattern of the panels, so far as figure is concerned, is different.

Claim.—The combination of bent sheet metal rails with grooves in

the panels receiving the edges of the rail, and giving an internal and external bearing to the rail, substantially as set forth.

No. 20,797.—Luther Homes, of New Orleans, Louisiana.—*Improved Method of Constructing Iron Railings.*—Patent dated July 6, 1858.—This improvement consists in forming the horizontal rails D of iron railings hollow of two semi-circular bars D D^1, connected together and to the upper and lower parts of the upright bars or newels, in such a manner as to form a strong and durable railing or balustrade in sections, capable of being readily secured together or detached, and confined in a small space for transportation.

Claim.—Securing and embracing the circular projections B B^1 at the upper and lower ends of the upright bars A within the horizontal tubular rails D, formed by the semi-circular and straight bars D D^1, and the portions of said bars next the flat circular parts between the notches in the bridge plates H, and the left hand ends of the notches or depressions E in the edges of the bar D, and the right hand ends of the corresponding notches or depressions E^1 in the edges of the bars D^1, by means of the interlocking pins C C^1 and pins or lugs F F^1, and hubs or blocks I, substantially in the manner and for the purpose described.

No. 20,419.—Heman Gardiner, of New York, N. Y.—*Improvement in Compound Railroad Axle.*—Patent dated June 1, 1858.—The nature of this invention consists in arranging the parts constituting the hub in connexion with a sleeve or sheath over the joint so as to hold the parts together with sufficient strength, and so as to permit the wheels to turn independently of each other.

Claim.—The combination and arrangement of the hub, cylindrical parts *c c* and axle parts, so that all may rotate together, or one wheel and short axle independently, as described.

No. 21,604.—J. P. Garnett and Daniel Stickel, of Mercer county, Pennsylvania.—*Improvement in Compound Railroad Axles.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A compound axle, the main portion of which extends through both wheels and equals in length the width of the track, and is reduced in size from its centre to one end, in combination with a tubular axle of half its length in which the reduced part of the main axle revolves as in a journal, one wheel being secured to the main axle and the other to the tubular part, arranged substantially as described.

No. 20,871.—Jacob C. Geisendorff, of Cincinnati, Ohio.—*Improvement in Railroad Car-Box Cases and Pedestals.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The employment of the lugs C C formed on box case D, when used in connexion with the notches *b b* (two or more) formed in the pedestal E, substantially as described, for the purpose of readily

detaching or removing the box from the axle, yet retaining the box case in a proper position in the jaws of the pedestal, in the manner set forth.

No. 19,705.—Henry E. Loane, of Baltimore, Md.—*Improvement in Railroad Car Couplings.*—Patent dated March 23, 1858.—The coupling-bar B has a rounded or wedge-like head *g* at each end. At the bottom of the mouth C is firmly secured a fixed jaw F, and from the upper side of the mouth is suspended a swinging jaw E, directly over the fixed lower jaw. The journals *i i* of the jaw E are mounted in suitable bearings in the coupling-head A. In front of the jaws E F is a transverse vertical slot *b* in the coupling-head A, for the purpose of receiving a forked holding-plate D.

Claim.—The arrangement and combination of the coupling-bar B, jaws E E, F F, and holding-plate D, in the open-mouthed coupling-heads, substantially in the manner and for the purpose specified.

No. 20,777.—Zenas Cobb, of Chicago, Ill.—*Improvement in Railroad Car Seats and Berths.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First, I *claim* arranging the lower portions A^1 and hinged-backs A^2 of the seats A on the rail and ledges C E, so as to either enable them to be used as a double sleeping couch or as a seat, in the manner described.

Second. I also claim the arrangement of the cushioned frames or platforms F above the seats A, and jointing them to the uprights of the partitions D and sides of the car, and providing them with lugs H and the sides of the car and the movable bar with swinging hooks or lugs I, for forming the upper double berth when desired, as described.

No. 19,124.—James Bishop, of Owego, N. Y.—*Improvement in Railroad Chair.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A railroad chair or joint-coupling composed of two parts E F, furnished with jaws *c b* and projections *d e* fitting to each other and to the ends of the rails A B, substantially in the manner and for the purpose set forth.

No. 20,472.—Theodore Krausch, of Susquehannah Depot, Pa.—*Improvement in Railroad Chairs.*—Patent dated June 1, 1858.—C is the chair, R the rail with the joint J on centre of the wedge W, whose surface is described by *s s s s*, which being driven transversely in its seat S, acts on the base line G of the rail pressing it against the lips *l l* of the chair, and thereby holding the rail firmly in its place.

The inventor says: I do not claim for my invention the particular form of chairs described alone.

But I *claim* the adaptation of a chair to, and the use of, transverse wedging as above described, or by gibbs, or if in one, two, or more parts, by bands or by whatever other mode transverse wedging may be accomplished.

No. 20,464.—Elizur Barnes, of Dorchester, Mass., assignor to Edward Crane, of said Dorchester.—*Improvement in Railroad Chairs.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the use of elastic cushions under the rail, nor the use of movable lips, they have been used before.

I *claim*, first, the use of elastic cushions E over the web of the rail in such manner as to counteract the reaction of any downward force upon the rail, or any lateral thrust or pressure upon it, substantially as described.

Second. The confining of the rail between elastic cushions placed above the web of the rail and under the base of the rail under such a pressure that the rail will not be sensibly depressed by the weight of an engine or train passing over it, and a constant tension will be maintained upon the screws which confine the rail substantially in the manner described.

Third. The mode of bringing the upper surfaces of the rail to an exact level by the compression of the elastic cushion on which the rail rests, and the whole device arranged and operating as described.

No. 20,617.-- E. R. Barnes, of Brookfield, Conn.---*Improvement in Railroad Chair.*---Patent dated June 22, 1858.---This invention consists in having one of the jaws B of the chair attached to the base-plate A of the device, and the other attached to a wedge C, which is fitted and works in a taper recess *a* in the base-plate corresponding in form with the wedge. A key G passes transversely through the smaller end of the wedge adjoining the end of the face-plate, and by being driven in or through the wedge draws the wedge within its recess so as to cause the jaws to clasp the ends of the rails firmly.

The inventor says: I do not claim the vertical projection E on the jaw B for the purpose of protecting the ends of the rails from wear, for that, or its equivalent, has been previously used.

Nor do I claim, broadly, the use of wedges for adjusting the movable jaw, irrespective of the arrangement shown.

But I *claim* the two jaws B D attached respectively to the base-plate A and wedge C, and provided with the horizontal projections *c d*, the base-plate having a recess *a* formed on it to receive the wedge, and the wedge secured firmly in position by the key G, substantially as and for the purpose set forth.

No. 21,471.—Adam Hay, of Newark, N. J., assignor to Himself, Silas W. Miller & Lebbeus B. Miller, of said Newark.—*Improvement in Railroad Chairs.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The lip projection C, formed and adapted substantially as represented to support the flange of the rail and in turn to be supported by the upper portion of the wedge.

2d. I claim a chair having an aperture for the wedge substantially as described, which will in itself contain and secure the wedge, and yet leave it free to support the flange perpendicularly and to bind the rail laterally, substantially as described.

3d. I claim the combination of the lip C, with the flange of the rail and the wedge B; in other words, I claim the support of the flange by the lip and the supports of the lip by the wedge, affording a firm rest for the flange, at the same time preventing by this combination of wood and iron all vibration and jar.

4th. I claim the combination on the chair of the wooden plug *e* and the screw D, in the manner and for the purpose described.

No. 21,956.—Pliny F. Hall, of Troy, N. Y.—*Improvement in Railroad Chairs.*—Patent dated November 2, 1858.—The nature of this invention consists in forming a compound chair that will firmly grasp and hold the end of rails so as to entirely prevent them from working under the action of the train, and securing them to the tie by the same bolts that are used to draw the parts of the chair together, making a secure and permanent fastening for the ends of rails.

Claim.—The combination of the plates *b b c* and lips or jaws *a* and *c*, together with the draw bore spiking of the same, by which they are keyed and also wedged and fastened to the tie by one operation, all as specified and for the purposes set forth.

No. 21,986.—James H. Simmons, of Painted Post, N. Y.—*Improvement in Railroad Chairs.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of a chair raised in the centre for the ends of the rails to rest on, as shown at *c c*, and sloping from near the centre toward each end of the chair, leaving a space between the rails and the chair over the sloped portion to accommodate the spring of the rails, together with projections V V, as described.

No. 19,306.—James Milliken, of Philadelphia, Pa.—*Improvement in Manufacture of Wrought Iron Railroad Chairs.*—Patent dated February 9, 1858.—The pile is composed of a series of bars or pieces rolled into the several shapes shown in figures. These pieces are then put together in the following manner, the piece *a* is laid in the floor, the pieces *b* and b^1 are then placed on top of it, and *d* is laid across *b* and b^1, covering the joint. The pile so made is carefully adjusted and inserted in the furnace in this condition. The pieces are then welded in the furnace so as to stick together, and are then passed successively through a series of grooves in rolls of the shape shown in the figures, and thus finally rolled into the shape as shown in figures.

Claim.—The manufacture of railroad chairs by forming a pile of the side pieces *b* and b^1, in connexion with the pieces *a* and *d*, in the manner and substantially as described.

No. 20,057.—M. C. Gardner, of Rochester, N. Y.—*Improvement in Buffer Heads for Railroad Couplings.*—Patent dated April 27, 1858.—The nature of this invention consists in a certain construction or adaption of two cast iron blocks seen in fig. 2, to the wrought iron draught bar fig. 1, so that they may form a suitable and efficient buffer head when united thereto.

Claim.—The peculiar shape of the wrought iron bar and cast iron

blocks described, whereby the whole may be easily and firmly united by means of the band B, fig. 3.

No. 20,040.—ELI T. CONNER, of the Borough of East Mauch Chunck, Pa.—*Improvement in Frogs for Railroad Crossings.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

I *claim*, 1st. The construction of a frog with a central part B raised above and projecting over the bar C, and also the ledges D D, in combination with the frog described, for the purpose of securing to the frog and making use of in combination with the frog any ordinary rail used upon railroads, substantially as described.

2d. The wedge and dove-tail shaped cavity E in the central part B, in combination as aforesaid, for the purpose of securing the point A, substantially as described.

3d. The cavities or depressions F G and F^1 G^1 in the base C, in combination as aforesaid, for the purposes substantially as described.

4th. The wedge and dove-tail shaped point A to fill the cavity E in the central part B, so constructed that the same can be removed for repairs, and removal in the manner described.

No. 21,942.—WILLIAM CHADWICK and S. J. B. ANDERSON, of Terre Haute, Indiana. — *Improved Railroad Ditching Machine.* — Patent dated November 2, 1858.—The nature of this invention consists in a series of levers arranged upon a railroad car and extending over the sides and arranged to hold or operate scoops or scrapers to take the earth from the side of the rail track to make a ditch by the side of the railroad on which the car runs that carries the levers. Also in making the scoops or scrapers, so that they can be worked either end forward, the same side up to be filled. Also in making a vibrating mouth piece to the scrapers that can be worked so as to aid in loading the scraper.

The inventors say: We *claim* the levers 2 4 7 and 9, arranged on a car, substantially as described, for holding the scoops at the side of the car, and for adjusting or raising and lowering them, as required.

We also claim the levers 1 3 5 6 8 and 10, arranged on a railroad car, as described, for operating the scoops so as to catch their load of earth, and for dumping them as required.

We also claim the scoops F F^1, made as described, so that they may be worked either end forward the same side up, to be filled.

We claim the vibrating mouth piece *x*, hinged to the scoop, so as to be vibrated substantially as described.

No. 21,067.—JAMES M. DICK, of Buffalo, New York.—*Improvement in Railroad Frogs.*—Patent dated August 3, 1858.—This invention consists in the arrangement of the rails, which form the frog, upon chairs by which either limb of the frog can be removed without disturbing the other parts; in the combination of a rebated chair with an underhanging jaw attached to the end of the movable rail, which, while keeping the rail from rising, also allows it to move a considerable distance longitudinally without interfering with its action, and

also allows it to be freely removed when the spikes are drawn, which hold the fixed part of said rail; and also in placing the frog upon chairs in such a manner as to leave an open space under the rails at the point of contact of the rail E, with rails B and C, to allow particles of dirt, &c., which might work in between the rails at this point, to escape.

The inventor says: I *claim*, first, the construction of the chairs and arrangement of the parts of the frog upon them, in the manner described, by which I am enabled to remove any part of the frog without disturbing the other parts, as set forth.

Second. The combination of the underhanging jaw upon the rail E, with the rebated chair K, as described, for the purposes set forth.

Third. Arranging the frog upon chairs in such a manner as to leave open space below the rails at the point where the rail E comes up to the rail B and C, substantilly as and for the purpose set forth.

No. 21,426.—GARDNER R. LILLIBRIDGE, of Wayne county, Michigan. —*Improvement in Railroad Indicator* —Patent dated September 7, 1858.—The nature of this invention consists in enabling any party employed on a railroad train (a brakeman for instance) to apply a key (which is kept in the possession of the party) to the indicator and exhibit to the view of the passengers on leaving a station the next station, together with the distance to the same, as also its distance from either end of the railway.

The inventor says: I do not claim the cylinders and scroll or the friction rollers, they being of ancient origin.

But I *claim* the trap or obscurer, in combination with my peculiar method of exhibiting the number of miles between stations.

I also claim a movable cradle, which contains and confines the cylinder's scroll and friction rollers in combination with the screw for regulating the tension of the scroll, for the purposes specifically set forth.

No. 19,675.—LEVERETT BALL, of Auburn, New York.—*Improvement in Railroad Rails.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The use of plates C, inserted at the middle and ends of the sections of compound rails in combination with said sections, locked together throughout their whole length; thus binding the rail together like a solid continuous rail; the whole being constructed and arranged substantially as set forth for the purposes specified.

No. 20,007.—E. W. STEPHENS and RICHARD JENKINS, of Covington, Kentucky.—*Improvement in Railroad Rails.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing a tubular T rail when the walls B B are welded, forced, or pressed together from C to C, or from the base of the rail up, as represented and before described, (or so near together that when the weight is placed on the rail in using it,) the walls will force together,) combined, with the walls made concaving on their outside at *d d*, from near the top of the rail down, a short distance

below where they are made to me t for the purpose of making the walls brace inwards, with which combined structure and form of rail we can make a stronger one with the same quantity of metal, as mentioned and described in the specification.

No. 21,097.—MICHAEL J. WALDRON, of Dunkirk, New York.—*Improvement in Connecting Railroad Rails.*—Patent dated August 3, 1858.—In the engravings *a* indicates the rails, *b* the chair, *c* the prolongation of the chair, *d* the sides of the chair, *e* the bolt, *f* the recess in the ends of the rails, *g* the key of the bolt, *h* the washer, *i* the nut, *k* the ties, and *l* the spikes

The inventor says: I *claim*, first, placing the ends of the rails in a suitably constructed chair between two ties, both of the ties being used as a bearing or supporting surface to the chair, substantially as described.

Second. I claim the bolt in the enlarged recess in the ends of the rails and the jaws or lapped part of the chairs as an arrangement of means for forming an elastic or spring joint for the ends of the rails, as set forth.

No. 21,241.—SIDNEY A. BEERS, of Brooklyn, New York.—*Improvement in Railroad Rails.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of cast or other iron rails, as set forth in the specification and drawings, when combined in their formation with the lugs or cleats *b b* and *c c*, as sh wn in figure 1, for the purpose of receiving a flat iron plate or wedge for securing the ends of the rails evenly together, and giving the rail additional strength at the point of connexion.

No. 22,376.—AUGUSTUS PLINTA, of New York, N. Y.—*Improvement in Railroad Rails.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction of a railway rail by forming the same hollow of an elliptical or oviform shape in cross section, the lower portion of the arch being extended into a foot or flange, and a segment of the upper arch being extended into a lip or face for the tread of car wheels, slots being made through the bottom and across the lower part of the body of the rail, substantially in manner and form and for the purposes set forth in the specification.

No. 20,928.—K. H. ALLEN, of Worcester, Massachusetts.—*Improvement in Connecting the ends of Railroad Rails.*—Patent dated July 20, 1858.—The nature of this invention is in the use of a chair A which extends from one tie to another, in conjunction with railroad rails which have open horizontal slots in their meeting end and an elliptical or spheroidal band D, which passes through the slots in the ends of the rails E E and underneath the chair and is fastened by an adjustable wedge F firmly in place. This arrangement so secures the joints of rails that the weight of the engine and train over the same does not depress or deflect the point of junction to a greater degree than other portions of the rails are depressed.

Claim.—The combination of the rails E E, elliptical or spheroidal band D, chair A, and adjustable wedge F, all arranged and constructed substantially as and for the purposes set forth.

No. 19,555.—M. FISHER, of Trenton, New Jersey.—*Improvement in Splice for Joints of Railroad Rails.*—Patent dated March 9, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The combination of the sole piece *a*, forelocks *f*, and bolt or bolts *b*, for splicing the ends of rails on railroads, constructed, arranged, and employed substantially in the manner and for the purposes specified.

No. 21,014.—ELLWOOD MORRIS, of Philadelphia, Pennsylvania.—*Improvement in Splice Pieces for Railroad Rails.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim, broadly, splicing together the ends of two rails by plates bolted to the sides of the same, as this device has been heretofore used both in this country and in Europe.

But I *claim* splicing together the ends of the two rails A A^1 by means of a plate or plates B B^1 so bent and formed and so secured to the opposite sides of the two rails as to embrace the lower flanches of the same, and have longitudinal bearings against the sides and at points above and below the narrowest portion of the rails, leaving a longitudinal open space between these points, transversely through which space pass the bolts C for securing the splice, the whole being arranged substantially in the manner set forth and for the purpose specified.

No. 19,361.—HENRY T. HARTMAN, of Lexington, Va.—*Improvement in Railroad Snow Ploughs.*—Patent dated February 16, 1858.—As the snow is gathered at the mouth of the clearer A, it is forced up the short incline into the car. This car is divided by a partition *d*, which separates the car into two compartments C C. The floor of the car is made to conform to the two sides D D of the clearer. Doors or gates E E E E are employed on either side of the car, reaching down to the bottom of the inclined floor, where they are secured by bolts F F. When the compartments C C are filled with snow, the doors are raised and the snow falls off some distance from the track.

Claim.—The combination of the inclined clearer A with the double inclined bottom of the car, in the manner and for the purposes set forth.

No. 19,339.—JABEZ K. BABCOCK, of Honeoye Falls, N. Y.—*Improvement in Railroad Snow Ploughs* —Patent dated February 16, 1858.—This improvement consists in having two oblong rectangular boxes A A placed parallel with each other upon a truck B, and so mounted that when filled they can be readily tilted, and the snow

discharged from them. An inclined plane C is mounted on wheels, and connected to the front end of the truck to form a share, and the outer sides of the boxes are provided with doors *b*, peculiarly arranged, so that they may, when necessary, be adjusted to form mould boards or deflectors, and the plough rendered capable of clearing the rails of snow.

The inventor says: I *claim* forming the body of the plough or device of two boxes A A, mounted on the truck B, substantially as shown, so that said boxes may be tilted for the purpose of readily discharging their contents.

I also claim, in combination with the boxes A A, the inclined plane C, mounted on wheel *e*, and applied to the truck D, substantially as and for the purpose specified.

I further claim attaching the doors *b* to the boxes A A by means of the rods *d* fitted in the pivoted bearings *j* at one end, and provided with hooks *k* at the opposite ends, whereby the doors are rendered capable of being adjusted either parallel with each other, and forming sides for the boxes A A, or in oblique positions to form mould-boards or deflectors, for the purposes set forth.

No. 19,847.—JOHN M. HARVEY, of Amsterdam, N. Y., and N. J. BECKER, of Florida, N. Y.—*Improvement in Railroad Station Indicator.*—Patent dated April 6, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

The inventors say: We *claim*, first, the arrangement of a series of separated printed indicating cards, plates, or boards on a flexible endless bolt or chain, and having the same revolve over a flat, square, or many-sided revolving shaft within a case which has a transparent front, substantially as set forth.

Second. The employment of a self-adjusting forked rod leading down to the railroad rails, and furnished with a catch on each prong, in combination with projections on the corners of the square or many-sided shaft, a reversing cam, and double inclines or bevel stops, arranged along the track at the different stations or streets, substantially as and for the purposes set forth.

Third. The combination of a spring self adjusting bell-hammer and bell with the square or many-sided shaft and its projections, substantially as and for the purposes set forth.

No. 19,880.—CHARLES J SMITH, of North Prairie, Wis.—*Improvement in Railroad Station Indicators.*—Patent dated April 6, 1858.—This invention is intended as a railroad indicator for the purpose of indicating and announcing to passengers the names of stations on railroads.

The inventor says: I claim neither the cylinders nor the scroll, but I *claim* the shifting lever or bar B, and the mode of adjusting it by means of the index finger at the end of the crank shaft F in such manner as to cause the rollers or cylinders to revolve in opposite directions by means of the same application of power in combination with the pin or stops upon the lever A and the slots or openings in the aforesaid shifting lever or bar B, arranged specifically as shown and described for the purposes set forth.

No. 19,304.—WILLIAM MCVEIGH, of Boone, Ill.—*Improvement in the Mode of Operating Railroad Station Pumps.*—Patent dated February 9, 1858.—When a train passes over the road, every car upon which the roller I and toggle joint K are placed in position for operating, operates upon the double inclines C C^1 alternately, and by means of the levers D D^1 produces a reciprocating motion of the piston of the pump H. The levers F F^1 are made cam-shaped at the end, so that by turning them over into the position opposite to that in which tney are represented, the incline to which it is hung is let down by lowering the bearing of the lever to which the cam-lever is attached.

Claim —I claim the combination of the roller I, the inclines C C^1, the levers D D^1, the lever J, and pump H, arranged as described, for the purpose set forth.

No. 20,108.—BENJAMIN M. VAN DERVEER of Clyde, N. Y.—*Improvement in Machinery for Supplying Tenders with Water at Railroad Stations.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the application of the described pipes to the water-houses of railroad stations, or to any other place for the same purpose.

I also claim the combination of these pipe-heads and pipes, acting upon one bore or nipple, in the manner shown and described.

I disclaim the hinged joint.

No. 20,959.—GEORGE R. SMITH, of Ithaca, N. Y.—*Improvement in Railroad Switches.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the rack *c*, and pinion at the base of a perpendicular rotating or partially rotating shaft, when combined with a spring lever *h*, and a circle or a segment of a circle; said lever being fixed at right angles to said shaft *a*, and playing on said circle or segment, and into slots in the same, and said segment or circle being horizontal.

Further, I claim the above named combination when further combined with a signal lantern *l*, which lantern revolves wholly or in part when adjusted to the top of said shaft, said lantern having different colored glasses, and revolving on an axis drawn perpendicularly through the centre of said lantern.

No. 21,006.—S. N. LENNON, of Deposit, N. Y.—*Improvement in Signal Lantern for Railroad Switches.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that colored and sliding glass plates have been employed for signal lamps or lanterns and analogous purposes, and I therefore do not claim broadly the use of such plates.

But I *claim* attaching the colored glass plates or slides *e f*, two or more of which are placed at each side of the lantern, to a pendulous

frame *c* placed within the lantern, and arranged in such relation with the colored plates or slides *e f*, as to operate in connexion with the switch lever F, substantially as described and for the purpose set forth.

No. 20,620.—Walter Bryent, of Boston, Mass., assignor to Daniel D. Badger, of New York, N. Y.—*Improvement in Combined Railroad Track and Cast-Iron Pavement.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of a cast-iron pavement and railway, cast and united together in suitable sections, substantially as described.

I also claim the combination of the tenons *a a*, mortises *b b* on the ends of the rails, and the alternate over and under lapping tongues *c d* on the edges of the pavement, substantially as specified, for the purpose of interlocking the adjacent sections of the combined pavement and railway.

No. 19,440.—Pelatiah Osgood, of Waterville, Me.—*Improvement in Railroad Track Clearers.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the mode of supporting each scraper, viz, by a chain or its equivalent, the swinging bar B or B^1, and the horizontal bar or bars thereof connected with the frame F, substantially as specified.

I also claim combining with each scraper supporter, made as described, a balance spring I, or equivalent device, and a pressure spring *l*, to operate in the manner and for the purpose specified.

I also claim the particular mode of making each scraper, viz, with a cleaning notch at its heel, and a riding curve at its toe or inner end.

I also claim applying the wing bars of the scrapers to their supporting bars, so that the former may have a lateral swing or play, and connecting the two swing bars, substantially as specified, viz, by a rod and spring, or equivalent devices, the whole being in order that the scrapers, while being drawn over the track, may be preserved in close contact with the inner edges of its rails, and pass obstructions, however the distance between the rails may vary.

No. 19,241.—Frederick P. Dimpfel, of Philadelphia, Pa.—*Improvement in Mode of Laying Railroad Tracks.*—Patent dated February 2, 1858.—A A are the rails, B B are the string timbers which are cut out on their inner or adjacent sides, to fit to and receive, each nearly one-half of their respective rail: *a a* are bolts which pass through the two string timbers and through holes in the rail, and are made by means of nuts *b b*.

The inventor says: I do not claim laying rails on string timbers.

But I *claim* the clamping of each line of rail between two lines of string timbers into which the rails are fitted, substantially as described, so as to receive not only a lateral, but a vertical support therefrom, both at the base and head, thereby increasing the bearing surface of the rail, keeping the several lengths of rail in place at the joints and other parts, enabling a lighter rail to be used than that ordinarily employed, and making a less solid and at the same time a less flexible track.

No. 21,406.—E. U. Benedict, of Horicon, Wis.—*Improvement in Joints for Railroad Tracks.*—Patent dated September 7, 1858.—The object of this invention is to prevent the depression of the rails at the junction of the bars, and the consequent battering and lamination of the ends of the bars by the passing of the trains over them. It consists in a joint plate constructed, applied and secured to the ends of the bars in a novel manner to effect the above-named object.

Claim.—The combination of the ends of the rail A with the peculiarly constructed wrought iron T-shaped joint plate B, by means of the stirrup bolts *c*, which pass from the upper surface of the base *b* of the rail through the said base, and through the lips *a* of the plate B, and around the lower edge or pan of said plate, substantially as and for the purposes set forth.

No. 19,165.—Charles A. Wakefield, of New Haven, Conn.—*Improvement in the Joints of Railroad Tracks.*—Patent dated January 19, 1858.—This invention provides a joint so made by having pieces of unequal size cut from the opposite sides of the head of the rail, so that when pieces of iron are bolted in, there is no part of a break more than one-third the diameter of the rail, and consequently the wheel always has a bearing of two-thirds of any part of the joint.

The inventor says: I do not claim, broadly, the employment of splice-pieces for the purpose of uniting the ends of rails, nor do I claim the invention of chairs, one portion whereof is so fastened as to form a false rail fitting into corresponding notches, cut out of the ends of the true rails, as in Hawley & Forbush's rejected device, 1854.

But I *claim* forming cavities of unequal length in the opposite sides of the heads of the two lengths of rail at the joint, and fitting to the sides of the neck of the rail two plates with upward projections to fill the said cavities, and form a continuation of the heads of the rail, substantially as and for the purpose set forth.

No. 21,971.—Elias B. Lowman, of Bell Air, Ohio.—*Improvement in Miners' Railroad Turn or Circular Switch.*—Patent dated November 2, 1858.—The nature of this invention consists in a circular section of a railroad track, combined with two straight sections crossing each other at right angles, at or near the centre of the outside rail of the circular section, in such a manner as not to obstruct the free passage of cars along the main straight track leading into the mines.

Claim.—The arrangement of the crossings, as seen at letters C D E F M N & L in fig. 1, together with its adaptation to the working of miners on either side of the entry by reversing its position on the main stem.

No. 21,007.—E. E. Lewis, W. B. Dunning, and C. Wheat, of Geneva, N. Y.—*Improvement in Compound Rails for Railroads.*—Patent dated July 27, 1858.—This improved compound rail consists of a foundation rail in its cross section, composed of an upright web *a* with an ordinary flanch *b* projecting outward, and an inner one projecting inward as at *c* at the base. Over this is formed a cap rail of

wrought iron as seen at *c;* this rail fits over the top of the flanch *d* like a saddle, and forms the surface on which the wheels of the train roll.

Claim.—The cap and base rail, constructed as described and keyed together as specified and for the purposes set forth.

No. 19,433.—James Edward McConnell, of Wolverton, England, and William Seaton, of Chester Place, Regents' Park, England.—*Improvement in the construction of the Permanent way of Railroads.*—Patented in England, June 24, 1852; patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: What we consider to be novel and original, and forming the main features of this invention is the system or mode of constructing the permanent way of railways described, consisting in the use of right-angled triangular longitudinal sleepers and cross-ties in combination with wrought iron rails, when the latter are constructed on the plan specified, and when all the parts constituting the railway are united together and arranged in relation to each other, in the manner and for the purposes set forth.

No. 20,218.—Stephen Scotton, of Richmond, Indiana.—*Improvement in Implement for shooting missiles at Cows, &c., on Railroads.*—Patent dated May 11, 1858.—The nature of this invention consists in inserting a tube A in the front of a locomotive, and connecting said tube with the steam in such a manner that the steam may be allowed to blow off through the tube thereby projecting the contents of said tube along the track in advance of the locomotive.

The inventor says: I do not claim the tube for shooting or squirting steam at stock in front of a locomotive, for that has been done before.

Neither do I claim separately any of the parts described in the second claim.

But I *claim*, first, the combination of a tube and gravel feeder with a locomotive, for the purpose described.

Second. The arrangement for closing and opening the slide K when combined with lever J and tube A, substantially as described.

Third. The self-adjusting valve F in combination with the tube A, as herein described.

Fourth. The elastic disk E combined with the tube A and plug D, for purposes set forth.

No. 19,718.—William Sellers, of Philadelphia, Pa.—*Improvement in Turning and Sliding Tables for Railroads.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Interposing the central part or box between the ends of the truss rail beams, in such manner, substantially as described, as to make use of the width of the said central part or box as a portion of the length of the said beams, and the said beams and central box are so constructed and connected as to form a table entirely supported from the central part or box, substantially as described.

No. 20,828.—Cornelius A. Stancliff and James Mingis, of Williamsport, Pa.—*Improvement in Continuous Chair-Rails.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this improvement

Claim.—The combination and arrangement of the part A A^1 with the protected cushion D and with the continuous chair B which latter is adapted to form two lines of continuous rigid supports, one under each side of the body or tread of the rail whenever the elastic material is compressed to a certain extent, substantially as above described and for the purposes set forth.

No. 19,053.—Levi B. Tyng, of Jersey City, N. J.—*Improvement in Rails for Railroads.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A solid enlargement of the ends of railroad rails, in order that they may rest more firm on their foundation and for increasing their strength and solidity, thereby rendering them less liable either to fractures, wear, unevenness or destruction at their ends or joints, essentially in the manner described and set forth.

No. 22,103.—John Cochrane, of New York, N. Y.—*Improvement in Rails for Railroads.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: In the manufacture of wrought iron rails or bars for railroad tracks, I claim the making or forming of such rails by means of rolls with additional metal upon the crown or head thereof, which additional metal is forced into the head or top part of the rail by a second process, thereby consolidating the head or top part of the rail, and hardening the bearing surface thereof, substantially as described.

No. 19,992.—John B. Henck, of Boston, Mass.—*Improvement in Rails for Street Railroads.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In a cast iron rail the combination of the supporting lap and dove-tailed dowel, the said dove-tail being cast on the said lap as set forth, whereby the rails are rigidly locked and prevented from rising or falling, or moving in either lateral direction.

No. 21,266.—John C. Mather, of New York, N. Y.—*Improvement in Rails for Switching Cars off the Track.*—Patent dated August 24, 1858.—The nature of this improvement consists in a new arrangment and combination of certain devices with the replacer of C. Perley (or any other constructed on a similar plan) whereby the cars can not only be easily replaced on the track when casually thrown therefrom, but whereby means are provided for switching them off the track, or from one track to another, should occasion require.

Claim.—Providing the shoe A with two frogs C and D in the manner and for the purposes substantially as set forth.

No. 20,248.—Sidney A. Beers, of Kings County, N. Y.—*Improvement in Fastening Railroad Rails.*—Patent dated May 18, 1858.—The

nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim all the several parts or devices as set forth and described in the accompanying specification and drawing separately.

But I *claim* the use of a bolt or bolts with nut-key or clinch in combination with or as an improvement on the rail patented to me by Letters Patent, dated October 27, 1857, the bolt passing directly through both rails horizontally, and also the form of the mortises separate or combined for the object and purpose set forth in the specification and claim, and for no other purpose, as by reference to the drawings will more fully appear.

No. 20,281.—Sandford Mason and Edward M. Davis, of Michigan City, Indiana.—*Improved Block for repairing T-Rails.*—Patent dated May 18, 1858.—The nature of this invention consists in constructing a jointed anvil capable of being easily opened and closed, and made so as to fit the T or other rail, for the purpose of holding them in proper position while they are being repaired.

Claim.—The method by which is combined the clamps B B with the bed-piece or main block A A by means of the studs or trunnions C C and the concentric bearings D E and E D, substantially as herein stated.

No. 21,480.—E. U. Benedict, of Horicon, Wis.—*Improvement in Joints for T-Rails.*—Patent dated September 14, 1858.—This invention consists in uniting the adjacent ends of T-rails by means of two upright plates which are applied one on each side of the rails, and are slotted to receive portions of the rails left projecting between notches cut in the base thereof, said notches receiving portions of the said plates between the slots, and the rails and plates being secured together by gibs and keys passing through the plates in such a manner as to support the ends of the rails.

The inventor says: I *claim* the combination of the rails with the side plates B B, by means of the slots *a a* in the plates, the recesses *b b* in the bases of the rails, the gibs C C C^1, and the keys D D D, the whole applied and operating substantially as set forth.

And I also claim forming the gib C^1 applied at the juncture of the rail with the downward rectangular projection *g* to serve as a stay between the plates, substantially as set forth.

No. 21,957.—William Harvey, of Albany, N. Y.—*Improvement in Joint for T-Rails.*—Patent dated November 2, 1858.—The plates C D, constructed and applied and tongued together by tongues passing through the rails and secured by keys *k k*, clamp and lock the rails together both vertically and laterally in a firm manner, so that neither can move without the other, and this method of clamping used in connexion with a plate which stands up flush with the tread of the rail on the outer side of the joint makes a track perfectly continuous.

The inventor says: I do not claim the invention of a plate which like the plate C stands flush with the face of the rails at the joint to serve as a bearing for the wheels in passing the joint, as I am aware that numerous different modes of applying such plates have been proposed, neither do I claim generally the use of side clamping plates.

But I *claim* the arrangement and combination of the laterally tongued side plate D with the rails A, chair B, and side-piece C, as and for the purposes shown and described.

No. 22,168.—Christian E. Detmold, of Orange, N. J.—*Improvement in the mode of securing the ends of Railway Bars.*—Patent dated November 30, 1858.---The claim and engravings explain the nature of this invention.

Claim.—The described method of joining rails at their ends to form continuity thereof, without the use of chairs or plates, of bolts or rivets, or of any other fastening, by inserting iron joint pieces of such shape as to fit into slots in the shanks of two contiguous rail ends, and at the same time afford a support to the head of said rails, whereby the rails are permanently kept in the same vertical and horizontal planes, and are allowed to expand and contract, substantially as set forth.

No. 20,452.—Edward W. Stephens and Richard Jenkins, of Covington, Ky.—*Improved Rollers for Railway Bars.*—Patent dated June 1, 1858.---The nature of this improvement consists in the combined arrangment of a pair of vertical rollers *a b c*, and furnished with grooves 10 11 12 13 14 to suit the required external form of the rail, which vertical rollers will be employed to close the walls of the rail any required distance apart as the rail passes the last time through and from the horizontal rollers.

Claim.—The combined arrangement substantially as represented of the horizontal and vertical rollers *a b c* and *d d*, when finished with grooves as represented, substantially for the purposes mentioned in the specification and represented in the drawings.

No. 22,031.—Augustus Plinta, of Albany, N. Y.—*Improvement in securing the ends of Railway Bars.*—Patent dated November 9, 1858. The claim and engravings explain the nature of this invention.

Claim.—The formation of a smooth joint where the ends of hollow rails meet, by inserting therein a plug of iron or dowel, movable by a pin F in combination with a transverse wedge D, washers C C^1, and wedge-shaped spikes E E, combined and arranged substantially as described, when used without a chair.

No. 22,196.—John F. Peabody, of Salem, Massachusetts.—*Improvement in securing the ends of Railway Bars.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the improved mode of constructing th chair and rails, the same consisting in making the said chairs with the two reversed dovetailed recesses, and the rails with dovetails to enter such recesses, the whole being arranged substantially as and for the purpose described.

I also claim conducting the dovetailed recessed flanch-cap, with a

projection extending below it, in connexion with making the base plate of the chair with a recess to receive such projection, the same being in manner and for the purpose specified.

No. 20,841.—Amos Burnham, of Taunton, Massachusetts; assignor to Himself and James M. Cook, of Taunton aforesaid.—*Improvement in Railway Bridge Signalizer.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: What I *claim* is my improved signal apparatus consisting of a series of pendants D D D and an arrangement of such as described, each pendant being of such weight as not to be capable of being so affected by ordinary ærial currents produced by a railway train or otherwise, as to be readily blown out of the way of a person on the top of a car or train or the load thereof while such may be passing under it, but still of a weight not capable of doing or causing material injury to such person under such circumstances, and each pendant being arranged at such distance from that or those next to it as to ensure contact with some one or more of them by a person when on the roof or load of a car, and being carried under them, and situated at such an elevation as to be in danger of injury from a bridge or obstacle toward which the train or car may be advancing.

No. 21,380.—James H. Swett, of Pittsburg, Pennsylvania.—*Improvement in Rolling Railway Chairs.*—Patent dated August 31, 1858.—The nature of this invention consists in cutting under or into the solid iron for the purpose of forming the jaw after the bar is rolled and bent into the proper form, and thus avoid the raising up and afterwards bending down of that part or portion which is to constitute the jaw of the chair.

The inventor says: I am aware that the portion of the metal that is to form the jaw or jaws has heretofore been raised up and then bent down into proper position. This injures the fibre of the metal, and makes a bad chair. I do not claim any such method.

But I *claim* the process of rolling railroad chairs, the cutting under or into the solid iron for the purpose of forming the jaw, after the bar is rolled and bent, and thus avoid the raising up and afterwards bending down of the part that is to form the jaw, as heretofore done.

No. 20,793.—William Hall, of Springfield, Massachusetts.—*Improvement in Chairs for Railways.*—Patent dated July 6, 1858.—The purpose of this invention is to furnish a convenient splice for joining the ends of rails, which can be used without cutting or fitting the rails in any way therefor, by slitting, boring or otherwise.

The invention consists of a simple splice of metal D composed of the parts shown in the engravings; *a* is the sole plate on which the ends of the rails rest, *b* is the lips.

Claim.—The mode described for securing the ends of rails, constructed, arranged and combined in the manner and for the purpose set forth.

No. 21,899.—Samuel Nicolson, of Boston, Massachusetts.—*Improvement in Rails for Street Railways.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim making the railway car wheel bearing surface of the rail, with a flat or slightly curved top, having its corners rounded down to quadrantal arcs, such being the common way of forming said rail.

But what I *claim* is making the rail with the straight or slightly curved inclined surface or plane *a c* arranged with respect to the surface of the street, as shown in figs. 2 and 3, and for the purpose specified.

I do not claim a concave curved guard *d e* for the flange guard, but what I do claim is an improvement in the guard in making it a flat plane, arranged as shown at *d e* in figs 2 and 3.

I also claim making the inside corner of the rail angular with reference to the upper surface of the horse tread as shown at *f* in figs. 2 and 3.

No. 19,704.—Stephen H. Long, U. S. A., of Louisville, Ky.—*Improvement in Superstructure of Railways.*—Patent dated March 23, 1858.—A A are the rails, pierced with holes for the reception of rivets or bolts, to confine the rails to the sleepers, &c.; *a b* compensation grade plates pierced with holes or furnished with notches or mortises, corresponding to the holes at and near the ends of the rails; *b c* stationary or intermediate grade plates pierced with holes, corresponding to the intermediate holes in each of the rails; *d d* are the ribs of the abutting and common sleepers C C; *e e* the flanges or semi-ribs of the stationary sleepers D D; *f f* are the anchor plates connected with the abutting sleepers B B.

The inventor says: I *claim*, first, the combination of grade plates and ribbed sills, as set forth and for the purposes specified.

I also claim bolting the rails to the sill through the grade plates, in such manner as that the expansion and contraction (or creeping as it is termed) of the rails shall not be communicated to the grade plates, which allows said plates to retain their position regardless of the moving of the rails, substantially as stated.

No. 19,736.—Eleazer S. Gardner, of Philadelphia, Pa., assignor to Himself and John H. Gould, of said Philadelphia.—*Improvement in Tracks for City Railways.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: Disclaiming the exclusive use of a continuous tube with a slot on the top, as a device employed in atmospheric railways, I *claim* forming between the rails of a city railroad track an underground tunnel, and hanging a series of pulleys within the same, said tunnel having a longitudinal slot near the level of the ground, and being otherwise so arranged that a rope may be used for drawing the cars along the track without impeding the passage of the vehicles across the same.

No. 19,268.—William H. Ward, of Auburn, N. Y.—*Improvement in Turning Tables for Railways.*—Patent dated February 2, 1858.—The nature of this invention will be understood by referring to the claims and engravings.

The inventor says: I *claim*, first, the combination of the turning platform arranged without a central pivot or its equivalent, and the grooved circular tracks, the sides of which form inclined planes sloping toward the centre of the grooves, with a series of balls arranged in the grooves, whereby the platform of the table is free to yield laterally to shocks, and again assume its central position.

Second. The combination of the curbing *l*, with the platform, track and balls, when arranged in the manner and for the purpose described.

Third. The combination of the clamping mechanism arranged as described, with the turning platforms by which the table may be stopped in any part of its revolution, and the lateral movement gradually arrested, as described.

Fourth. The combination of the clamping mechanism with the bell cranks, and connecting rods, or their equivalents, by which all the clamps are simultaneously brought into action by either of the clamping levers.

No. 21,060.—Eli Brazleton, of St. Louis, Mo.—*Improvement in Method of Removing Submarine Deposits.*—Patent dated August 3, 1858.—This invention is designed for removing mud, sand, or gravel, from within the holds of sunken vessels, and also any sunken or submerged articles designed to be raised. The invention consists in effecting the object by forcing a stream of water directly over the objects to be raised, or causing the said stream and the articles exposed or rendered accessible to submarine divers.

Claim.—Removing sand, mud, or gravel from within sunken wrecks, or from submerged articles, with a view of raising the same, by means of a current of water forced by any proper means through a tube or spout by which the current is directed and made to act at the desired spots, substantially as described.

No. 19,627.—William T. De Golyer, of Schenectady, N. Y.—*Roofing Cement.*—Patent dated March 16, 1858.—The nature of this invention consists in preparing a roofing material or compound which is elastic and extensible to a certain degree in the middle or lower portion thereof, while the upper or exterior portion is made of metallic matter which by oxidizing expands and fills up the pores of the exterior coating, and at the same time becomes itself insoluble in water, so that an elastic and substantial roof is formed.

The inventor says: I am aware that it is not new to saturate canvas with tar and earthy matter to form a chemical roofing thereby.

Nor is it a new thing to mix iron filings or turnings with salt and water, or lime and water and salt, to make a cement to unite iron pipes, or even to form a chemical roofing, when such roofing contains no elastic basis to prevent cracking. I disclaim, therefore, all these devices. But I *claim* combining an elastic basis, consisting of tar, canvas, and earthy matter, as set forth, with a super-imposed coat of iron turnings filled in with earthy matter, in the manner and for the purpose set forth.

No. 21,553.—George W. Cushing, of Chicago, Illinois.—*Improvement in Roofing-Cements.*—Patent dated September 21, 1858.—The component parts of this cement are asphaltum, coal tar, and the pitchey residue known as "residuary gum," which is separated from the fatty substances in the manufacture of stearic acid for what are known as "star candles," or for other purposes. For the first coat there are used for every pint of coal tar six ounces of asphaltum and two and a half ounces of the residuary gum, but for the second coat, to obtain more body, there are used for every pint of coal tar eight ounces of asphaltum and two and a half ounces of residuary gum. These quantities serve for four square feet of roof.

Claim.—The roofing cement composed of asphaltum, coal tar, and the residuary gum specified, combined in about the proportions stated.

No. 19,695.—Robert Glennon, of New Orleans, La.—*Improvement in Roofing-Cement Composition.*—Patent dated March 23, 1858.—The subject matters are composed of fluids and solids, as follows: First is a composition of three gallons of the spirits of turpentine with five pounds of Vandyke brown, which must be well stirred and kept until the others are prepared. Second is a composition of three gallons of alcohol with five pounds of gum shellac, which also must be stirred well. Third is a composition of five gallons of linseed oil, boiled, one pound oil of amber, one gallon of Japan varnish, six pounds of sulphate of zinc, and forty-six gallons of coal tar, mixed well together. These three compositions are then all mixed together, thus making the fluid portion. The solid portion is composed as follows: One half bushel of fresh slaked lime, four quarts plaster of Paris, four quarts of red ochre, four quarts of Spanish whiting. These ingredients are to be mixed together and dried in an oven.

The inventor says: I disclaim the compositions patented by R. H. Smith and C. R. Milks, in 1857, as differing from my invention.

What I *claim* is, the composition made up of the ingredients specified, in substantially the proportions and in the manner set forth.

No. 19,712.—Bradley L. Prime, of Hamilton, Ohio.—*Improvement in Cement Composition for Roofing.*—Patent dated March 23, 1858.—The composition is made up of the following ingredients: One and a half gallons coal tar, half pound vegetable tar, twelve ounces brimstone, six ounces asphaltum, one and a half pound of India rubber, one ounce gutta percha, two ounces gum copal, eight ounces red oxide of lead, eight of red lead, eight of amber, sixteen Spanish whiting, four of hydraulic cement, and half pint Japan varnish.

The inventor says: I am aware that some of the ingredients used by me have been employed for analogous purposes in various proportions, and in combination with various other substances. Therefore, I do not claim broadly the employment of such substances in roofing composition.

But I *claim* the combination of the substances described, in sub-

stantially the proportions set forth, for the manufacture of a roofing composition.

No. 20,173.—Richard Simons, of Rockford, Illinois.—*Improvement in Cements for Roofing.*—Patent dated May 4, 1858.—The ingredients are as follows: To thirty gallons of coal tar is added two gallons of prepared India rubber (in turpentine) and two gallons of prepared gum shellac (in alcohol;) there is then added one gallon of boiled linseed oil and four and a half pounds of resin, well pulverized. They are put into a cask and let stand for one month, stirring it occasionally, after which is mixed with it a powder composed as follows: One peck good water lime, two quarts of plaster of Paris, two pounds of whiting, two of yellow ochre, and two and a half of Spanish brown, which must be well mixed and sifted through a fine sieve.

Claim.—I claim the composition of ingredients when compounded in the manner set forth.

No. 21,246.—Abram Davis, of Chicago, Illinois.—*Improvement in Roofing Compositions.*—Patent dated August 24, 1858.—In the engravings A is the boiler; *a* the fire door; *b* the man-hole; C the condenser; *d* the receptacle for the distillate; *e* the faucet; *f* the flue, and G the pipe and worm in condenser C.

Claim.—The method of applying a cement having the composition herein set forth, namely: by first saturating canvas, or other suitable fabric for roofing, with asphaltum softened and tempered with crude kerosine oil, or its equivalent, in the manner mentioned, and, secondly, by covering this layer or foundation with a cement formed of India rubber and other ingredients, substantially as set forth and for the purposes specified.

No. 22,343.—C. A. Brenner, of Goshen, New York.—*Improvement in Composition for Roofing.*—Patent dated December 21, 1858.—The inventor says: To make the composition I take 18 gallons coal tar, 2 gallons resin oil, 2 gallons India-rubber solution, 2 gallons shellac solution, 2 gallons linseed oil, and place the whole in a kettle, or suitable vessel, over a moderate fire, and stir them well together till the mixture has its component parts well incorporated together. I also take the following: 15 pounds dry marl, 3 pounds alum, 2 pounds litharge, 3 pounds ochre, 1 pound borax, all pulverized, and mixed well together in a dry state. To every gallon of the fluid mixture, while still in its heated state, I add one quart of the pulverized mixture; the whole is then well stirred together.

Claim.—The composition consisting of marl and the other substances specified combined and compounded in about the proportions and in the manner substantially as set forth.

No. 21,927.—Josee Johnson, of New York, N. Y., assignor to Joseph Ditto & Co., of said New York.—*Improvement in Composition for Roofing.*—Patent dated October 26, 1858.—The inventor says: I prepare the mica by first reducing it to a suitable size. In using the mica for roofing and covering the sides of buildings and boat-decks,

I use the mica reduced to a suitable size with any suitable glutinous water-proof material, such as coal tar, gas tar, oil, paint, &c, the composition being of such a consistency as to be easily spread with a stiff brush, and forming a covering to the roof, &c.; the mica is then spread in layers on this tar, paint, or other material, from the hand or otherwise, so that, by repeated coats, this flat, thin material will form in connexion with the other substances a strong, elastic fire and water-proof covering.

Claim.—The use of mica for roofing, covering the sides of buildings and boat decks, as set forth and described.

No. 21,643.—Emanuel Wise, of Hannibal, Missouri, assignor to Himself and Charles L. Wood, of St. Louis, Missouri.—*Improved Roofing Machine.*—Patent dated September 28, 1858.—One of the objects of this invention is to enable the operator to finish a joint by turning and passing it over the joint in an opposite direction. To do this the operator lets go the lever *m* from behind the hook or pin *q*, which lets the machine down to the position shown, and then by lowering or raising one end of the shaft D as the case may require, the machine may be passed back over the same joint and yet turn the cond lap in the same direction as the first one.

The inventor says: I *claim*, first, the combination of the adjustable wheel C with the two wheels B B^1 substantially as described, for the purpose specified.

And I also claim the combination of the two connecting rods *g* and *h* with the lever *m* and the axles f^1 *f*.

And I also claim the arranging of the wheels B and H against yielding bearings, substantially as described, for the purpose specified.

No. 20,636.—J. C. Gaston, of Oxford, Ohio.—*Improvement in Metallic Roofing.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the plates for a metallic roof by means of yielding joints, consisting of only two thicknesses of metal, and formed by overlapping the flanges turned in the same direction on opposite edges of each plate, in combination with the boarding of the roof, formed of different thickness of plank, to correspond with the difference in the level of the plates when connected, and so arranged as to give support to the under side of the plates, and also to the joints, as described.

Second. Combination of the lock on the lower corners of the plates (formed by the hook *e* in one plate and the slot *f* in the other, or their equivalents) with a side-joint formed by the overlapping of the plates.

No. 20,059.—John T. Grassle, of Hamilton, Ohio.—*Improvement in Roofing Tiles.*—Patent dated April 27, 1858.—This invention consists in a peculiar construction of tile for roofing, whereby leakage is prevented, and the several courses readily secured together.

The inventor says: I *claim* the grove *e* in the outer tongue *b*, the perforated flange F, shallow groove *d* and flange *f* of recess R, in

combination with the pin P and lap of the adjacent tile, substantially as and for the purpose set forth.

I, also, claim the combination of the double grooves *a* a^1 in the lap, tongues *b* b^1, flanges *f* f^1, f^2, recess R, and shallow groove *d*, operating together as and for the purposes set forth.

No. 19,314.—STEPHEN SCOTTON, of Richmond, Ind.—*Improvement in Joints for Sheet Metal Roofs.*—Patent dated February 9, 1858.—The nature of this invention consists in forming a three-leaved metal plate in the form of the letter T, by soldering or by rolling iron or other metal. The perpendicular part of this plate is fastened to the woodwork of the roof, the edges of the meeting metal plates are turned up against the upright stem of this T plate, the top or cross piece is then bent down on each side, thus forming a water-proof cap or saddle joint and fastening.

Claim.—I claim forming a three-leaved metal plate, shaped thus, T, by soldering or rolling iron or other metal for securing the joints of metal roofs, substantially as set forth.

No. 19,661.—CHARLES HARTWELL, of Boston, Mass., assignor to LEWIS L. BARTLETT, of Brooklyn, N. Y.—*Improvement in Metallic Sash* —Patent dated March 16, 1858.—This invention consists in constructing the sash in two parts, rubber or some similar elastic material being introduced between the glass and the sash in *lieu* of putty, so that the elasticity of the metal aids in maintaining a light contact with the glass to exclude water, while it allows the glass to warp or spring under the influence of temperature. It also consists in so forming and combining the parts, that the keys or nuts by which the parts are secured together, are let into or concealed within a deep groove to economize room.

The inventor says: I *claim* the construction and use of metallic sashes, composed of two parts C D, in the form substantially as above described, so that one or both the parts may yield by its elasticity, in combination with an elastic bedding F F, substantially as above described for the purposes set forth.

I also claim making the portion C of the above described metallic sash with a groove I, substantially as described and for the purposes set forth.

No. 19,941.—JAMES MCINTYRE, of New York, N. Y.—*Improvement in Illuminating Iron Rolling Shutters.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that iron and glass have been combined in various ways for vault lights, windows, and other parts of buildings, and therefore I disclaim such combination for all other purposes than the slats of rolling iron shutters.

But I am not aware that glass has ever been used in a rolling iron shutter, or that such a shutter has ever been made to possess the combination of characteristics herein mentioned.

I therefore *claim* the construction of rolling a shutter with its slats of iron and glass combined substantially as herein described, to obtain the characteristics specified.

No. 20,236.—WILLIAM E. WORTHEN, of New York, N. Y.—*Improvement in Metallic Rolling Shutters.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, a revolving shutter, composed of slats of double thickness of sheet metal, so formed at their edges substantially as specified that each slat shall interlock with its neighbor by being bent at the edge into a configuration substantially such as is set forth herein.

Second. I claim the combination of a series of such slats, having such interlocking edges substantially as described, with a chain on the sides thereof, said chain being constructed and combined with the slats substantially in the manner before made known.

No. 20,630.—WILLIAM W. CORNELL, of New York, N. Y.—*Improvement in Metallic Rolling Shutters.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The improved sectional metallic shutter, composed of a series of sections, whose edges are first brought to the proper shape and then combined with each other by securing said sections to elastic metallic strips, substantially as set forth.

No. 21,011.—SAMUEL MATHEWS, of New York, N. Y.—*Improvement in "Flushing Valve" Trap for Sinks, Sewers, &c.*—Patent dated July 27, 1858.—The nature of this invention consists in a peculiarly constructed trap, located at the highest end of the inclined pipe *a* leading to the sewer immediately below the privies, or at the point where the pipes from the water closets, sinks, or leaders from the house are discharged. The peculiarity of this trap consists in the use of a valve 1 in connexion with an overflow culvert in such a manner that all solid matter is retained, together with a body of water, so that when the valve is raised the rush of water carries off the solid matter directly into the sewer.

The inventor says: I do not claim a culvert in itself, or valve for water closets.

But I *claim* the combination of the basin *d* and valve 1 with the overflow culvert 8 9 10 in the trap, substantially as and for the purposes specified.

No. 19,426.—FRANKLIN L. KNAPP, of Gosport, N. Y.—*Improvement in Snow Ploughs.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim throwing off the snow on the different sides of the machine at the will of the operator, as this has been done before.

But I *claim* the combination and arrangement of the inclined platform, provided with perpendicular knives F F, horizontal knives W W,

and ploughs *v v*, with the sliding gates *m m*, and their corresponding doors, said slide gates being operated by means of lever wheels P P and shaft R, all being so arranged and operated that the snow may be cut and all thrown off either on one side or the other of the machine, or at different depths and at different distances and different quantities, on either side of the machine that the nature of the case may require, as fully set forth and described.

No. 19,577.—Joseph H. Pawling, of Philadelphia, Pennsylvania.—*Improvement in Snow Ploughs.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I disclaim the invention of the inclined plane A A, the lateral wings D D, the movable wing *g*, the cutters C C C, simply as such, the scrapers S S S S, simply as such, and every part and arrangement not after specifically claimed by me.

But I *claim*, first, the arrangement set forth in the said specification, or any other substantially the same, by which the cutters C C C are made to revolve upon their axes, and by which the movement of the truck in following the direction and curves of the rails is communicated to the cutters, and brings their edges and causes them to act always in the direction in which the plough is moving.

Second. The arrangement of the scrapers as before specified, or any other substantially the same, by which they can be elevated and depressed at pleasure, so as to be kept clear of the rails when the train is backing, and thus prevented from catching in the joints of the rails, and can be pressed against the rails when the train is moving forward at the will of the operator.

No. 19,950.—Samuel Richards, of Philadelphia, Pennsylvania.—*Improvement in Snow Ploughs.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not desire to claim the adjustment of the vertical planes up or down the inclined plane alone, or the adjustment of said vertical planes to the right or left side separately considered.

But I *claim* as an improvement on my former patent of May 13, 1856, the snow plough having vertical planes made adjustable at the same time both up and down the inclined plane, and from side to side, whereby it is rendered equally effective in passing from light snow to deep snow, and in throwing the snow to either side of the track at pleasure, the whole being arranged and operating substantially as described.

No. 20,484.—John B. Cornell, of New York, N. Y.—*Improvement in Admitting Light and Air Through Steps, &c.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—As a new manufacture an illuminating and ventilating riser for door sills, &c., composed of a perforated and partially glazed front plate E combined with an inner inclined glazed sash C substantially as set forth.

No. 19,070.—S. P. Castle, of Urbana, Ohio.—*Improvement in Stump Extractors.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim broadly and irrespective of construction and arrangement, the employment or use of a rack and pawls for extracting the stumps of trees, for this is a well-known mechanical device and has been previously used for similar or analogous purposes.

But I *claim* the annular rack E placed within the socket D, the lower end of which is fitted in the plate C on the cross-tree B, so as to form a ball and socket joint or connexion therewith, the above parts being used in connexion with the lifting and retaining pawls J J F F, and the whole arranged as and for the purpose set forth.

No. 19,562.—Washington Hall, of Brewer, Maine.—*Improvement in Stump Extractors.*—Patent dated March 9, 1858.—*a b c d* is the frame work. A horizontal shaft *e* is hung in the uprights *a a*, secured by caps *f f*. This shaft has a ratchet wheel *g* on each end outside of the uprights; each ratchet is supplied with a lever *h*, a pawl *i*, and a catch *j*. The head of the lever is made of iron with two prongs *k k*.

Claim.—The combined arrangement of the simple levers *h h*, having their fulcrum in the windlass axle, with the ratchets *g g*, actuating and retaining pawls *i i* and *j j*, axle *e* and frame work *a b c d*, the whole so constructed and operating as to form a cheap and effective machine for the purpose set forth.

No. 22,415.—Francis M. Eagle, of North Manchester, Ind.—*Improvement in Stump Extractors.*—Patent dated December 28, 1858.—This invention consists of a stout frame, a roller with a rope, a large link, clevis and chain or hook, and two wheels to facilitate the moving of the machine. A more minute description would be too long for a place in this volume.

Claim.—Overcoming the resistance by the movement of a roller invariably connected with the stump, substantially as described, upon a track either rectilinear or curved, all parts of which, except the starting part of the roller, are exterior to a circle with the invariable connexion for a radius and the point of attachment of the hook for a centre, the operation being substantially as described.

No. 20,494.—Frederic Kettler, of Milwaukie, Wisconsin.—*Improved Machine for Cutting out Stumps.*—Patent dated June 8, 1858.—The arms H embrace the stump on four sides, the apparatus is then secured to the stump by means of the screws *b*. A horse is then hitched to the end of the rope P, which passes over the drum *r*; the drum is rotated, thereby rotating the pulley Q, which imparts rotary motion to pulley R and wheel G, which latter operates the rim E, causing the latter together with the braces L, to turn on the frame A.

Claim.—The circular frame A, and the revolving frame E, in combination with the cutting apparatus, substantially in the manner and for the purposes set forth.

No. 19,146.—John C. Mather, of New York, N. Y.—*Improved Portable Railroad Switch.*—Patent dated January 19, 1858.—At the

end of plate A is secured an arm *d*, projecting horizontally from its outer side; this arm prevents any tendency of the plate *a* to rock as the car comes upon or rolls over it. In order to adapt the plate to the attachment of the feet *c*, so that the groove shall run diagonally across the rail, its ends are widened sufficiently to afford an attachment for a standard at each end.

The inventor says: I *claim* a portable switch, constructed in the manner substantially as and for the purpose set forth.

I also claim the arm *d*, as arranged, for the purposes set forth.

No. 20,367.—NATHANIEL PULLMAN, of New Oregon, Iowa.—*Improvement in Railroad Switch.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the bent switch rail with the shoe, when arranged in the manner and for the purpose set forth.

Second. The combination of the curved blocks with the shoe E F, and the switch rail for the purpose of regulating the inclination of the switch rail C to the track, and also its angle of divergence from the track, substantially as described.

No. 21,631.—CHARLES L. SPENCER, of Providence, R. I.—*Improvement in Railroad Switches.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The use of two frog guiding rails, having the tread rails immovable, but an inside movable section of each guiding rail capable of working simultaneously together, for the purpose of influencing the course of a train of cars when proceeding in one direction, and of preventing injurious consequences in case the switch is improperly set when the train is proceeding in the opposite direction, constructed, applied, and operated substantially as described.

No. 21,658.—CHARLES C. DODGE, of Marshall, Michigan.—*Improvement in Railroad Switch.*—Patent dated October 5, 1858.—This invention is capable of transmitting great power, and is so compact that it can be placed anywhere between or about the track without creating any inconvenience, and is equally adapted to a double as well as a single track by enlarging its capacity. It may be made durable by chilling the groove E, and providing the pin P with a friction roller. Instead of the grooves E and F, threads or tongues may be used on the cylinder C, working between rollers on the bar I.

Claim.—The application and use of the combined arrangement of the grooved or threaded cylinder C, lever L, guide pin P, pivoted target staff S, and pin tie bar I, and box A, for the purpose and constructed substantially in the manner as described and set forth.

No. 21,880.—SIMON HEYWOOD, of Claremont, N. H.—*Improvement in Railroad Switch.*—Patent dated October 26, 1858.—This invention consists in using in connexion with the ordinary switch-rails, a movable frog so arranged that the switch and frog will be operated simultaneously by the movement of a single lever, or shaft, and the frog,

as well as the switch, moved in line with the rails over which the train is to pass.

Claim.—The arrangement and construction of the bent or curved bars F G, having racks H attached and operated by a pinion J, as and for the purposes shown and described.

No. 19,397.—JOSEPH WOOD, of Jersey City, N. J.—*Improvement in Railroad Safety Switches.*—Patent dated February 16, 1858.—If a intend to pass from rails *k k* to rails *e* e^1, or *vice versa*, the switch should be placed by the lever S into the position shown in *fig.* 1; while the switch is in this position the cars must pass from *k k* to *e* e^1, and if by accident a train should pass along *d* d^1 towards the switch (while in this position) the cars could not possibly leave the track, but the forked rail a^2 a^3 would so direct the flanges of the wheels on that side as to force the wheels of the cars to run upon a^3 and upon the safety-rail *b* until the car reached the point p^1, when the guard-rail *c* would keep the wheels in position, and direct them on to the track *k* k^1.

Claim.—The combination of the safety-rails *b* b^1, the forked rails *a* a^1 a^2 a^3, and the guard-rails *c* c^1, arranged and operating in the manner and for the purpose described.

No. 21,530.—CHARLES WEED, of Milledgeville, Ill.—*Improvement in Mode of Filling Water Tanks at Railway Stations.*—Patent dated September 14, 1858.—The nature of this invention consists in a method of applying the weight of a locomotive engine to working a pump for raising water for supplying the tender by means of a compound leverage connected with the track, and a train of cog-wheels, by which sufficient motion is obtained from the sinking of the track slightly to operate the pump to the required extent.

Claim.—The combination and arrangement of the yielding track B, with the compound levers C *g*, connecting bars E, or their equivalents, weighted segment lever F, ratchet pinion *h*, and gear wheels as required, for giving motion to the pump lever L, substantially in the manner and for the purpose set forth.

No. 22,035.—SILAS T. SAVAGE, of Albany, N. Y.—*Improvement in Connecting Metallic Tiles, Plates, Beams, &c.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application and use of hook and clasp-shaped terminals, formed and arranged as represented, at the ends or edges of malt kiln tiles and beams, or analogous structures, such as floors and beams of any kind, for the purpose of attaching them to each other, and supporting them firmly in a proper position, substantially as described, and for the purposes set forth in the specification.

No. 19,597.—WILLIAM WISE, of Washington, D. C.—*Improvement in Trenching Plough.*—Patent dated March 9, 1858.—The manner of operating this plough is as follows: The bottom of the trench is first broken up by the plough. The strap to which the swingle-trees are

attached being fastened on one side of the beam, tends to press the forward end of the latter towards the wall, which if not counteracted would cause the shares to run into the bank; but this is prevented by the guide-bar *f*, which holds the end of the beam off the wall, while at the same time it permits the plough to run as close to the wall as may be desired.

The inventor says: I *claim* the combination of the auxiliary share with the plough, substantially as described.

I also claim the combination of the guide-bar with the plough, substantially as described.

No. 19,685.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in the mode of connecting the sections of Metallic Funnels.*—Patent dated March 23, 1858.—In the engravings *a a a* show the rim or circumference of the tunnel, *b b* road ways or track, *c c c* vertical supports or braces, *f f* and *f f* upper and lower horizontal braces. These braces are welded to the arches of the tunnel at the different points of contact, *d d* are elevated walks for foot passengers, *e e* aqueducts for carrying fresh water from shore to shore, *i i i* are the inclined arms attached to the ends of the sections.

Claim.—The inclined arms *i* attached to the ends of the sections and couple *h* for securing and connecting the same, substantially as set forth.

No. 19,639.—GEORGE R. JACKSON, of New York, N. Y.—*Improvement in attaching the Glasses of Vault Covers.*—Patent dated March 16, 1858.—This invention consists in securing the glasses *b* within vault covers by means of a cement and the glasses having grooves or channels *a a* formed in them, which enables the cement to hold them in place.

Claim.—The tapering and grooved glasses in combination with the tapering and grooved apertures in the metallic portions of said covers substantially as shown, and for the purposes described.

No. 21,050.—THADDEUS HYATT, of New York, N. Y.; assignor to GEORGE R. JACKSON & Co., of New York, aforesaid.—*Improvement in illuminating Glasses for Vault Covers.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining glasses of an inverted pyramidal, polygonal or conical form, with the sash or metallic portion of an illuminating vault cover or its equivalent, for the purpose of producing a wide-spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as set forth.

No. 20,679.—EDWIN LEE BROWN, of Boston, Mass.; assignor to B. F. BROWN, of Bangor, Me.—*Improvement in Safety Vault Covers.*—Patent dated June 22, 1858.—When it is desired to open the cover from the inside, the guards F are swung toward the hinges *a* when they will clear the hooks 8; the lid may then be raised and remain supported on the rests 4 until the shoulder 5 is tipped off from the

rests. The hinges *a* are formed with a lip 9 projecting back under the frame E which prevents the lid from being raised from the outside.

Claim.—The hinged lid E in combination with the guards F, so arranged as to support the lid when raised, and to lock it when closed, as set forth.

No. 22,069.—CORNELIUS DONALDSON, of New York, N. Y.—*Improvement in Vault Light.*—Patent dated November 16, 1858.—A is the curb, platform, floor, deck, or other place receiving the light or cover, which is to be of any desired size or shape. The light is formed by the upper plate *b* and the lower plate *c*, which are to be attached together by screws 1 1 after the glasses are in place, and the two plates are kept apart by blocks or lugs 2 2, and a rib and groove 3 3 complete the connexion of one plate to the other. Openings are provided at the desired position in the plates *a* and *b*, so that holes in the plates coincide with each other.

Claim.—The inventor says: I do not claim a vault light formed of several glasses set in a frame, as one or more glasses have heretofore been used, neither do I claim a double vault cover or roof with perforations in the lower plate or a pipe connected with the space thus formed, as the same is believed to be the invention of another party.

But I claim the annular flange 4 on each glass *d*, in combination with the supporting plates *b* and *c*, and the ring packings of rubber, or equivalent material, in substantially the manner specified.

No. 21,605.—MICHAEL GROSZ and PETER H. JACKSON, of New York, N. Y.—*Improvement in Metallic Frames for Vault Light.*—Patent dated September 28, 1858.—The nature of this invention consists in a peculiar frame of a U shape, to set over the aforesaid bars of the grating, and secure the strips or plates of glass; which, at the same time that they exclude dust, rain, &c., form a good surface for walking over.

Claim.—The U-shaped metallic bars receiving the glasses, in combination with the wrought iron bars of a grating, over which the said U-shaped bars set and are sustained, substantially as and for the purposes specified.

No. 20,721.—ELIJAH P. LEONARD and PETER H. JACKSON, of New York, N. Y.—*Improvement in Illuminated Covers for Vaults, &c.*—Patent dated June 29, 1858.—*c c* are cross-bars beneath the glass *b* passing from one part of the frame *a* to the other; the bars *c* being so arranged that the glass may rest their entire length or only at intervals upon their upper surface. The thimbles *a d* are formed with a head 1 above the glass and a screw 2 passing through the bar *c* with a nut 3. The grooves 5 are formed around the edges of the glass *b*, and provided with corresponding projections 6 6, which rise above the surface of the glass.

The inventors say: We do not claim the supporting the plate of glass at their edges or circumference, as that is old. Nor do we claim the use of glass generally for the within named purpose.

We *claim*, first, the use of a plate or plates of glass in vaults, covers, platforms, pavements, sidewalks, decks, or for similar purposes, which

plate or plates are supported from below, substantially in the manner specified.

Second. We claim thimbles, pins, or their equivalents, passing through perforations in a plate of glass or plates of glass, and formed with. connected to, or resting on a suitable support beneath the plates of glass, substantially in the manner and for the purposes specified.

Third. We claim grooving or notching the edges of the plate of glass for the purpose of receiving projections, occupying said grooves or notches, and thus protecting the edges of the plate of glass from injury, as specified.

Fourth. We claim the use of perforated plates of glass for pavements, sidewalks, decks, platforms, vault covers, &c., prepared substantially in the manner and for the purposes described.

No. 21,498.—WILLIAM H. HORSTMANN, of New York, N. Y.—*Method of building Walls under water.*—Patent dated September 14, 1858.

The inventor says: My invention is intended to prevent the necessity of a coffer dam or other like device to build walls under water, by which the cement is wholly retained and prevented from wasting or being removed from its proper position until it is set and become hard when laid in running streams or other moving waters that tend to remove the plastic cement before it becomes solid, by which I save great expense consequent upon constructing and removing coffer dams, as well as the waste of cement above spoken of, and secure the advantage of building under water and in still water without a complex apparatus by a simple structure.

In naming what he claims as new in this invention the inventor says: I *claim*, first, the sack or compartment formed by cloth or some equivalent thereof to produce slack water in a current or other movable water, and protect the cement from being washed away and wasted before it is hardened, as fully set forth.

I also claim, in combination with a flexible enclosure, the panels as above specified, and supporting the same by spiles, in the manner and for the purposes set forth.

I also claim the cement feeder, constructed and arranged substantially as and for the purpose specified.

No. 22,151.—J. M. BUTLER, of Oxford, Mississippi.—*Improvement in Apparatus for Boring Wells.*—Patent dated November 23, 1858.—This improvement in instruments for boring wells consists in making the boring chamber of square form, and divided within into several chambers by means of vertical partitions.

Claim.—The square-chambered auger *a*, constructed substantially as set forth.

No. 20,611.—HENRY ALBRO, of Covington, Kentucky.—*Improvement in Floating Revolving Wharf.*—Patent dated June 22, 1858.—The object of this invention is to facilitate the landing of vessels in unfavorable situations, and especially to enable ferry boats to make their berths endwise, when a strong current or other obstacles interfere. It is so arranged that a man on shore may revolve the pier to the right

or left, so that the main arm *b* of the pier will direct the boat and receive her into her berth with ease.

Claim.—The revolving or floating pier described, for changing the position of the berth of ferry boats, in order to facilitate their landing when strong currents or other obstacles interfere, the whole being constructed and employed substantially as set forth.

No. 21,648.—S. W. BIDWELL, of Hartford, Connecticut.—*Improved Rolling Window Blind.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, so hanging the roller C, upon which the blind is hung, that it shall traverse in a horizontal plane (or nearly so) by means of the racks *k k* and toothed journals *i i*, or their equivalents, substantially as and for the purpose set forth.

Second. In connexion with the above the combination with a rolling blind of a weighted cord *b*, arranged with a helically grooved pulley E, on the end of roll *c*, or in any other way substantially the same, for the purpose of counteracting the weight of the blind, as described.

Third. The combination with the traversing roll *c* of a weighted, self-adjusting "friction fixture," consisting essentially of a weighted case *e*, and enclosed pulley *m*, the whole constructed and operating substantially as described, for the purpose set forth.

Fourth. So arranging the tapes *a a* of a rolling blind with the shaft *c*, on which the slats are wound, that the slats may be shifted by the partial rotation of said shaft, as described.

No. 22,177.—ISAAC W. GERE, of South Granby, New York.—*Improved Machine for Making Window Blind Slats.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A machine that will take a rough slat, as it comes from the bolt, and automatically pass it along to and past the series of mechanical devices that will plane, dress and form the tenons thereon, and complete the slat before it leaves the machine, substantially in the manner described and represented.

No. 21,417.—A. HERDER, of New York, N. Y.—*Improvement in Window Blinds.*—Patent dated September 7, 1858.—This invention consists in attaching a series of wire cloth strips to the blind in such a manner as not to interfere in the least with the opening and closing of the slats, and at the same time effectually close the spaces between them, so as to prevent insects from passing through between them.

Claim.—The wire cloth strips E attached to the window blind, to form a combined blind and insect bar or net, substantially as set forth.

No. 20,576.—CHARLES NEER, of Troy, New York.—*Improved Metallic Window Blinds.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the slats of metallic

blinds by means of staples inserted into a folded metallic strip, when bent up and secured, substantially as specified.

Second. I claim the circular spring tenon formed on the ends of sheet metal blind slats, substantially in the manner specified, to be inserted into the hole in the stiles, and cause the necessary friction, but prevent the tenon bending, as set forth.

Third. In combination with said sheet metal blind slats, I claim the metallic frames formed of the detachable rails and tapering stiles, in the manner and for the purposes specified.

Fourth. I claim bevelling the stiles each way from the line of holes receiving the ends of said metallic blind slats, for the purpose of giving freedom to the slats when opened, but forming a tight joint when closed, as set forth.

No. 21,732.—W. H. Babcock, of Homer, New York.—*Improvement in Method of Adjusting Window Blinds.*—Patent dated October 12, 1858.—This invention consists in having an arbor pass horizontally through the casing near the lower part of the blind, said arbor being allowed to slide longitudinally in its bearings, to a certain extent, so that a conical screw or spiral flanched pinion, which is on the outer end of said arbor and gears into a toothed wheel on the blind, may be connected with, and disconnected from, the arbor as desired; a toothed wheel being also placed loosely on the arbor, which wheel, when the blind is closed, gears into a segment rack on a lever which is connected with the slat rod, the whole being arranged whereby the blind, by adjusting the arbor and properly turning the same, may be opened and closed at the inner side, within the room, without raising the sash and the slats; when the blind is closed, also adjusted.

Claim.—The sliding spindle or arbor for alternately engaging the two mechanisms which severally move the slats and open the shutter, so as to operate either mechanism by the same handle, substantially as shown and described.

No. 19,488 —Theodore Christian, of New York, N. Y.—*Improvement in Operating Window-Blinds.*—Patent dated March 2, 1858.—In this invention a series of pullies *c c* are applied within a cavity *a* in one of the stiles A on one side of the blind, one on each tenon of the slot, and an upright rod D, to which are connected the ends of a series of short bands *d d*, one of which passes round and is secured to each of the pulleys, the rod being also within the cavity in which the rollers are contained.

Claim.—Tightening the straps *d* by adjusting the pieces *e e*, as described.

No. 20,996.—Andrew Ferber, of Elizabeth City, New Jersey.—*Improvement in Operating Window Blinds.*—Patent dated July 27, 1858.—The slats are attached to a rod and fitted in one of the stiles of the blind, and the rod is attached to the stiles so that the rods cannot obstruct the light nor act as encumbrances, and the slats cannot turn or move casually.

The inventor says: I am aware that the rods of blind slats have been connected to the ends of the slats, and arranged in various ways; a patent, for instance, was granted to L. Stevens and S. B. Elithup, June 26, 1855, for an improvement in window blinds, in which the tenons of the slats were forked, and the rods connected to them. A patent was also granted to T. Christian, March 2, 1858, for improvement in window blinds, in which pulleys were attached to the ends of the slats. Both the cases above referred to differ essentially from mine.

I do not claim broadly operating the blind slats by a mechanism connected with one end of them.

Nor do I claim broadly a rod attachment at the ends of the slats.

But I *claim* the rod *c* fitted in one of the stiles *a* of the blind and provided with pins *i*, which are fitted in oblique slots *e* in plates *d* attached to the ends of the slats, the parts being arranged substantially as and for the purpose set forth.

I also claim the rod *c* attached to the slats B, as shown, in combination with the spring *k* fitted within the mortise *j* and attached to the stile *a*, the whole being arranged substantially as and for the purpose set forth.

No. 21,408.—Theodore Christian, of New York, N. Y.—*Improvement in Operating Window Blinds.*—Patent dated September 7, 1858.—In this invention the slats are made in the ordinary way, but the tenon which forms the axis of the slat passes into the stile into a hole considerably larger than the tenon. There is a groove or deep channel in one stile, seen at *c*, into which the tenons above named enter through the large openings within the channel. The tenons all bear small pulleys *d* of metal, and they have a metal gudgeon *e* driven into their ends and projecting sufficiently beyond the pulley *d* to enter a metal bearing *g*.

Claim.—The inventor says: I claim the coupling the slats together, as described, and connecting a whole panel by means of a rod, in the manner and for the purpose set forth, grooving the rod in a straight line.

I also claim taking the bearings of the tenons upon the inside of the channel therein, and beyond the pulley, as and for the purpose specified.

No. 19,362.—Sebastian Haas, of Buffalo, New York.—*Improvement in Window Frames.*—Patent dated February 16, 1858.—In the engravings *f* and f^2 *g* and g^2 are the grooves which conduct the sash into and out of the frame. O O and O^1 O^2 are pins or nibs projecting from the upright stiles of the sash, and are made to fit the grooves and hold the sash in its place.

Claim.—The arrangement of the grooves *f* f^2 *g* g^2 and *h* in the frame, and the operation of the sash, as described.

No. 21,136.—Ross Johnson, of Frederick, Maryland.—*Improvement in Hanging Window Sash.*—Patent dated August 10, 1858.—The nature of this invention consists in side boxes, constructed on the face of the jambs and arranged in front and at right angles to the face of

the sash, in combination with narrow oblong weights and with pulleys arranged in a manner adapted for the use of said side boxes and flat weights.

Claim.—The side boxes G G, constructed on the face of the jamb *a*, and arranged in front and at right angles to the face of the sash, in combination with narrow, oblong weights D D and with pulleys E F, arranged in a manner adapted for the use of side boxes and flat weights, substantially as and for the purposes set forth.

No. 22,365.—Theodore F. Hall, of Marietta, Ohio.—*Improvement in Hanging Window Sash.*—Patent dated December 21, 1858.—F is the window frame; T the upper sash; L the lower sash; C the cord supporting sash T; K the cord supporting sash L; P P^1 P^2 pulleys on window frame; G grooves in the sashes; R pulley on friction rollers in the grooves in the sashes; I the point where the cord C is attached to the frame; J the point where the cord K is attached to the frame; W W^1 weights attached to cords C and K; W^2 weight in box frame.

Claim.—The employment and arrangement of pulleys or friction rollers at the lower corners of the sash and the balancing of the sash on cords, in combination with pulleys and weights or a weight, substantially as set forth.

No. 19,301.—Robert H. Kirck, of Utica, New York.—*Improvement in Removable Window Sash.*—Patent dated February 9, 1858.—The object of this invention is to admit of the sashes of windows being removed from their frame or casing without detaching the stop strips or parting beads; this is effected by the employment of a sash, divided and hinged in the centre, and also provided with a catch so that it cannot come out by accident, but can only be removed by a person who releases the catch.

The inventor says: I *claim* jointing the sash or sashes of a window at the centre, substantially as described, so that they may be removed from the casing without detaching the parting beads or stop strips, the sash or sashes being provided with a catch, or any equivalent device, to prevent the casual folding of the same.

No. 19,267.—Francis Thrasher and Henry B. Horton, of Akron, Ohio.—*Improvement in Fastening for Window Sashes.*—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We *claim* the friction strip C riding upon an inclined plane and operated by a spring so as to be self-locking, for the purpose of fixing the window sash at any desired height, as set forth.

No. 20,857.—Dana Bickford, of Westerly, Rhode Island.—*Improvement in Spring-Pulley for Window Sashes.*—Patent dated July 13, 1858.—The use of the friction wheel D is to prevent the sash from sagging when it is covered with ice or snow, it being arranged with a rachet C in such a manner as to turn when the sash is pulled down,

and when the sash is raised the ratchet allows the spring case to run freely and give the full force of the spring in raising the sash, thus providing a means of balancing the sash.

The inventor says: I do not claim either of these devices separately.

But I *claim* the combination of the friction wheel, or its equivalent, and the bearings of the pulley with the lip, as described, in connexion with other parts of the spring balance.

No. 19,348.—John B. Cornell, of New York, N. Y.—*Improvement in Metallic Window Shutters.*—Patent dated February 16, 1858.—The frame *b g h* is of T-shaped iron, to which is secured, by means of the rivets *e f*, two thicknesses, *c d*, of sheet iron. The border of the iron casing *d* is trimmed off even with the edge of the outer flanch *g* of the frame, the casing *c* is fitted within the portion *b* of the frame, and rests upon the flanch *h*, the rivets *e e* pass through both casings, and through the flanch *h*, the rivets *f f* pass through the border of the casing *d* and through the flanch *g* of the frame, which will firmly unite the respective parts.

The inventor says: I *claim* constructing metallic shutters, doors, &c., of double casings of sheet metal, combined with a frame composed of T-shaped metallic bars, substantially as set forth.

No. 21,916.—Turner Williams, of Providence, Rhode Island.—*Improved Window Stop.*—Patent dated October 26, 1858.—The claim and engraving describe this invention.

Claim.—The described window stop consisting of the roller *c*, shank *m*, spring E, and lever *k*, or their equivalents, in combination with the inclined surface *d*, and operating in the manner substantially as set forth.

X.—LAND CONVEYANCE.

No. 19,762.—William B. Fahnestock, of Lancaster, Pennsylvania.—*Improvement in Axle Boxes.*—Patent dated March 30, 1858.—The object of this improvement is that the ends of the axle D revolve at the same time that they describe the necessary arc of a circle, thereby giving the wheel freedom to follow the line of the rail, and preventing the sliding and friction of the wheels on or against the rail.

Claim.—The combination of the axle and boxes, arranged and constructed as described, for the purpose of allowing the axle to turn and accommodate the wheel to the direction of the rail.

No. 21,998.—Henry Howson, of Philadelphia, Pa., assignor to Isaac P. Wendall and Jacob L. Wendall, of said Philadelphia.—*Improvement in Axle Boxes.*—Patent dated November 2, 1858.—This invention consists in a combination of a box, bearings, and keys, the interior of the box being arched and terminating on each side at recesses

formed in the sides of the box, the keys being adapted to fit into recesses and against the edges of the bearings.

Claim.—The combination of the box with the bearings B and B^1, and retaining keys C and C^1, when the interior of the box is arched on the top, when the said arch terminates on each side of the recesses *g g*, formed in the sides of the box, when the keys are adapted to fit into the recesses and against the edges of the bearings, and when the several parts are arranged in respect to each other, substantially in the manner and for the purpose set forth.

No. 21,943.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Car Axle Boxes.*—Patent dated November 2, 1858.—A is the outside or shell of the box, B the packing disk or stuffing box, C the lubricating cell or well for holding the lubricating liquid, D the axle, *e* the packing of felt, leather, hide, or gutta percha, e^1 recess in the collar for packing between the collar and the axle, *f* the point between the shell of the box A and disk B; *g* the door of the box, *h* the feed-hole, *j j* the bolts, j^1 j^1 slots in the ears or lugs of the box, *i* a set screw for elevating and adjusting disk B. The sliding collar on the box axle is marked *a* and the slit in it a^1 for the pin a^2 of the axle.

The inventor says: I *claim*, first, the sliding collar *a*, constructed and arranged upon the axle and in relation to the packing of the box, as set forth.

Second. I claim the arrangement of the lubricator, door, disks, packing, follower, and bolts, as described, whereby the whole may be adjusted to the bearing brasses, as set forth.

No. 20,991.—DAVID CUMMING, of Sorrel Horse, Pa.—*Improvement in Axle Boxes, &c.*—Patent dated July 27, 1858.—The nature of this invention consists in dividing the inner portion of the box into two parts longitudinally, the said parts being confined upon the shaft by a solid ring, and in the peculiar formation of the outer ends of the axle and box.

The inventor says: I *claim*, first, the peculiar form of the outer end of the axle *c* and tapering hole *e* in box F, when the said axle and box are arranged relatively to each other as described, for the purpose set forth.

Second. The combination of the two inner portions E and E^1 of the box with the clasp C, as and for the purposes described.

No. 21,652.—JOHN W. COCHRAN, of New York, N. Y.—*Improvement in Lubricatng Car Axles.*—Patent dated October 5, 1858.—*a a* marks the car box, *b b* the axle, *c c* the lubricating wheel or rotary feeder which, it will be seen, very nearly touches the sides of the opening in the diaphragm, thus controlling or limiting the quantity of fluid fed by the wheel from the well or chamber to the axle; *d d* is the flat spring to support the lubricating wheel and keep it up at the axle, *e e* the well or chamber to contain the lubricating matter.

Claim.—In connexion with the spring and wheel, the inclined diaphragm *g*, having the space for the play of the wheel, and access to the wheel and spring as described.

No. 20,535.—WILLIAM D. ARNETT, of Chicago, Illinois.—*Improvement in disconnecting Car Axle Boxes from Pedestals.*—Patent dated June 15, 1858.—In figures K M, 13 13 is a flange furnished with lugs 4 4, and attached to the upper bars of the truck. The box 5 is placed up against the flange 13 so that the lugs 4 4 will come in the recesses 11 11 made in the sides of the box-case 5, and the stay-bar 16 holds the box in its place with the nut and screw-bolts 14 14, and thus prevents the box case from slipping laterally; and when it is required to take the box from the truck, the nuts 14 are unscrewed sufficiently to let the stay-bar 16 fall sufficiently to free the box case from the lugs 4 4 on the flange.

Claim.—The lugs, recesses, and grooves, arranged with the pedestals and box cases for disconnecting the box cases from the sides of the pedestals, as set forth in the specifications and for purposes described.

No. 19,290.—GEORGE W. GEISENDORFF, of Indianapolis, Indiana, and JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Railroad Car Axle Boxes.*—Patent dated February 9, 1858.—A represents a portion of the axle, B a portion of the box. The box is slotted *b* through its top, and recessed b^1 on the inside, so as to receive the ends of a casting C D E F and hold it firmly against lateral displacement. This casting consists of a rectangular block C crowned by a flange D and having in its under side an arch-like cavity E. A short distance below the flange the casting is pierced transversely by a slot F, to receive a key G, by which it is held to its place in the box.

Claim.—The lug C D E F G, constructed as set forth, or equivalent device, in the described combination with the axle A and box C.

No. 19,741.—R. N. ALLEN, of Cleveland, Ohio.—*Improvement in Railroad Car Axle Boxes.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the self-adjusting collar or washer F, in combination with the slide-partition G and packing *c*, operating in the manner and for the purpose specified

Second. I claim the box B and key C, provided with articulating surfaces s^1 s^1, in combination with the key D, for the purpose of relieving the axle from strain and of conveniently removing and replacing the box B and collar F, by simply relieving the axle from strain without removing it, the whole being constructed and arranged substantially as specified.

No. 19,840.—GEORGE W. GEISENDORFF and JACOB C. GEISENDORFF, of Cincinnati, Ohio.—*Improvement in Box Cases and Lubricators for Railroad Car Axles.*—Patent dated April 6, 1858.—The inventors, in describing their improvement, say: The object of our improvement is to prevent the waste or loss of oil by its following longitudinally on the car-axle. We accomplish this object by the employment of a spring-stripper *e* placed inside the box-case, which removes the surplus oil from the car-axle B and returns it to the reservoir. In addition to the stripper we use an expansible or clasp packing, to which the stripper is attached; said packing renders the use of the stripper

more perfect and completely prevents the entrance of dust to the journal and box inside of the box-case.

Claim.—The employment of the divided packing *a* a^1, in combination with the springs *c c* and *d d*, constructed substantially in the manner and for the purposes set forth.

No. 19,530.—Isaac P. Wendell, of Philadelphia, Pennsylvania.—*Improvement in Boxes and Journals for Railroad Car Axles.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that intermediate collars have been heretofore used for the purpose of lubricating axles; but in all instances such collars have fitted tightly into recesses in the upper bearing, which thus prevents efficient lubrication. I disclaim, therefore, the exclusive use of a central lubricating collar.

I *claim* employing, in connexion with the boxes and journals of car axles and other shafts, a central lubricating collar, revolving in an oil chamber formed in the lower bearing, in combination with a recess in the upper bearing, when the said recess is wider and deeper than the collar, as set forth, and for the purpose specified.

No. 19,095.—David Matthew, of Philadelphia, Pa.—*Improvement in Railroad Car Boxes.*—Patent dated January 12, 1858.—In the engravings A is the box, B the hole through which the journal passes, C the oil cellar, D D the bearings of brass, *x* the oil cup, E a slot cut entirely through the brass and extending the whole thickness of the box.

The inventor says: I am well aware that it is common to use a slot in journal bearings for purposes in connexion with lubrication, but they have no such effect as mine, and I do not wish to be mistaken as using a mere modification of such a slot or crease, or as claiming any such arrangement or device.

But I *claim* the peculiar construction of journal box having a longitudinal slot or opening so proportioned to the relative vertical and horizontal strains as to produce the results substantially as set forth.

No. 21,996.—J. N. Ward, of Brooklyn, N. Y.—*Improvement in Car Brakes.*—Patent dated November 22, 1858.—The trucks are made in the ordinary way and have suspended opposite each wheel outside a brake piece *a;* a stout bar *b* extends from one brake piece *a* to the one opposite thereto across the car, and to the centre of this bar a pulley *c* is affixed; as each pair of brakes *a* are thus furnished the two pulleys on each truck stand opposite each other; a chain *d* passes around these pulleys, and one end of it is affixed to the ordinary upright windlass *e* at the end of the car, the other extends back to the other truck and around the pulleys of the brakes thereon, and thence to the windlass on the opposite end of the car.

Claim.—The combination of the pulleys and brakes, together with the mode of operating the same, the whole being constructed and arranged as specified and for the purposes set forth.

No. 22,291.—Joseph Hough, of Buckingham, and Jacob Moore, of Bart, Pa.—*Improvement in Car Brakes.*—Patent dated December 14, 1858.—A represents a rectangular frame in which the axles B B of the wheels C are placed as usual. In each side of the frame two levers D D are placed, said levers working on fulcrum pins *a*. To the lower end of each lever D a shoe E is attached, said shoes being below the horizontal plane in which the axles B B are placed. To the upper end of each lever D a horizontal slide F is attached by a pivot or pin *b*. These slides are fitted in grooves *c* in the upper part of the frame, and two slides at each side of the frame.

Claim.—The arrangement and combination of the slides F and levers D J, as and for the purposes shown and described.

No. 19,012.—John L. Branch, Isaac Branch, and Daniel W. Branch, of Charleston, S. C.—*Improvement in Railroad Car Brakes.* Patent dated January 5, 1858.—The nature of this improvement consists, first, of the immediate application of steam power by the engine driver to the brake locks on all cars having brakes. Secondly, of a drum E secured to the bottom of the tender and applied with a chain E^1. Thirdly, the manner in which the brake levers *i* i^1 are worked, whether the train be moving backwards or forwards.

The inventors say: We do not claim in general terms the idea of drawing the upper end of the brake levers *x x*, &c., towards the center of the car (thus clamping the wheels with the brake blocks) by a winding up of the chains at the end of rods *m m*, for this has been done already by means of a rod passing up into a car with a wheel fixed at its upper end, and worked by a man usually called a brakeman.

But we *claim* the drum arranged and worked as set forth.

We claim to operate the brake blocks of a continuous train of cars by means of a steam cylinder or hand power, in combination with the drums, levers, and chains, substantially as set forth.

We also claim the drum E and the surplus chain E^1, the object and use of which is substantially set forth in the specifications, as are also our other claims.

No. 19,157.—Thomas W. Smith, of Alexandria, Va.—*Improvement in Railroad Car Brakes.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the use of a bumper or other equivalent sliding-piece for regulating by its motion the tension of a brake chain, except under the construction and combination which I here set forth as of my invention.

I *claim*, first, the employment of the rods A A^1 at each end of the car united by flexible connexions passing round compensating pulleys, substantially as set forth, said rod transmitting the braking power by mutual contact of their outer ends or heads, as set forth.

Second. I claim the compensating apparatus, substantially as set forth, the same consisting of the pulley levers E E^1, with one end attached to the car and the other to the bumpers, and the pulleys C C hung at the centres of these levers for tightening or slacking the

chains B B^1 so as to vary the distances of the ends of the rods A A^1 directly with the variations of the bumpers or the distance between the cars.

No. 19,223.—George W. Windsor, of Allegheny, Pa.—*Improvement in Railroad Car Brakes.*—Patent dated January 26, 1858.—This invention consists in the use of a brake for locomotive or railroad cars operating to stop their progress by pinching the rails on which the wheels run, which is effected by means of levers *d d* working in the threads of a screw *s* cut on the axle *c*, operated at the will of the brakeman.

Claim.—The use of a brake constructed as described and operating at the will of the brakeman by means of levers working in the threads of a screw cut on the axle of the car or locomotive wheels, to pinch the rails on which the wheels travel and thus retard the progress of the cars.

No. 19,192.—Samuel Gumaer, of Chicago, Ill.—*Improvement in Railroad Car Brakes.*—Patent dated January 26, 1858.—The object of this invention is to check the rotation of the wheels without stopping them, and arrest the motion of the car by the friction of a shoe forced upon the rail.

The inventor says: I disclaim all combinations of shoes and rubbers for breaking upon both rail and wheels when such combinations are designed and arranged to act either simultaneously or first upon the rail. I also disclaim all shoes acting rigidly upon the rail as forming no part of my combination. I further disclaim the use of cams in applying brake rubbers.

But I *claim* the loosely hung rubbers and spring-bottomed shoe, connected as described in combination with the tri-branched cam, when the lower toe of the cam acts upon the spring and the said parts are all relatively so arranged th the rubbers areapplied to the wheels prior to the application of the shoe to the rail, substantially as and for the purposes set forth.

No. 19,260.—Nathaniel Potter, of Hillsdale, Mich.—*Improvement in Railroad Car Brakes.*—Patent dated February 2, 1858.—The nature of this improvement is, that by using the balls *l m* either brake wheel may be actuated separately irrespective of the other, while the balls do not interfere with the free use of both brake-wheels together if desired.

Claim.—The combination of the balls *l m* and stops *h i* with chains H I and "oscillator" F, arranged and operating substantially in the manner and for the purpose specified.

No. 19,599.—Stephen M. Whipple, of North Adams, Mass.—*Improvement in Railroad Car Brakes.*—Patent dated March 9, 1858.—This invention consists in a combination of two quadrant levers T T and two horizontal levers B B with each other and with the brake-bars of the track, and also with the operating connecting through the fulcrums D D and sliding centre E for the transfer of any and all the forces of a moving train from the operating connexion of the brakes.

Claim.—The combination of levers, pulleys, and chains, operated and arranged substantially as described, by which a brakeman on the rear end of the last car of the train is enabled to brake the train.

No. 19,734.—Daniel H. Feger, of Cincinnati, Ohio, assignor to Himself and Mahlon M. Wombaugh, of said Cincinnati.—*Improvement in Railroad Car Brakes.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the friction pulley J concentrically on the front axle D of the truck, and combining the same with the brake E E and with the sliding buffer or pulling bar N by means of the pivoted vertical spring friction block K, pivoted horizontal rising and falling shoulder bar O Z Z, and transverse pins P P, said parts being arranged relatively to each other and operating in conjunction, substantially as and for the purposes set forth.

No. 19,917.—Gideon Dorsch, of Schenectady, N. Y.—*Improvement in Railroad Car Brakes.*—Patent dated April 13, 1858.—This invention consists in combining the ends of the brake levers with an endless chain, by which the levers are operated.

The inventor says: In itself considered, I do not claim the endless chain *b*.

But I *claim* combining the ends of the levers E E with an endless chain *b*, as and for the purposes set forth, when said levers are hung and operated as described.

No. 20,237.—George W. Zeigler, of Tiffin, Ohio.—*Improvement in Railroad Car Brakes.*—Patent dated May 11, 1858.—The nature of this improvement consists in the application of power to the wheels through the rotation of a rod system continuous throughout the train and in so applying the power to this rotary system that the operator may always graduate the applied pressure to the resistance to be overcome.

The inventor says: I *claim* the application of pressure to the rubbers by a longitudinal rotary and under the truck, combined with cams C C^1, arranged and operating substantially as described.

I also claim, in combination with the rods and cams of the several cars, as described, the universal joint coupling H, constructed and operating substantially as specified, to connect the aforesaid rods throughout the train.

I further claim transmitting the power to rotate the rods through a spring indicating apparatus, substantially as and for the purpose specified.

No. 20,339.—Christian H. Eisenbrandt, of Baltimore, Md.—*Improvement in Railroad Car Brakes.*—Patent dated May 25, 1858.—The nature of this improvement consists in constructing a car brake wherein can be applied the principle of screw and lever directly to the axles of the car wheels.

The inventor says: Being well aware that rubber devices and friction rollers have been applied to the partial surface of axles, I do not claim such devices.

But I *claim* the manner or mode of direct application to the axles of the wheels, of the lever, and screw L *m m* d^2 b^2, with the clasping

boxes *f f*, griping collars *y z*, and the pivot and socket axles *g h*, the pendant bearings *c c c*, with the box seats *e e e*, the connecting yoke eye rods c^2 d^2 *o o o*, the ear guides X X, the whole arranged, combined and operating with the other devices described, and substantially in the manner set forth.

No. 20,429.—Thomas Hopper, of Newark, N. J.—*Improvement in Railroad Car Brakes.*—Patent dated June 1, 1858.—In the engraving, *n* is a lever connected with the journal and placed at right angles with the arms of the bumper *c; e* is a sliding bar placed between the arms of the bumper, and extending from the face of lever *n* to the coupling-link; lever *n* rests against the sliding bar *e* by means of a spring *m*. The operation is to hold the sliding bar *e* against the coupling-link as the cars separate or close together; lever *n* acts in connexion by the link and bumper.

The inventor says: I *claim* lever *n*, sliding bar *e*, eccentric wheel S, connected with lever *n* by means of a shaft and two universal joints, operated upon as specified.

I also claim brake rods *b b*, connected from *b* to *b* by reversible fulcra transverse lever *t* attached to fulcrum 1, and operated by means of the main rod *a*, substantially as set forth.

No. 20,468.—G. W. Cummings, of Philadelphia, Pennsylvania, assignor to D. K. Jackman and Joseph Hanna, of Lock Haven, Pennsylvania.—*Improvement in Railroad Car Brakes.*—Patent dated June 1, 1858.—The rods may be operated upon at any point, and pulled in either direction to throw back the rod L out of catch with the dog *p*. The arrangement of the shaft E, arm or crank G, crank I, rods K, chain *g*, and windlass attachment *h i k*, constitute the common hand braking mechanism; and to apply this automatic braking arrangement to cars with such common mechanism it is only necessary to put the dog *p* on the buffers, attach the rod L and crank H, and the apparatus for unshipping the said rod L.

The inventor says: I *claim*, first, the combination of the drawhead *c*, dog *p*, pushing rod L, crank H, shaft E, crank I, rods K, and blocks F, when the several parts are arranged to operate as and for the purpose as specified.

Second. The mechanism for throwing lever L out of gear, consisting essentially of the rod D, chain N, and stationary pulley O, the whole arranged and operating as set forth.

No. 20,769.—Henry M. Collier, of Binghampton, New York.—*Improvement in Railroad Car Brakes.*—Patent dated June 29, 1858.—The nature of this invention consists in attaching the brake-block or rubber B B to an adjustable rock-shaft R, which has a movement toward and from the wheel simultaneous with said rubber, and which has a connexion with the car axle or axle box I by means of a chain and rod, strap, or some analogous device, so that when the rock-shaft is rotated it winds up, or shortens said connexion, or is otherwise depressed. It also consists in the use of a spring H attached near its centre to the rubber, and fastened upon the truck frame C C C.

Claim.—The arrangement and combination of the rock-shaft R with the spring H and the axle boxes I I, substantially as shown and described.

No. 21,038.—Wilbur B. Wait, of Portsmouth, New Hampshire.—*Improvement in Railroad Car Brakes.*—Patent dated July 27, 1858.—By this invention, in order to brake up one or more cars of a train, it is only necessary for the engineer or brakeman to raise the shaft I by means of the lever K, so as to draw upon the belt D, and hence all necessary power is acquired from the revolution of the axle E; or in case said belt and power is not needed, the engineer or brakeman may "brake up" one or more cars by simply turning the cog-wheel A by hand, as may be desired

The inventor says: I do not claim the use of brake-chains and connecting brake-rods, as the same are now generally applied to car brakes.

But I *claim* the combination and arrangement of the frame F, together with the connecting joints Q Q or P P, with latch L attached, the shaft I, with drum C attached, connecting with the shaft A by an eye R^1, the belt D passing round the axle E, the lever K, the levers or arms C, with brake-chains d^1 and rods E attached, the guide-bar G and slot O, the main shafts M A and *g*, with cog-wheels attached thereto, and the slots N and eyes or links R and R^1, in the manner substantially as shown in figs. 1 and 2, and as described.

No. 22,213.—Asa L. Whipple, of Elmira, New York.—*Improvement in Railroad Car Brakes.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim as my invention the manner of securing the armature G to the shaft C by means of a loose collar and bur.

But I do *claim* them, in combination with the spring, for a new purpose, viz: a mode of carrying the intensity of the connexion of the armature with shaft C, and allowing that connexion to give way when the revisiting force is sufficient to prevent the car wheels revolving and causing them to slide.

I also claim the improved method of communicating the motion of the car wheels to their brakes through the medium of electro-magnetism, consisting substantially of the spring-jaws P P and W W, and of the insulated rings on the axis of the magnet, arranged and operating in combination with the said magnet and adjustable armature, in the manner and for the purposes specified.

No. 22,229.—Henry E. Chapman, of Albany, New York.—*Improvement in Railroad Car Brakes.*—Patent dated December 7, 1858.—This invention has reference to applying the brakes directly to the rail instead of to the wheels, or between the periphery or tread of the wheel and the rail.

Claim.—The arrangement of the shaft L, having upon it the right and left hand screw threads, the right and left hand nuts K K^1, the rods J J^1, the levers I I^1, the shafts H H^1, the levers G G^1, and the

cross-bar F, in their relation to each other and to the brake, as and for the purposes set forth.

No. 22,455.—JOHN W. RICE. of Springfield, Massachusetts.—*Improvement in Railroad Car Brakes.*—Patent dated December 28, 1858.—This invention is an improvement on car brakes patented by the above named inventor August 3, 1858.

The inventor says: I *claim*, first, the suspension-bar H and crotch-bolt I and nut J, when arranged and operating in the manner substantially as and for the purposes substantially as described.

Second. I claim the continuous rod V and loose pulley K, in combination with the suspension-bar H and crotchet-bolt I and nut J, when arranged and operating substantially as and for the purposes set forth.

Third. I claim the loose collars P P on the standards *g*, when applied in the manner and for the purposes substantially as set forth.

No. 20,627.—C. B. COTTER, of Harrisburg, Pa.—*Improvement in Car Couplings.*—Patent dated June 22, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The peculiar arrangement of coupling bar A, as constructed in combination with the spring jaws *c e*, the lugs *m*, and the right and left screw *g*, for the purpose of making a self-connecting and self-disconnecting car coupler and friction bumper, as is fully described.

No. 21,737.—GEORGE S. BISHOP, of Washington, D. C.—*Improvement in Car Couplings.*—Patent dated October 12, 1858.—This invention relates to constructing the bumper head and pin in such a manner that the coupling will be automatic, and allowing the link to be set at different inclinations to accommodate cars of different height.

The inventor says: I *claim*, first, the loop bolt or pin B, in combination with the slots H and L, and slide block with grooves, as described.

Second. I claim the manner of supporting the loop bolt, by allowing the short arm to rest on the bumper head, as N, instead of resting on a block or ball, whether the slots H and L be separated or connected, when constructed and operated in the manner set forth.

No. 19,021.—JAMES M. CONNEL, of Newark, Ohio.—*Improvement in Railroad Car Couplings.*—Patent dated January 5, 1858.—In the engravings B B^1 are the draw heads of the cars to be connected. The coupling consists of two plates *a a*, held at one extremity of the link *b*, and encased in a cylinder of vulcanized india rubber C. In the inner faces of the plates *a a* are cavities *d d* for the reception of projections *e e* on the tongue *f* of the link L. The plates *a a* are connected by chains *h h* with the platform P. Bolts *i* i^1 pass through the draw heads B B^1 and the links L and *b*, and unite the cars in the same manner as when the ordinary coupling bar is used.

The inventor says: I do not claim embracing a tongue by plates, when said tongue has a longitudinal movement between the plates, as shown in the expired patent of Hunt & Brown.

But I *claim* the plates *a a*, tongue L, link *b*, and chains *h h*, in combination with each other and the vulcanized india-rubber casing embracing the plates, when the connexion between plates and tongue is such as to prevent their moving longitudinally upon each other, as set forth.

No. 19,049.—JOHN SCHNEIDER, of Chicago, Ill.—*Improvement in Railroad Car Coupling.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The circular rotating hook bolt, in combination with tumbler and trigger, when so constructed and arranged as to operate substantially in the manner set forth, that is to say, when both the coupling and uncoupling is effected automatically, by lifting the bolt for the passage of the link, either by the direct action of the link against the tumbler, or by the downward pressure upon the trigger, in, and by the act of one of the cars running off the track, respectively, for the purpose specified.

No. 19,186.—GEORGE W. DOOLITTLE, of Richfield Springs, N. Y.—*Improvement in Railroad Car Coupling.*—Patent dated January 26, 1858.—The nature of this invention consists in providing a convenient means for connecting one car with another, and also in providing certain agencies by means of which a car will be self detached on the occurrence of an accident, by means of which it is thrown off the track.

The frame *a b c* is the same as that ordinarily used, its horizontal length and means of attachment to the platform and body of the car are the same as now in use, and may be varied to suit convenience; *d* is the draught bolt which is usually dropped into the link *e* by the use of the hand, as the cars are brought together. Around the bolt is placed the spiral spring *f*, when the cars approach each other for the purpose of being connected, and the link *e* is brought under the bolt; the person attending to the connexion, standing on the platform, places his foot on the end of the bolt and passes it down, the bolt passing through the link *e* and through the lower end of the frame, where it is caught around its neck by the clasp *h*.

The inventor says: I do not claim as new the general form of the buffing frame, as shown and described, nor do I claim the use of the draught link of the plain form as here used, as these are now in common use.

But I *claim* the mode I have for inserting the draught bolt, and catching the link while the operator is standing on the platform, as well as the mode of holding the bolt down by the clasp *h* beneath, while drawing, as is also described.

I also claim the mode of releasing the hold on the draught bolt which I have described, by the self-operating agency of the pin V, and the thumb-piece *w*, acting as a self-uncoupler as described, the whole being combined and arranged substantially as set forth.

No. 19,204.—JOHN PEARSON, of Stirling, Iowa.—*Improvement in Railroad Car Coupling.*—Patent dated January 26, 1858.—In opera-

tion the coupling bolt passes through the extremity *m* of the link. If one of the cars thus connected deviates from the track one of the levers *h* will press against the pins *i*, and the end of the links open so that the coupling bolt may slip out and disconnect the cars.

The inventor says: I do not claim the use of a single spring link as a coupling.

Nor do I claim draught pieces held together by an exterior spring.

But I *claim* the combination link made up of the spring *c*, bent as specified, iron piece *a*, and arms *b b*, connected therewith by interior projecting points, as described, when used in combination with the levers *h*, and pins *i i*, substantially as and for the purpose set forth.

No. 19,794..—JOHN W. RICE, of Springfield, Mass.—*Improvement in Railroad Car Couplings.*—Patent dated March 30, 1858.—The nature of this invention consists in providing a hook link C with notches I I and L on the under side, and a fulcrum drop D, which serves to hold the hook link at any desired height, and also to hold the hook line down to keep it from working when the cars are in motion, by means of the notches. It also consists of passing an iron rod G through the fulcrum drop, with a handle *h* on each end, and making the rod fast in the drop, by which means the hook can quickly be raised to any desired height, thus uncoupling the cars.

The inventor says: I do not claim the hook link, as that has been used before, but was found defective, as the hook link would work out when the cars were in motion, and hence was abandoned as dangerous and unsafe.

What I *claim* is the fulcrum drop D, and notches *l* and *l l*, on the under side of the hook link C, and the rod G, when used in combination with each other, for the purposes substantially as described.

No. 19,925.—ALBERT HEBBARD, of Galesburgh, Ill.—*Improvement in Railroad Car Couplings.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim —The combination of the round or oval ring A *a*, or clevis attached to the hook of the bumper, the same to act as a self-coupling, the latch and the catches, or any other equivalent substantially the same, so as to enable any one to use the bumper and ring as a self-coupling.

No. 20,139.—WILLIAM H. BURRIDGE and NATHAN L. POST, of Cleveland, Ohio.—*Improvement in Railroad Car Couplings.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim* making the fulcra of the jaws forward of or more towards the centre of the coupling bar or link than those parts of jaws which catch the head of the link, so that the draught upon the link has a tendency to close the jaws substantially as described.

And in combination with vibrating jaws having their fulcra arranged as described, we claim the peculiar construction of the link bar, substantially as described, by which the said link connects the couplings when the cars are run together, and by which they uncouple

or disconnect themselves when one of the cars is thrown from the track, or the link vibrated beyond a given angle as described.

No. 20,264.—FRANCIS E. GLEASON, of Columbus, Ohio.—*Improvement in Railroad Car Couplings.*—Patent dated May 18, 1858.—When the bar *c* is depressed by pressing upon C, it presses upon the spring D, the catch E and rods *a a* will assume the position shown by the dotted lines in fig 2, and when they take this position the catch E falls forward beyond the bar *c*.

Claim.—The arrangement and construction of the catch E, with relation to the bar *c*, and this in combination with the foot piece C, bars or rods *a a*, spring D, and link B, all being operated in the manner and for the purpose set forth.

No. 20,392.—ALLEN LAPHAM and DANIEL H. BURNS, of Brooklyn, N. Y.—Assignors to Themselves and CHARLES A. DURGIN, of New York, N. Y.—*Improvement in Railroad Car Couplings.*—Patent dated May 25, 1858.—The object of this invention is to do away with the objection to friction, ice, rust and uncertainty of action which is often found in ordinary car couplings from some of these causes.

The inventors say: We are aware that automatic car couplings have been used, examples of which may be seen in the patents of D. R. Pratt, December 12, 1848, and A. G. Safford, December 11, 1849, and we therefore lay no claim to such.

But we *claim* a tilting hook C and lever D, acting in combination, constructed substantially as described, whereby the coupling mechanism is rendered automatic and capable of being. disconnected instantaneously irrespective of the tension or draught of cars, substantially as set forth and specified.

No. 20,817 —J. H. QUACKENBUSH, of Owasso, Mich.—*Improvement in Railroad Car Couplings.*—Patent dated July 6, 1858.—The pin or bolt *c* which secures the link in the head is attached to a lever B, constructed in a peculiar way, so that the pin may be raised and the link released from within the car to which the coupling is directly attached, and the pin also released, and the link released in case the car or its adjoining one be thrown or runs off the track.

The inventor says: I am aware that various forms of self couplings have been devised, and I do not claim separately any of the parts irrespective of their construction, arrangement and relative position as described, whereby the device is not only rendered self-coupling but is also rendered susceptible of being detached from within the cars, and the cars also if thrown from the track made to disconnect themselves.

I *claim* therefore as new, and desire to secure by letters patent, the lever B, formed of two bars *c a*, fitted in the head or socket A, provided with a pendant *f*, connected with the pin or bolt C, and having the chains D E, attached to it, the whole being combined and arranged as and for the purpose set forth.

No. 21,486.—Jason W. Corey, of Crawfordsville, Indiana.—*Improvement in Railroad Car-Couplings.*—Patent dated September 14, 1858.—The nature of this invention consists in the arrangement and combination of the hinged coupling hook, slotted connecting link and double inclined plane, whereby, when the preceding car of a train descends into a stream or other dangerous place, it shall instantly by its weight upon the link, cause it to elevate the forward portion of the hook, and thus uncouple itself from the hind cars and avoid pulling said cars along with it, and whereby, also, the automatic uncoupling of the cars, whenever one car on the train runs off the track to the right or left, is accomplished.

The inventor says: I *claim* the arrangement and combination of the hinged coupling hook B *e*, slotted connected link C *d*, and double inclined plane D, substantially as and for the purposes set forth.

No. 21,502.—Charles P. Kenyon, of Wilson, North Carolina.—*Improvement in Railroad Car-Couplings.*—Patent dated September 24, 1858.—C C are supporting ridges on the top and bottom of the outside of the coupling box A, for the purpose of strengthening it otherwise weakened by the grooves *i i*; *q* is the coupling bolt; *y* the coupling link; *v v* lateral concave grooves in the bottom of the inside of the coupling box, said grooves being on each side of groove *i*; S is the slide working in the coupling box A; *r* the pusher for the purpose of pushing forward the slide in the grooves *i i* in the coupling box; *t* is the fastener for the purpose of retaining the slide and pusher in the coupling box.

The inventor says: I *claim* the combination of the grooves *i i* supporting ridges C C, lateral grooves V V, pusher *s*, and block S, arranged and operating substantially as described.

Second. I claim adjusting the coupling to suit cars with platforms of different heights by means of the slide E, and a bolt passing through the holes F, arranged and operating substantially as described.

No. 21,901.—Philander Perry, of Troy, New York.—*Improvement in Railroad Car-Coupling.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the horizontally and vertically moving links *f f* with the parts C D E, which adjust said links *f f* perpendicularly so as to suit different heights of platforms, and with the vertical lever L and horizontal rod R for moving the links apart horizontally, so as to disconnect the cars, and with the sliding spring boxes *a a* which allow the cars to approximate without straining the pins when the cars crowd upon one another, substantially as and for the purposes set forth.

No. 21,356.—William Painter, of Wilmington, Delaware.—*Improvement in Car-Seats.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, jointing the ends of the backs F of the seats to the swinging bars E at points between the centres and corners of the same, and combining and arranging the pins or studs G on the ends of the backs F, and the pins or studs I on the faces of the arm rests, or on the ends of the backs, in such relation to the bars E and slots H, as to enable them to be suspended in the proper relation to the bottoms A of the seats to form the usual seats, or to be swung and extended to form reclining or sleeping couches, substantially in the manner described.

Second. I also claim the combination of the spring bars or catches *c*, having studs at their ends and segmental slots D^1 with the swinging seat bottoms, substantially in the manner and for the purposes described.

No. 21,870.—A. C. Blondyn, of St. Joseph, Mo.—*Improvement in Car Seats.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination and arrangement of the swinging frame B, extending and rolling mattress E, the roller D, shaft H, roller H^1, and cord G, or their equivalent for operating said mattress and the sectors N, to which the seat bottoms M are secured, by which a seat facing either end of the car, or a reclining or sleeping couch capable of accommodating the two occupants of the seat can be obtained, the whole being constructed and operated substantially as described.

No. 21,967.—P. P. Joseff, of Philadelphia, Pa.—*Improvement in Car Seats.*—Patent dated November 2, 1858.—In the engravings, figure 1 is an end elevation of two seats, the parts of one being arranged in the proper position to accomodate persons in a sitting posture, and the back and extension bottom of the other being arranged in the positions they are made to assume when the seats are converted into sleeping couches.

Claim.—The combination and arrangement of the slotted vertical bar E, having grooved wheels K on its face, cogged plate E, pinions D F^1, radical arm D^1, and wrist pin or stud C, projecting from the end of the movable seat bottom A^1, and jointed crank G, substantially in the manner described.

No. 21,985.—John W. Sibbet, of Cincinnati, Ohio.—*Improvement in Car Seats.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing every alternate seat in two distinct parts, and providing the upper detachable portions A^1 with guiding hubs L at their ends, to which are attached straps or bands K for elevating them, horizontal spring bars N, whose ends enter slots J in the guide columns or posts I for sustaining them, in conjunction with the straps or bands K in their elevated portions A^1, and combining with the said upper detachable portions A^1, and the permanent seats A, pieces of cushioned or stuffed cloth Q or other material, capable of being packed in the boxes *b* of the seats, the whole being constructed, arranged, and operated substantially as described.

No. 19,079.—Jacob S. Denman, of Brooklyn, N. Y.—*Improvement in Railroad Car Seats.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Attaching the back C at one end to the side B of the seat, by means of the arm E, bar F, with roller K attached, arm G and ratchet H, arranged substantially as shown, and used in connexion with the curved ledge L and pawls I, the opposite end of the back being connected to the side B^1, and properly guided by the arm E^1, roller *d* and guide N, or their equivalents for the purpose set forth.

No. 19,910.—DAVID BUZZELL, of Charlestown, Mass.—*Improved Railroad Car Seat.*—Patent dated April 13, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim* an improved railway chair or combination of stationary seat, a reversible back, two swinging foot rests, and mechanism so connecting the said foot rests and the reversible back as to enable the foot rests to be operated by the back, in manner and under circumstances substantially as described.

I, also, claim making the reversible back A in three parts, K *l m*, arranged and applied together, substantially in the manner and so as to operate as specified.

I, also, claim the application of the springs to the head rests, in the manner set forth, such head rests being provided with latches, or their equivalents as specified.

No. 20,654.—JOHN MILLAR, of Paterson, New Jersey.—*Improved Railroad Car Seat.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that car seats have been arranged to turn horizontally; but I am not aware that the two seats of each base or stand have been made separately or detached, and so connected to the base or stand that they may be turned independently of each other.

Neither am I aware that the fastening or catch, arranged as shown, has been used in connexion with a pivoted back. I do not claim broadly, therefore, the horizontal rotating movement of a car seat, for the purpose of adjusting the same to face in either direction.

But I *claim* the two horizontal rotating seats B B attached to the face or stand A as shown, in combination with the pivoted backs *d* attached to the seats B and arranged with the bars C, having the rods D and springs F attached, and the pins *h* connected with the upright parts *c* of the seat, the whole being arranged substantially as described.

No. 21,052.—JOHN MCMURTRY, of Fayette county, Kentucky, assignor to JAMES B. CLOW and JOHN BEST, of Fayette county, aforesaid.—*Improvement in Railroad Car Seats.*—Patent dated July 27, 1858.—The nature of this invention consists in making the seats in cars, &c. adjustable for night travel so as to form a comfortable birth at night and at the same time be readily adjusted for travel by day.

The inventor says: I do not claim the quadrants *d d* and P P, with their thumb-screws separately. Neither do I claim the mode of hingeing the seats B and *f* together, as these devices are not new.

But I *claim* the combination and arrangement of the seat back, footboard, and quadrants, for the purpose of making the seat adjustable and reversible at pleasure, substantially as described, and for the purposes set forth.

No. 21,178.—JAMES M. BAIRD, of Wheeling, Virginia.—*Improvement in Railroad Car Seats.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the oscillating pedestal B and the vertical lever-stay L, in combination with the stationary seat-stand D and the arrangement of the slats in each, by which to adjust the seat to any position required with the wheel *k*, and also the arrangement by which the backs are changed and held permanently to their places by the arm-catch *h* and *g* and drop-catch marked B.

Second. I claim the arrangement of the oscillating foot-brace, in combination with a lady's foot-stool, as seen in fig. 3.

Third. I claim the arrangement of the spittoon-holder, as seen at fig. 4, for the purposes described.

No. 21,352.—C. M. MANN, of Detroit, Michigan.—*Improvement in Railroad Car Seats.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the two car seats, constructed as stated, substantially so that they may be turned from the ordinary form of seats, one to the right the other to the left, one-fourth round, bringing the ends next the windows to meet together, and the backs or hinges may be turned over and fall upon the ledge upon which the ends before rested, and are held firmly in place as a bed by the pin *c*.

I also claim the bed formed as above claimed, in combination with the door *h* and pillow, which, being on hinges, opens into place upon the bed for use, or may be instantly shut out of the way and out of sight at pleasure.

I also claim the columns B, each containing and concealing two counter weights, in combination with the upper and lower movable beds, as described, and for the purposes mentioned only.

I also claim the general device as set forth, combining the upper and lower beds and seats with the legs and columns and counter weights, all convertible as set forth, either into beds or seats, for four, at pleasure, so that all, or a part of them, may sit up or lie down in the space occupied by four persons.

No. 21,326.—JOHN C. DE WITT, of West Bloomfield, N. J.—*Improvement in Railroad Car Seats.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Sustaining the bottoms D of the car seats on the slotted corners of the oscillating cradles A, capable of being turned on horizontal transverse shafts B, and combining and arranging therewith slotted bars G, connected at their upper ends to the backs I of the seats by bars H, and oscillating levers K, and movable trucks L, with tilting platforms O, in such a manner as to enable the seats to be sustained and secured in the proper position to accommodate the pas-

sengers in a sitting posture, or their bottoms D, and backs I, to be brought to the proper angle of inclination with the tilting platforms O, and in relation to each other to form sleeping and reclining couches or berths, substantially as set forth.

No. 21,727.—DRAPER STONE, of Milwaukie, Wisconsin, assignor to Himself and E. T. TURNER, of Grafton, Wisconsin.—*Improvement in Railroad Cars.*—Patent dated October 5, 1858.—The claim and engravings expain the nature of this invention.

The inventor says: I *claim*, first, providing the back frame D, of the high back seats with hinged cushioned frames F F^1, at different or the same points of elevation, and jointing the front ones F of them to horizontal bars E E^1, secured to the back frame D and attaching and combining therewith bracing or supporting bars Z, and slotted bars J, in which their curved ends move, in such a manner as to enable the said cushioned back frames F F^1 to be folded together with the back frame D between them to form comfortable and distinct reversible seats, as represented in figure 3, or raised and extended to the high back seat frame next in advance to form sleeping berths or couches on different horizontal planes, as represented in figures 1 and 2, as described.

Second. I also claim the combination and arrangement of the double hinged cushioned back frames L L^1, of the low back seats, with and in the relation to the double hinged cushioned bottoms N N^1, curved bars K, and spring notched bars M, attached thereto, and horizontal ledges or ribs I on the sides of the uprights A of the frame, substantially in the manner and for the purpose set forth.

Third. I also claim giving a greater elevation to the hinged cushioned double back and bottoms N^2, of the low back seats, by combining therewith the pins or studs on the edges of the former lugs or projections in which they rest, and rock shaft P, and bars or arms *o*, attached thereto, and spring notch bars Q, and lugs or projections in which they rest, and rock shaft P, and bars or arms *o*, attached thereto, and spring notch bars Q, and lugs or projections R, on the high back seat frame next in advance, the whole of these parts being operated and arranged as described.

No. 22,471.---GEORGE L. DULANEY, of Mount Jackson, Va., assignor to Himself and SOLOMON K. MOORE, of said Mount Jackson.---*Improvement in Railroad Car Seats.*---Patent dated December 28, 1858.---The frame A of each seat consists of two end uprights which serve as arm rests for the passengers, connected together by a platform A^1, on the edge of which is secured a right angled rib, extending, like it, from one upright to the other, and being bevelled on the upper edge. To the horizontal platform A^1 is attached, by bars B, the seat bottom C, which consists of a horizontal frame work or plank having a cushion upon its upper surface, and bevelled on one of its edges to correspond with the bevelled edge of the right angled rib upon which it rests, and having a right angled rib *r* secured to its opposite edge, which rests on the edge of the horizontal platform when the bottom is brought to the position to form a seat.

Claim.---The combination and arrangement of the movable seat bottoms C, hinged folding cushions G, sliding slat blind frames H^1, and hinged cushioned frames I, and cushioned flaps K L on the backs E of the seats, and slides or panels M.

No. 20,622.---SIDNEY C. CASE, of Detroit, Mich.---*Improvement in Railroad Car Seats and Berths.*---Patent dated June 22, 1858.

The inventor says: I am aware that chairs have been constructed with hinged seats and backs, for the purpose of enabling them to be folded together to occupy less space when not being used, and, therefore, do not lay claim to the particular device for accomplishing this object.

But I *claim*, first, extending the backs A of the seats nearly to the floor of the car, and suspending said backs on pivots or centres a short distance above the lower ends, and providing the seat portions C with pins *c* near their vibrating edges, which enter and rest in corresponding mortises formed in the sides of the car, and partitions forming the ends of the seats, substantially as described.

Second. I also claim the peculiar method of connecting the berth platform E E together and raising them out of the way to the roof of the car, when not desired to be used, and lowering them to form berths by means of segmental grooves H H^1 H^2 H^3 formed in or secured to the transverse partitions D, and round and oblong pins or studs G G on the ends of the platforms E F which traverse in them; the said grooves being so formed and in such relation to each other as to enable the berth platforms to be rolled upward, connected, and tilted, and suspended near the roof of the car, and detached and lowered as occasion may require, substantially in the manner and for the purpose set forth

No. 21, 251.---J. N. FORRESTER, of Fairfax Court House, Va.---*Improvement in Car Seats and Couches.*---Patent dated August 24, 1858.--The nature of this invention consists in combining with car seats, which have an adjustable bottom and back, an auxiliary back and bottom which are adjustable; said auxiliary back and bottom being arranged below the bottom and back of the main seat.

Claim.—First, combining with car seats D C an auxiliary back and bottom which are adjustable, said auxiliary back and bottom C^1 D^1 being arranged and operating substantially as and for the purposes set forth.

Second. The ratchet teeth B B^1 and spring palls F F, combined and arranged in the manner and for the purposes set forth.

No. 21,331.---K. FREEMAN, of Fond Du Lac, Wis.---*Improvement in Car Seats and Couches.*---Patent dated August 31, 1858.---The claim and engravings explain the nature of this invention.

Claim.---Making one of the ends of car seats detachable, and the seats on one side of the car so that they can be brought in direct contact with those immediately opposite, in the manner described, so as to transfer the longitudinal passage way from the center to one side of the car, and in combining with the said car seats a series of bars

E F L, and rods G G^1 G^2 G^3, capable of being folded together and contained within the lower parts of the seats, or raised and elongated so as to form supports for horizontal single sleeping berths or couches A^1 A^2 A^3 A^4, placed one above the other at suitable distances apart, the whole being constructed and operated substantially as set forth.

No. 21,412 —R. E. Fowler, of Clayton, New York.—*Improvement in Car Seats and Couches.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of a numbering machine B, and pawl F or its equivalent, with a printing press, for the purposes and substantially as set forth.

I also claim the adjustable plate E in combination with the numbering machine B, for the purposes and substantially as described.

No. 21,536.—Alexanddr M. Holmes, of Eaton, New York, assignor to Himself and Albert G. Purdy, of said Eaton.—*Improvement in Car Seats and Couches.*—Patent dated September 14, 1858.—The nature of this invention consists in providing a couch so fitted and adjusted to a car seat as will enable the passenger to recline or lie down for the purpose of repose when travelling.

A, B, C, D, is the ordinary car seat; E, F, G, H, is the movable seat or bench when drawn out; I, J, is the back; K, L, is the upright lever; K, M, is the upper arm; L, N, the lower arm; O, P, Q, is the semicircle; R, S, the wheels; T are the catches or dogs to hold the seat in its proper place.

Claim.—The combination and arrangement of the specific devices set forth, substantially as described for the purposes indicated.

No. 22,283.—G. W. Fairfield, of Holyoke, Massachusetts.—*Improvement in Car Seats and Couches.*—Patent dated December 14, 1858.—This invention consists in constructing the backs of seats of a series of slats, which are placed parallel to each other in a horizontal direction longitudinally across the backs, being attached to the cloth which covers the same, so that the backs slide easily up and down in curved grooves of such a shape that when the seats are arranged for persons in a sitting position, the backs may be brought to face either way, and that the same may be arranged in a horizontal position in which they are supported on one side by a groove in one of the beams, which extends in a longitudinal direction from one end of the car to the other, and on either side by a similar groove in a corresponding beam which slides up and down in suitable guides at the outside of the seats, so that it may be brought to the suitable height when the seats are to be arranged for sleeping couches while it is pushed up and fastened close under the roof of the car when not needed; and at the same time the seats are so constructed that they may be unfolded.

Claim.—The combination of the flexible backs with the curved grooves F and *d*, and the sliding beam G, so that the backs may be brought into a horizontal position, substantially as specified.

No. 22,338.—Horace L. Arnold, of Elkhorn, Wis.—*Improvement in Car Seats and Couches.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, jointing the ends of the seats next the sides of the car to a stud or bolt B, so as to enable them to be arranged to right angles to the sides of the car, or to be swung round or turned to a diagonal position, and to thus occupy the spaces between them longitudinally and increase the width of the passage-way, and thus admit of their elongation to convert them into distinct sleeping berths or couches, as set forth.

Second. I claim the combination of the slotted bar F^1, eccentric lever clamp H, and plates I K, with lips or raised edges for firmly fastening the seats in the required position to answer their designs, as described.

Third. I also claim the combination of the slides O, or their equivalents, and the T-shaped bars M M^1 for sustaining the backs N of the seats in an inverted position and bolts or slides *s* for securing the backs in their said inverted position, as described.

No. 22,462.—Nathan Thompson, jr., of Brooklyn, N. Y.—*Improvement in Railroad Car Seats and Couches.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of longitudinal seats with a raised platform and berths or reclining places beneath the seats and platform, substantially in the manner described.

Second. In combination with berths or reclining places beneath a seat, and a raised platform serving as a foot-stool to such seat, I claim a back to the seat capable of being moved, or of change of place, substantially as specified, so that it may serve at will as a back, or as a couch above the main seat.

Third. I claim making the top of the platform, or foot-place pertaining to the main tier of seats, movable, substantially in the manner and for the purposes specified.

Fourth. I claim arranging within a railroad car longitudinal couches along or upon the floor, and other couches or seats above these with backs which may be converted into couches and passage-ways, or a passage-way from which free access may be had to all the seats and couches, the arrangement of the whole being substantially in the manner described.

Fifth. I claim combining with longitudinal passage-ways, or a longitudinal passage-way, longitudinal seats, when these seats have backs so constructed, substantially as specified, that they may be converted into couches, or, when these seats are free, to slide transversely, substantially in the manner described, the combination as a whole being as set forth.

Sixth. I claim adjustable or movable end seats, substantially such as described, and serving, if necessary, as steps in combination with longitudinal car seats having backs capable of conversion into couches, substantially in the manner specified.

No. 21,952.—Perry G. Gardiner, of New York, N. Y.—*Improvement in Car Springs.*—Patent dated November 2, 1858.—This spring is constructed of an oblong plate of steel, as shown in figure 1, of uniform thickness from end to end, and of uniform width, except that at the ends on opposite sides, a very acute angular piece is cut from the plate, as shown at *a a*, so that when the plate is coiled into a spring the top and base will be in horizontal planes parallel to each other; this gives the spring at top and bottom an even bearing all round.

The inventor says: I *claim* as my invention the following named improvements and features in the conical coiled steel springs, viz:

First. Its construction out of a plate or bar, as described, not thinned, slotted, or hammered out at the ends, which is to constitute the apex of the spring.

Second. Nicking or compressing the face of the plate, as shown at the line, without breaking or cutting the fiber of the metal, for the purpose described.

No. 22,292.—Charles R. Hurlburt, of Seymour, Conn.—*Improvement in Car Springs.*—Patent dated December 14, 1858.—This improvement consists in constructing the spring with a case, in which is placed a series of metal rings and sheet metal disks, one-half or less than one-half of which disks have a raised portion in the centre, so as to give the springs alternately from the centre and the periphery, and with a suitable piston to press upon the rings and disks in the case.

Claim.—The combination of the two kinds of disks, figures 3 and 4, plane, and raised with the rings, figure 5, when the whole is constructed, combined, and arranged substantially as described.

No. 21,624.—Sanford Peatfield, of Ipswich, Mass.—*Improvement in Idia Rubber Car Springs.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application in the construction of car-springs of the combination knit and rubber fabric specified, in the following manner, to wit: the combination knit and rubber fabric being wound in several layers tightly round a central axis or "former," or placed flatwise, layer upon layer over the axis or former, and afterwards pressed and acted upon by heat until it becomes a compact or united universally yielding mass, substantially as and for the purposes set forth.

No. 19,767.—Perry G. Gardiner, of New York, N. Y.—*Improvement in Machine for testing and Measuring the strength of Car Springs.*—Patent dated March 30, 1858.—The nature of this invention will be understood from the claim and engravings.

Claim.—The combination and arrangement of the plunger G with the adjustable spindle N and adjustable knife-edge pivot *w*, and the guide-plate Q, arranged and operating in connexion with the balance beam so as to test the power of the spring and at the same time measure with great facility and rapidity the exact weight or pressure to which the spring has been subjected, the whole being adjustable to any required size or power of spring.

No. 19,219.—Henry Waterman, of Hudson, N. Y.—*Improvement in Railroad Car Springs.*—Patent dated January 26, 1858.—In the engravings *a a* show the leaves that compose the spring; *b* is a bearing piece which is denominated a distributer upon which the spring rests, the distributer being rigid to support the spring and its load at two determined points between the end bearings and its centre; *c* is the axle-box and *d d* are the end bearings.

Claim.—The combination of a series of bars or leaves of steel, as above specified, with the end bearings *d d* and the distributer *b* or their equivalents, substantially in the manner set forth.

No. 19,448.—David B. Rogers, of Pittsburgh, Pa.—*Improvement in Railroad Car Springs.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the so bending of a plate or a number of plates, as to form leaves of such shape that when placed one above the other, the highest and lowest points of one leaf shall be in contact with the lowest and highest points respectively of the next adjacent leaf, as recently patented.

But I *claim*, first, the forming of a spring of a square plate of thin steel by bending the four corners in one direction, or two corners in one direction and the other two in an opposite direction, as described.

Second. I claim the forming of a spring of one piece of thin plate steel, with antagonistic bearings by which is obtained a central equilibrium in or between a succession of squares, as substantially described.

No. 19,435.—Stephen Morse, of Springfield, Mass.—*Improvement in Railroad Car Springs.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the metallic cups A A fitting into each other, as described, filled with pieces or parts of India-rubber which has been used and in a measure worn out, when mixed with sponge, cork, or cotton, or any other substance, which, under compression, will prevent the India-rubber from solidifying.

I also claim casting one of the cups in the recess of the jaw in order to strengthen it, while at the same time the cup thus cast forms a part of the spring.

No. 20,148.—Andrew M. De Hart, of Reading, Pa.—*Improvement in Railroad Car Springs.*—Patent dated May 4, 1858.—The nature of this invention consists in the employment of loose horizontal and perpendicular semi-elliptic plate springs *a a a* and *b b* within a box C, the ends of the horizontal springs resting against and near the centres of the perpendicular springs, the weight of the car pressing upon the horizontal springs.

Claim.—The combination of the semi-elliptic plate springs *a a a* and *b b* as arranged with the box C, press block D and connecting rod E, substantially in the manner and for the purpose fully set forth.

No. 20,998 —John J. Fields, of Brooklyn, N. Y.—*Improvement in Railroad Car Springs.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: Disclaiming the mere application of elastic substances for springs, as well as disclaiming in full the invention, use, or application of perforated concave devices or forms, described and claimed by Fowler M. Ray, and by him designated as "frustums of hollow cones" with central rod.

I *claim* the cup or receptacle *a a a a* formed with the larger cavity *b b b*, the swell or ledge *c c c*, the sloping or conical cavity *d d d e e e*, the elastic hollow cone or sheath *f f g g*, the inverted cone plunger or core part *h h i i*, through all of which the whole elastic principle or property of the material or substance used is brought into requisition, and the pressure or weight applied is equalized or diffused throughout the substance employed, substantially as set forth and described.

No. 21,603.—Perry G. Gardiner, of New York, N. Y.—*Improvement in Tempering Steel Car Springs.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The subjecting the oil or fluid divided into small streams or showers to the contact of a blast of cold air while falling, by means of the cylindrical chambers or compartments, and the cylindrical air chamber operating as described, or in any manner substantially the same.

2d. I claim the construction arrangement and combination of the cylindrical chamber G, the cylindrical chamber H for distributing the air, and the desk and perforations as described.

3d. I claim the arrangement and combination of the tanks A B and the coils of tubes or worms, the chambers G H and their connexions operating together so as that at the same moment the oil or fluid is subjected to the cooling by both air and water as described.

No. 19,763.—William B. Fahenstock, of Lancaster, Pa.—*Improvement in Car Wheels.*—Patent dated March 30, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I *claim*, 1st. The wheel with the hub outside of the tread or rim and the bearing on the axle within the tread or rim, or at the balancing point.

2d. I also claim the combination of the independent wheel, bearing K and pivot M with the short axle, for the purpose of preventing the sliding and friction of the wheels on or against the rail.

No. 20,583.—John Pugh, of Franklin, Tenn.—*Improvement in Car Wheels.*—Patent dated June 15, 1858.—This invention consists in employing solid wrought iron spokes A, surrounded by and enclosed within hollow wrought iron spokes B of a shorter length, in such a manner as to enable the outer segments or rim of the wheel and the inner sections of the inner portion of the same, to be cast around the ends of said spokes, and to shrink in cooling independent of each other, and the hub to be subsequently cast within and around the inner ends of the spokes after the rim has been cast.

Claim.—The employment of the hollow or tubular spoke B, combined with the solid spoke A, for the purpose of respectively receiving the strain arising from the unequal contraction in cooling of the different volumes of metal in the inner and outer sections E D or portions of the rim independent of each other, in the manner described.

No. 21,614.—Hiram W. Moore, of Jersey City, New Jersey.—*Improvement in Cast-Iron Car Wheels.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The cast-iron wheel as described, the hub of which is made of an inner and outer straight cylinder F and E, joined together by concentric plates at their ends and an intermediate plate H between, for imparting great strength and durability to the wheel; and in combining and uniting such hubs to the rim or tread by straight plate A radiating therefrom between the end of the hub and intermediate disk H, or connexion otherwise formed, in order that every portion of the wheel may be of a uniform thickness to cool even, be durable and cheaply constructed, and to render hooping of the hub unnecessary, essentially in the manner fully set forth and described.

No. 20,924.—Robert Poole, of Baltimore, Maryland, assignor to Himself and German H. Hunt, of Baltimore aforesaid.—*Improvement in Cooling Car Wheels* —Patent dated July 13, 1858.—This invention consists in a process for regularly or equably cooling car wheels in the flasks in which they are cast, so that all strain within itself shall be avoided, annealing dispensed with, and the web of the wheel need not be corrugated or curved to compensate for unequal contraction.

Claim.—The described process of regularly cooling car wheels, whereby all strain within the wheel is avoided, the chill uninjured, and the web of the wheel is without curve or corrugation, substantially as described.

No. 19,380 —Stephen E. Parrish, of Nashville, Tennessee.—*Improvement in Railroad Car Wheels.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this improvement.

The inventor says: I *claim* a car wheel made substantially as shown and described, viz: the hub and rim connected by means of two plates having corresponding radial corrugations, said plates being cast with the hub and rim, and their several corrugations being united together so as to form a series of radial chambers within the wheel, as and for the purposes set forth.

No. 19,445.—Seymour Rogers, of Pittsburgh, Pennsylvania.—*Improvement in Railroad Car Wheels.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* so constructing a railroad car wheel that the rim thereof may revolve independent of the hub, when required, substantially as and for the purpose set forth.

I further claim inserting a spring or springs therein, substantially as and for the purposes described.

No. 19,776.—William W. Hubbell, of Philadelphia, Pennsylvania, and Richard Henry Hubbell, of Delaware county, Pennsylvania.—*Improvement in Railroad Car Wheels.*—Patent dated March 30, 1858. *a* is the rim or thread, *b* is the running flange, *c* is the circular vertical flange to the rim fitting tightly against the vertical circular flange *d* of the centre plate, and bearing on the same against the faces *j l m*, secured firmly thereto by the wrought iron rivets *e e* fastened when red hot, so that they shall adapt themselves in this state to the holes. *f* is the central plate, extending from the solid hub cast therewith, and forming on its outer face a vertical flange with enlarged horizontal bearing surface *j* sustaining the rim; the hub, plate, and enlarged face is strengthened by the radial ribs *g* between the rivets; *h* is the hub and *i* the centre of the wheel.

The inventors say: We *claim* the circular vertical flanges of the rim and plate cast separately, turned off smooth and fitted together, substantially as described.

Also, the central plate strengthened with ribs and made thicker around its water-edge where it is secured to the rim in combination with the vertical flanges on the rim and plate, substantially as described.

No. 19,810.—Henry C. Bulkley, of Springfield, Mass.; assignor to James M. Ross, of said Springfield.—*Improvement in Railroad Car Wheels.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, my mode of constructing the hub, viz: by reducing the iron around the outer periphery of the hub and give the requisite strength, I substitute a flange or ring on the end of the hub F when used in combination with a railroad car wheel of one or more plates, for the purpose substantially as described.

Second. I claim increasing the thickness of the disk as it recedes from the hub to the tread of the wheel, in the manner and for the purposes described.

No. 22,049.—Thomas C. Ball, of Keene, New Hampshire, assignor to Himself, L. Bisco, A. S. Davis, K. Crossfield, Edward Edwards, and Jacob Green, of said Keene.—*Improvement in Railroad Car Wheels.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The inventor says: (For a car wheel with an insertion of rubber or other elastic substances between the two parts,) the making of the rim or tire and its flanch M in one piece, for the purpose of strengthening each other.

Second. I claim the mode of confining the two parts, A and B, together by means of the hook or pivot bolts, substantially as described, or their equivalents, to prevent the wear and chafing of any stationary confinement; also to be at liberty to make each bolt do its share of labor assigned, for castings are almost invariably too uneven to get any equality of confinement in other modes.

No. 20,004.—Lea Pusey, of Philadelphia, Pa.—*Improvement in Securing Tires to Railroad Car Wheels.*—Patent dated April 20, 1858.

The nature of this improvement consists in securing chilled tires to the centres of locomotive and car wheels by means of two rings, one of the rings being formed so as to present a series of openings around its circumference admitting corresponding parts of the tire to pass through them, thereby dispensing with the necessity of removing either ring in taking off worn out and replacing new tire.

The inventor says: I do not claim constructing locomotives and car wheels with plates or rings riveted to centres and tires, as these have been previously used.

But I *claim* the slotted ring *b* forming a series of openings to admit corresponding parts of the tire *c*, passing through said openings for the purpose specified and set forth.

No. 20,610.—Webster Willoughby, of Markwell, Mississippi, assignor to W. H. Wizeman, of said Markwell.—*Improvement in Car Wheels, &c.*—Patent dated June 15, 1858.—This invention consists in suspending and supporting the axle on which the weight of railroad cars and other vehicles rest, by means of slotted bars A attached to the main body or tread portion of the wheels, and securing an additional wheel H to the axle for steadying the same laterally, in such a manner as to enable the axles to oscillate to either of the centres of said tread portion, and to be slightly in advance of, and eccentric with, the same during the forward progress of the car, or other vehicle supported by the same.

Claim.—The combination of the slotted bars or spokes A, and oscillating hub E, and disk B, for suspending the axle of the wheel in advance of the centre of the tread portion of the wheel with the additional disk or wheel H, for keeping the tread portion of the wheel and disk B in a vertical position during its revolution, as described.

No. 21,391.—D. B. Wright and L. Sawyer, of South Amesbury, Mass.—*Improvement in Attaching the Props of Carriage Bows.*—Patent dated August 31, 1858.—C represents the prop, which is of the usual form, with the exception of a screw *b*, is formed at its inner end; also a shoulder *c*, the latter being somewhat larger in diameter than the screw *b*. The screw *b* is then screwed into the nut *a*, and the prop is secured to the bow.

Claim.—As an improved article of manufacture, a carriage prop in which the prop C is rendered independent of its plate B, substantially as and for the purposes set forth.

No. 20,412.—George L. Dickson, of Carbondale, Pennsylvania.—*Improvement in Carriage Brake.*—Patent dated June 1, 1858.—This invention consists in having the draught poles and shafts of vehicles so arranged that a certain degree of longitudinal play or movement is allowed them, the back ends of the poles or shafts being attached to levers F, which have shoes G at their ends, the parts being so arranged that the shoes are pressed against the wheels as the speed of the horses is checked, or as the horses are "backed," and the brake thereby rendered self-acting.

Claim.—The arrangement as shown and described by the tongue E, slotted levers F, frame C, box D, and link H, for the purposes set forth.

No. 21,353.—William P. McKinstry, of New York, N. Y.—*Improvement in Children's Carriages.*—Patent dated August 31, 1858.—The handles, or draught bars A A^2, are attached to a roller *c c*, which runs transversely under the running gear, or connecting bars D D, to which it, the roller, is secured by means of two bands that serve as boxes for the roller to turn in when operated by the draught bars. B also is a draught bar, and serves to brace A A^2.

Claim.—The use of three draught bars or handles A A^2 and B, attached to a child's carriage, and operated substantially as described and shown in the drawings.

No. 22,300.—Gilbert Maynard, of Greenfield, Massachusetts.—*Improvement in Children's Carriages.*—Patent dated December 14, 1858.—This invention relates to an improvement in a mode of forming the springs of children's chaises, which was patented by the above named inventor July 7, 1858, in which the springs and bearings of the wheels were formed of a single rod, bent in proper shape. The present invention is designed to render springs constructed on the above named plan without adding materially to the cost of construction.

Claim.—Connecting the axle C with the tongue N by means of the peculiarly formed rods B, which also serve as springs for the vehicle, as shown and described.

No. 21,449.—Isaac S. Schuyler and Lucius A. Rockwell, of New York, N. Y.—*Improvement in Hose Carriage.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the arrangement and combination of two separate and independent rope reels respectively and separately with the bearing wheels rotating on the axle-tree to which the reels are secured, substantially as described and for the purposes set forth.

Second. The described method of connecting and disconnecting the rope reels with the bearing wheels of a fire-engine, hose-cart, or other fire apparatus, for the purpose of taking in the drag-rope while the apparatus is drawn by it.

No. 22,304.—Henry H. Potter, of Carthage, New York.—*Improvement in Adjustable Carriage Seats.*—Patent dated December 14, 1858.—This invention consists in having the seat of a vehicle secured to its body in such a manner that the seat may be turned obliquely with the body either to the right or left, and thereby afford greater facility than usual in getting in and out of vehicles, and also by a proper adjustment of the seat sheltering the occupants from the sun or from storms.

Claim.—Attaching the seat B to the body A of the vehicle substantially as shown, or in any equivalent way, so as to admit of the seat being turned obliquely with the body, either to the right or left, for the purpose set forth.

No. 21,420.—Amos K. Hoffmeier, of Lancaster, Penn.—*Improvement in Convertible Carriage Shafts.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the pole hook with its eyes Q and points R as they fit into the front ends of the shafts which form the pole.

I also claim the arrangement and combination of the shafts, operating on joints, that when closed together form the pole, substantially as described.

No. 19,396.—Thomas Winans, of Baltimore, Maryland.—*Improvement in Carriage Spring Guard.*—Patent dated February 16, 1858.—This invention consists in placing a strap of leather or a chain, distinct from the spring-plates, under the spring, so that, if the spring would break, the strap would still be strong enough to support the weight upon it and prevent injury or damage.

Claim.—The combination of the spring with a guard, arranged in relation to the spring, the body, and the bolster or axle of the carriage, substantially as set forth.

No. 20,497.—Davis M. Lane, of West Philadelphia, Penn.—*Improvement in Carriage Springs.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the combining of wood and steel in the manufacture of springs for vehicles, for this has been previously done.

But I *claim* providing the extremities of the plates A A^1 with sockets *c* to receive the ends of the wooden springs B B^1, as and for the purposes set forth.

No. 20,820.—Luther Otway Rice, of Berlin, Canada West.—*Improvement in Attaching Carriage Springs.*—Patent dated July 6, 1858.—The nature of this invention consists in placing a scroll-plate divergent with the axle, and supporting the same on the axle near the wheel by means of a device which will sustain the spring two or three inches above the axle, at its point of support near the wheel.

The inventor says: I do not claim either section of the springs described when separately considered. I *claim* placing the scroll-spring A divergent to the axle, and supporting the same on the axle by means of the clip *c* at the end thereof, and the raised double clip D, or equivalent, near the wheel, for the purposes and substantially as described.

No. 19,102.—Daniel G. Rollin, of New York, N. Y.—*Improvement for Equalizing Carriage Springs*—Patent dated January 12, 1858.—The plate at each end of the after-tree is connected with the

corresponding plate on the bolster above by a pair of toggle jointed bars *i i*, and the toggle joint of each pair of bars is connected by a rod *u* with one extremity of an equalizing lever *s*, which is pivoted to a plate or bracket *d* that is secured to the centre of the axle-tree F.

The inventor says: I do not, therefore, limit myself to the precise arrangement and construction set forth.

But I *claim* the equalizing apparatus for equalizing the strain upon the springs of carriages, consisting of toggle joints, connecting-rods, and equalizing lever, or their equivalents, constructed and operating substantially as set forth.

No. 20,268.—SAMUEL H. HARTMAN, of Pittsburg, Pa.—*Improvement in Forming the Heads of Carriage Springs.*---Patent dated May 18, 1858.—The plates cut and bent into a clip *i* are placed on the end of the straight steel bar K. It is then heated and put under the action of the die and counter die of F and G, which welds the clips to the bar. It is then subjected to the dies and counter dies of F^1 and G^1, and finally to the dies and counter dies *d d* in the die blocks J J^1, as well as those in F^{11} and G^{11}.

Claim.---Forming the head or socket on the head plate of a spring, by subjecting them to the action of the dies and counter dies in the die blocks F F^1 F^{11}, and the levers G G^1 G^{11}, in the order of their sequence, substantially as represented and described.

No. 22,314.—JOHN W. SIBBET, of Cincinnati, Ohio.—*Improvement in Attaching Carriage Thills to Axles.*—Patent dated December 14, 1858.---This invention consists in having the shanks of hooks, which encompass pins attached to the inner of the thills, pass through sockets attached transversely to clips which encompass the axle. The ends of the shanks of the hooks have screw threads formed on them, on which nuts are fitted, the nuts being attached to rachets, into which pawls secured into the back side of the clips catch and prevent the casual turning and unscrewing of the nuts.

Claim.—The plate C and socket or tube D, attached to the clip B, in connexion with the pin G, attached to the thill F, and the hook H, provided with a shank I and nut J, and ratchet K, the shank of the hook being fitted in the tube D, and the ratchet having a pawl I catching into or engaged with it; the whole being arranged substantially as and for the purpose set forth.

No. 19,065.—NEWTON BENEDICT, of Aurelius, N. Y.---*Improvement in Carriage Tops.*—Patent dated January 12, 1858.—To throw back and down the bows it is only necessary to pull upon the rod *T*, disengaging the catch from the detention piece *d*, when the action of the spring D rotating the shaft A in the direction 1, 2, 3, the hinges *h* allowing the ends of C, contained in the loops N, to move away from the bow, while the latter lies horizontally, and the loops N prevent the top of the bow from tipping too far forward, or swaying from side to side, in the act of passing back and forth.

This invention is further explained by the claim and engravings.

The inventor says: I do not claim the extension front F *i i* E *f f j j*

and *g g*, which part is connected as a sliding part with the dash of the carriage.

But I *claim* the arrangement for operating the carriage bows, as described.

I claim the arms C, connected with the main bow and with the shaft A, in the manner for the purpose set forth.

I also claim connecting the spring D with the carriage body, and causing it to act upon the shaft A, in the manner and for the purpose set forth.

I also claim the combination and arrangement of the detention piece *d*, with the catch lever L and its spring S, whereby the shaft A is held at the proper point from rotating, as set forth.

I also claim the combined u es of the hinges *h* and loops N, in the manner and for the purpose substantially as set forth.

No. 21,766.—R. W. MCCLELLAND, of Pekin, Illinois.—*Improvement in Boxes for Carriage Wheels.*—Patent dated October 12, 1858.—A is the hub box. This box is let into and fastened into the hub in the usual manner of fastening such boxes, with the addition, if necessary, of bolts or screws, as seen at *h*. The hub boxes, having a groove B and flange D, with spindle boxes C, properly fitted into them, give a double direct bearing, and thereby reduces the wear.

Claim.---In combination, a hub box, with an interior groove and flange, as represented, the peculiar manner of constructing and placing upon the spindle the spindle boxes or bearings, so as to properly fit into the above described hub boxes, all as represented in the specifications in the manner and for the purposes expressed.

No. 21,083.—NORMAN PLATT, of Jackson, Miss.—*Improvement in Hubbs for Carriage Wheels.*—Patent dated August 3, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I know that metalic hubs are not new, nor are clips to secure the spokes, perhaps, a novelty; nor is cast boxing, as such, the subject of a patent, while the peculiar construction and the mode of securing the one I have described may be, still,

I *claim* the combination of a flanged metallic hub A for carriage, wagon, and buggy wheels, with clips *e* to stay and strengthen the spokes, together with a metallic boxing for said hub, secured by a swelled head-screw and tap, substantially as described.

No. 19,820.—JAMES M. WHITING, of New Bedford, Mass., assignor to Himself, GEORGE F. WILSON and ALFRED ANTHONY, of Providence county, R. I.—*Improvement in the Hubs of Carriage Wheels.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the making of the hub an elastic compound cylindrico lever, each end of which rests for a fulcrum on vulcanized india rubber or gutta percha, or other elastic substance, in combination with the coupling nut, by which the pressure thereon may be regulated.

I also claim the grooves *z* in the body of the hub, or their equivalent,

and the projections on the outside of the box, or their equivalent, in combination with the said elastic substance.

No. 19,478.—WALDREN BEACH, of Baltimore, Md.—*Improvement in Metallic Carriage Wheels.*—Patent dated March 2, 1858.—The tire or rim iron is first rolled out in the required form. It is then cut in proper lengths and perforated at proper intervals for the reception of the ends of the spokes, and then formed into a hoop and welded, which is the rim. The spokes are then riveted in the rim, care being taken that they shall alternately incline in opposite directions, so that when the hub is cast upon the opposite ends they will brace the rim. The rim and spokes are then placed so that the hub can be cast around the inner end of the spokes.

The inventor says: I do not claim to be the first inventor of any one of these features, nor ask a patent therefor.

But I *claim* the combination and arrangement of the several parts as described, whereby I have made a strong, light, durable, and cheap metallic wheel, which consists of but three essential parts, while I have preserved all the important qualities of a good carriage wheel in the highest degree.

No. 20,586.—SAMUEL J. RUSSELL, of Chicago, Illinois.—*Improvement in Metallic Hubs for Carriage Wheels.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the wedge-shaped projections E and F, when employed in connexion with the spaces *e e* and hooks S S, for receiving the spokes and locking the two parts of the hub firmly together, substantially as set forth.

I also claim the use of india rubber to protect the woody fibre of the spokes, as set forth.

No. 20,869.—NATHANIEL T. EDSON, of New Orleans, La.—*Improvement in Metallic Hub for Carriage Wheels.*—Patent dated July 13, 1858.—G represents a screw bolt with a corresponding thread cut in the axle, which bolt, with the cone shaped collar H, connects the wheel and axle. B represents an oil chamber or cup, which, being filled with oil, furnishes a constant supply to the cone and axle.

The inventor says: I *claim*, first, the cone H, when made and applied in the manner substantially as specified.

Second. The oil chamber 5, in combination with one or more orifices 4, when formed on the outside of the box by means of a nut, substantially as represented.

Third. The combination of the oil cup B with the cone H, for the purposes specified.

Fourth. I claim the chamber 5, substantially as described, in combination with the outer cup B, for the purposes specified.

No. 19,951.—B. A. ROGERS, of Shubuta, Miss.—*Improvement in Tightening Spokes and Felloes of Carriage Wheels.*—Patent dated April 13, 1858.—The nature of this invention consists in the combination, in a wheel, of an annular chamber, spoke-sockets communicating with said chamber, expanding packing ring, taper axle-box, and extended spokes.

The inventor says: I do not claim having the spokes communicate with the eye of the hub and expanded by a cone box.

But I do *claim* the combination, in a wheel, of the annular chamber E, spoke-sockets G communicating with said chamber, expanding packing ring H, taper axle-box I, and extended spoke B B, substantially as and for the purposes set forth.

No. 19,721.—ROBERT B. SCOTT, of Philadelphia, Pa.—*Improvement in Tightening the Tires of Carriage Wheels.*—Patent dated March 23, 1858.—This invention consists in securing the two ends of a tire together, and binding the whole firmly to the felly of a wheel by means of taper keys D D^1 fitting into slotted lips *a* in one end of the tire, and in a slotted enlargement *d* on the opposite end of the tire; one end being so bent that the other may lap over it, and so secured to the felly by means of a bolt E that the tire may be readily tightened to the wheels.

The inventor says: Disclaiming the exclusive use of taper keys for drawing together the two ends of the tire,

I *claim* the end C, with its slotted lips *a*, and the bent end B, with its slotted enlargement *d*, in combination with the taper keys D and D^1, and bolt E, when the two ends are arranged and adapted to each other, substantially in the manner set forth, and for the purpose specified.

No. 19,264.—FREDERICK O. ROGERS, of Elmira, New York.—*Improved Adjustable Axle-Brace for Carriages.*—Patent dated February 2, 1858.—The lever E is fastened in the standard F by the pivot G and turns upon it as the springs B play, and at the same time the handle of the lever plays through a loop fastened in the lower side of the axle C. The braces D are fastened to the axle and lever with a joint at each end. When the springs are pressed together the braces are gathered or drawn up under the body by the lever just enough to allow the springs to play perpendicularly or at right angles with the body A, and are by means of the lever expanded as the springs expand.

The inventor says: I do not claim, in general terms, the adjustment of a brace to adapt it to the contractions and expansions of a carriage spring by hanging it to a vibrating arm or lever.

But I *claim* the lever E when constructed and arranged and operating in combination with the body A, springs B B, axle C, and braces D D of the carriage, substantially in the manner and for the purpose specified.

No. 21,012.—GILBERT MAYNARD, of Greenfield, Massachusetts.—*Improvement in Hanging Carriages for Children.*—Patent dated July 27, 1858.—By this invention springs of children's chaises and the axles or bearings of the wheels C C, of a single rod B of iron or steel,

bent or curved in a peculiar way so that their construction is simplified.

The inventor says: I am aware that spiral springs have been applied to vehicles and arranged in various ways, both singly and combined with other forms of springs; I therefore do not claim broadly and in the abstract the employment and use of spiral springs in children's vehicles.

But I *claim* forming the springs of the chaise and the axle or bearings of the wheels C of the same, by means of a single rod B bent and applied to the device as shown and described.

No. 19,113.—V. N. Mitchell, of Concord, North Carolina, assignor to Himself, H. A. Area, and C. N. White, of Concord, North Carolina.—*Improvement in Attaching Shafts and Poles to Carriages.*—Patent dated January 12, 1858.—Through the outer ends of the bars D and through the inner ends of the shafts E holes are made to receive bolts *d*. These bolts, when the vehicle is used with one horse, pass through holes near the ends of the bar A and secure the shafts firmly to the ends of said bar, and to the centre of bar A a whiffletree F is attached by a bolt *e*.

Claim.—Attaching the shafts E E to the vehicle, substantially as shown, or in any equivalent way, so that said shafts may be turned, moved, or folded towards and from each other and secured in either position, so as to form either shafts or a draught pole or tongue, and the vehicle thereby readily converted from a single to a two horse one and *vice versa*.

No. 19,446.—James Rodgers, of New York, N. Y.—*Improvement in Boxes for Receiving Money in Carriages.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a glass receptacle to receive money to be deposited in a drawer beneath.

But I *claim* the movable glass slide *f* to the receptacle or hopper, kept at the bottom to the fixed glass *c* by spring or other equivalents, and acting in the manner and for the purposes specified.

I also claim connecting the cover *e* of the money receptacle to a bell for the purpose of attracting the driver's attention when money is placed in said receptacle, as specified.

I also claim, in combination with said bell connected to the cover of the money receptacle, the slide *m* and dog 11 to call attention of passengers to the payment of their fares, as specified.

No. 19,676.—Adolphus Bruns, of Davenport, Iowa.—*Improvement in Securing the Wheels of Carriages.*—Patent dated March 23, 1858.—On the inside of the rim there is a shoulder decreasing the size of the square at that point. This part of the axle projects half an inch beyond the outside of the rim, upon which is shipped the cast iron plate C, said plate being countersunk into the hub, and also fastened with two wood screws *a*. The axle is further secured in the hub by a wooden wedge *u*, which fills the space between the angle of the axle and the square hole of the hub in which it is placed.

The inventor says: I hereby disclaim being the inventor of wheels with independent axles or of revolving axles running upon friction rollers, they having been heretofore used.

But I *claim* securing the wheels upon the independent revolving axles, in the manner set forth.

No. 21,696.—Charles Page, of West Meriden, Conn.—*Improvement in Windlass for Moving Cars and Locomotives when without Steam.*—Patent dated October 5, 1858.—This improvement consists in arranging and connecting a windlass, by means of clamps or jaws, to any portion of the rails of railroad tracks, so as to form or afford, by means of cranks, an apparatus or machine for moving locomotives and other cars on railroad tracks without steam.

Claim.—The inventor says: I am aware that the windlass and its gearing is old, and that jaws or clamps to bite on a stationary form have been long used, and that double levers have often been expanded longitudinally by the double joint. I therefore do not claim either of these as such as my invention.

But I claim the combination of the windlass A with the jaws *g g* and the levers *i* and *i*, when connected, arranged, and made to produce the result, by the means and in the manner substantially as described.

No. 21,086.—John W. Rice, of Springfield, Mass.—*Improvement in Brakes for Railroad Cars.*—Patent dated August 3, 1858.—The nature of this invention consists in doing away with a multiplicity of levers, pulleys, rachets, dogs, &c., that are generally used in applying a double action brake from either end of the car to railroad cars by means of a new arrangement or combination of parts.

The inventor says: I claim, first, the nut H and screw I, and its arrangement when used for braking railroad cars, substantially as described.

Second. I claim my new combination, viz: the bar N N extending from one brake to the other, the double fulcrum lever M, and the rods S R playing through and against the double fulcrum lever M, and the arrangement of the chain J and pulley F, when used in combination with each other, and operating substantially as described.

No. 20,614.—Leverett Ball, of Auburn, N. Y.—*Improvement in Preventing Cars from Running Off the Track.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The double flange railroad car wheels, with the broad space A between the flanges, and the strong flat-edge flange or car wheels B, in combination with the iron plate L, the guide rail D, the clasp E, swivel rail F, and the ends of the rails C C C C, the whole being constructed and arranged substantially as set forth.

No. 21,026.—Blaney E. Sampson, of Boston, Mass.—*Improvement in Coupling for Horse Railing Cars.*—Patent dated July 27, 1858.—This improvement consists in so applying or constructing the car pole B that it shall be sustained at the proper height to couple with the car bunter C, and to be self coupling at all horizontal angles of presentation to which the pole may be liable.

The inventor says: I am aware that it is not new to make cars self-shackling when brought together, railroad cars often having couplings so applied; and I am also aware that common carriage poles are made without joints. I therefore do not claim making horse cars self-shackling, nor making a pole to a horse car in one piece.

I *claim* the described method of constructing and applying the pole so that it shall be in position to shackle when brought against the platform at any common angle of presentation.

I also claim so applying the pole as described that it shall be supported by the car, instead of upon the horses, as is usually done.

No. 20,675.—John White, of Boston, Massachusetts.—*Improvement in Machine for replacing Railroad Cars on the Track.*—Patent dated June 22, 1858.—The timber A is passed between the two pairs of wheels of the truck, (when it is to be used,) and the carriages B are adjusted with one of them under each side of the frame of the truck. A block of wood is placed beneath the foot of each jack D to prevent its pressing into the ground; the truck is then moved along until the wheels are over the rails, when the jacks are turned in the opposite direction, and the truck is lowered in its proper position on the track.

The inventor says: I am aware that the mechanical devices which I employ have all been previously used for raising or for moving heavy bodies, and also that for the purposes to which my apparatus is applicable machines have been constructed in which some of the features of mine have been used, but without producing a similar apparatus. I therefore do not claim any of the constituent parts of this machine individually or collectively, except when arranged as described.

But I *claim* as a new article of manufacture the described "car replacer," consisting essentially of the beam A, with its two separate and independent carriages B, running on rolls *g*, with the screw jacks D for raising the beam, the whole constructed and operating in the manner substantially as set forth for the purpose specified.

No. 21,469.—John Hartman, jr., of Philadelphia, Pennsylvania, assignor to John Hartman, sen., of said Philadelphia.—*Improvement in Couch Seats for Railroad Cars.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that car seats have been made before so as to be isolated from each other, and to swivel round upon their bases. I am also aware that the back has been made adjustable to various angles of inclination to a horizontally fixed seat, and also that an office couch chair has been made with a foot rest and back, so connected together and to a fixed horizontal seat as to move in unison to any required angle of inclination to the said horizontally fixed seat,

by the occupant simply changing his position thereon, but neither of these have been constructed in such a manner as that the seat proper can be inclined into the same plane with an inclined foot-rest frame, so as to adapt them as couches to the requirements of a railroad car, as described. I therefore do not claim, broadly, a swiveling seat with an adjustable back and foot rest.

But what I *claim* in adjustable, backed, reversible couch seats, is the combination and arrangement of devices, whereby the seat proper B can, at the pleasure of the operator, be arranged and securely maintained either in the horizontal position of a chair seat as shown in Fig. 1, or in the same plane with the inclined position of the foot-rest frame E as a couch, or as shown in Fig. 2, the same consisting of a pedestal A, seat B, stem *f*, brace *h*, and foot-rest frame E, or their equivalents, combined and arranged so as to operate substantially in the manner described.

No. 21,436.—F. R. Myers and F. H. Furniss, of Cleveland, Ohio.—*Improvement in Couches for Railroad Cars.*—Patent dated September 7, 1858.—This invention relates to an arrangement of means for providing such number of couches as, in connexion with such as may be made of the car seats, will accommodate a complement of passengers.

Claim.—The couch P, with the rods L M N O and the collars L^1 M^1, or the adjustable collars and springs R R^1 S S^1, as an arrangement of means for providing such number of couches as, in connexion with such as may be made of the car seats, will accommodate a complement of passengers substantially as set forth.

No. 21,600.—J. B. Creighton, of Tiffin, Ohio.—*Improvement in Couches for Railroad Cars.*—Patent dated September 28, 1858.—The nature of this invention consists in the peculiar arrangement of the folding partitions and couches.

In the engravings A A^1 represent the couches, which are suspended by the stretchers *a a* and *c c*; B B^1 show the partitions at the end of the couches; these partitions are made solid and firm, but are so arranged and secured to the stretchers that they may be folded up with them. The stretchers *c c* are secured to the slotted bars *d d*, which are attached to the ceiling of the car.

Claim.—The combination of the couches A A^1, folding partitions B B^1, stretchers *a a c c*, slotted supports *d d*, and hooks *m n*, and pins *o p*, the whole being arranged, constructed, and operated, in the manner and for the purposes described and set forth.

No. 20,983.—George S. Bishop, of Washington, D. C.—*Improvement in Coupling for Railroad Cars.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the squared chambered bumber block A, when made to receive the sliding and block C, to overcome the friction on pin D and link B.

Second. I claim the lever E, in combination with the pin D and block C, and bumber head A, and pin or handle L.

Third. I claim the peculiar manner of constructing the mouth of

the bumper, and its connexion with the V-shaped mouth of the block C, for holding the link B, to any desired horizontal angle, and by which the block may be tipped to prevent the link from being crippled, and also for holding the same in poise at any desired angle, the whole operated by lifting the pin D, when constructed and operated in the manner and for the purposes set forth.

No. 21,244.—Jesse Campbell, V. B. Leighthizer and Patrick Shannon, of Steubenville, Ohio.—*Improvement in Coupling for Railroad Cars.*—Patent dated August 24, 1858.—The nature of this invention consists in the peculiar construction and arrangement of the link or coupling head, the jaws and spring that control them, and the chain and hand wheel or their equivalents for opening said jaws to disconnect the link therefrom.

Claim.—The link A made rounding at the point with square offsetts on each side in combination with the jaws B B, the spring C, chain D, and hand wheel E, or its equivalent, when constructed, arranged, and operated, in the manner and for the purpose substantially as described.

No. 20,070.—Samuel R. Jones, of York, Pa.—*Improvement in Elliptic Cushion for Railroad Cars.*—Patent dated April 27, 1858—The nature of this invention consists in having an iron frame, the sides of which line the inner surface of the side plates of the car body, on the front of which is placed a semi-elliptic spring, the ends resting on the front of the frame, and the centre resting on an iron shaft, extending to the elliptic springs, or a series of them, which will rest on the bolster of the car body.

The inventor says: I *claim*, first, the local relation and mode of application of the semi-elliptic buffer.

Second. The combination and arrangement of the elliptic cushion, as described, arranged and operating substantially as described and set forth.

No. 20,254.—J. B. Creighton, of Tiffin, Ohio.—*Improvement in Railroad Cars for Day and Night Service.*—Patent dated May 18, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the formation of car beds by means of the stationary seats and reversible backs as now in use, in combination with the slotted supporters A, stops i, pins i^1, stretchers B, eccentrics U, and reversible hooks x, arranged and operated substantially as set forth.

Second. The described method of forming and concealing when not in use in the spaces between the windows and upper tier of beds, as set forth and for the purpose specified, and also the same in combination with the devices constituting the subject of the first claim.

No. 20,021.—Calvin Pepper, of Albany, N. Y., assignor to Nelson R. Scovel, of said Albany.—*Improved Method of Ventilating Railroad Cars.*—Patent dated April 20, 1858.—The nature of this

invention consists in leading a current of air into the car in such a manner that cinders, dust, or other solid particles contained in said current of air, shall be deposited into a water receptacle, which is termed a pneunometer. In connexion with said pneunometer an apparatus is used for heating and distributing the current of air in winter, and can also apply ice to refrigerate or cool the current of air in summer.

Claim.—The manner specified of purifying the air as it enters the car by passing the same through the pneunometer composed of the tubes *b* and *c* in the water chamber C for the purposes and substantially as specified.

No. 20,176.—Apollos B. Spencer, of Rochester, New York.—*Improved Method of Ventilating and Excluding Dust from Railroad Cars.* Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the revolving wet sheet or endless apron (passing through water) for the purpose of cleansing and purifying the air as it passes into the car, which sheet or apron, together with the tank containing the water, and that portion of the bottom whereon it rests.

I claim as a partition, by which I divide the instrument into two complete ventilators, either of which, as set forth, will act as the downward ventilator, while the other always acts simultaneously in the opposite direction.

No. 19,574.—Melville McGee, of Jackson, Michigan.—*Improvement in Mode of Operating Brakes of Railroad Cars.*—Patent dated March 9, 1858.—This improvement is for the purpose of giving to the engine driver power to instantly brake up an entire train of cars, bringing the brakes on each car into immediate and simultaneous action at will.

Claim.—The compound adjustable link and pulleys specified, in combination with the device upon the locomotive for operating the brakes, the whole being constructed, arranged, and operated substantially in the manner and for the purposes above described.

No. 21.259.—James Ingersoll, of Grafton, Ohio.—*Improvement in Running Gear for Railroad Cars.*—Patent dated August 24, 1858.—The nature of this invention consists in so constructing rollers, with long and short axles, that they shall extend down along the sides of the rails of the railroad, and the axles rest upon the rails in such a manner that the rollers will serve as guards or flanges to prevent the train from running off the rails, and the axles produce sufficient traction on the rails to insure the forward propulsion of the locomotive or car when the endless chain is set in motion. It consists, secondly, in the employment of an internally toothed endless chain in contradistion to a toothless endless chain and an externally toothed driving wheel, which is arranged within the ellipse in which the chain travels, in combination with an endless ellipsoidal guideway and an endless series of rollers running in said guideway, and having their

peripheries or their axles come in contact with the elevated or other rails of a railroad.

Claim.—1st. The manner described of constructing the rollers with long and short axles, so that they shall extend down along the sides of the rails of the railroad, and the axles rest upon said rails, substantially as and for the purposes set forth.

2d. The employment of an externally toothed driving wheel in combination with an endless ellipsoidal guideway and an endless series of rollers, substantially as and for the purposes set forth.

No. 20,293.—H. A. NEWHALL, of Newton, Massachusetts.—*Improvement in Safety Attachment for Railroad Cars.*—Patent dated May 18, 1858.—This invention consists in the employment of supplementary yielding platforms or treads, constructed in a peculiar way and used in connexion with side guards; these parts being so arranged that they may be applied to the cars and afford protection to the passengers while they are passing from one car to another.

The inventor says: I am aware that sliding platforms have been applied to cars, and I do not claim, separately and broadly, such device, irrespective of construction and their connexion with proper side guards.

But I *claim* the supplementary platforms or threads, formed of the rods E fitted in tubes C attached to the platforms, the rods bearing against springs *a* in the tubes, in combination with the side guards formed of the vertical rods F attached to the bars *b* and the chains G, which are connected to the rods F and the railing or guards H of the platforms, the whole being arranged substantially as and for the purposes set forth.

No. 22,364.—PLYMON B. GREEN, of Chicago, Illinois.—*Improvement in Seats and Sleeping Couches for Railroad Cars.*—Patent dated December 21, 1858.—This invention consists in the arrangement under a car seat, having a hinged back and stationary section of cushion, of a sliding drawer E, which has one portion of the top closed or cushioned and the other portion open, in combination with a stationary cushion and back of an opposite seat; also in combination with the above in the arrangement of the upper couches on hinges, in the manner specified.

The inventor says: I *claim*, first, the arrangement under the seat of a sliding drawer E, which has one portion of its top cushioned and the other portion open, in combination with the hinged back or cushion A and stationary cushions D N, substantially as and for the purposes set forth.

Second. In combination with the above arrangement of the upper couches on hinges, in the peculiar manner specified, so that they can be adjusted with facility, substantially as described.

No. 22,025.—D. M. LAWRENCE, of Cincinnati, Ohio.—*Improvement in Sleeping Berths for Railroad Cars.*—Patent dated November 9, 1858.—This invention consists in the application of the ball and socket hinge, or other similar device, to adjustable platforms or sleeping

berths for railroad cars, for the purpose of attaching said platforms or sleeping berths to the side of the car, and at the same time allowing said platform or berth to move up and down; and also in the application of the strap hinge, one end of which is attached to the cornice near the roof and the other to the inner edge of the platform or sleeping berth.

Claim.—The arrangement of the strap hinge *h h* in combination with the ball and socket hinge *b b*, for the purpose of securing adjustable platforms or sleeping berths for railroad cars at any desired elevation, and operating as described, or otherwise substantially the same, and for the purposes set forth.

No. 21,992.—J. DUTTON STEELE and WILLIAM LORENZ, of Pottstown, Pennsylvania.—*Speed Indicator and Recorder for Railroad Cars.*—Patent dated November 2, 1858.—The principle of this improvement consists in attaching to a main shaft, caused to revolve by the motion of the car, or two revolving shafts, one carrying a governor and pencil, and the other carrying or revolving a cylinder, or continuous sheet of paper, with different distances marked upon it by a series of parallel lines indicating distance travelled.

Claim.—The governor shaft and indicator, and the shaft carrying the prepared paper, in combination with the main driver, arranged and operated as described.

No. 20,418.—HEMAN GARDINER, of New York, N. Y.—*Improvement in Springs for Railroad Cars.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: It is not my intention to claim as my invention the forming of a spring out of a fillet or plate folded back and forth, nor the use simply of auxiliary or intermediate springs in detached pieces. I am aware of the use of small springs, as described in the specifications of Holmes and Evans and Clark and Proctor.

I am also aware of the plate described in the specifications of D. B. Rogers, and that of Hill, patented in England.

But I *claim* the arrangement of the peculiar-shaped semi-elliptical springs B B, in the form of a square-shaped column, held in position and made to act as one spring by the folded steel plate, so as to give the long leverage and easy soft action, as described, the several springs and folded plate being combined and held together by the bolt passing vertically through them, as set forth.

No. 19,789.—MYRON L. MICKLES and LEWIS L. OLMSTEAD, of Aurora, Illinois.—*Improvement in Ticket-Holders for Railroad Cars.*—Patent dated March 30, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—A ticket-holder composed of two chambers or compartments A B, into the upper one of which the ticket is placed and exhibited, and thence transferred to the lower one in the act of closing and opening the door of said upper compartment by means of the movable floor and ledge or projection P, all operating substantially in the manner and for the purposes specified.

No. 19,331.—T. F. Allen, of Dyersville, Iowa.—*Improvement in the mode of connecting the Trucks of Railway Cars.*—Patent dated February 16, 1858.—This improvement consists in connecting the inner corners of the pair of trucks, under a car, with each other, by means of diagonal rods *a a*, or their equivalents, at the same time that the counteracting tension rods *b b* connect the inner end beams *e e* of said trucks with the ring bolts or with the cross beams *k k* of the car body.

The inventor says: I *claim* connecting the trucks of railway cars with each other, and with the bodies of said cars, by means of the diagonal rods *a a* and the auxiliary tension rods *b b*, or the equivalents of said rods, when combined and operating with each other, substantially in the manner and for the purpose set forth.

No. 21,099.—Eli Wheeler, of Elmira, New York.—*Improvement in Sleeping Cars for Railroads.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in connexion with a pair of car seats B B *b b*, which are enclosed within a compartment A *a* and placed at the proper distance apart, pivoting by fixed pivots *m m* the backs *c c* of said pair of seats at such points on the arms of the seat frame B B *b b*, and in such relation to each other that, by turning the backs over in opposite directions in the path of a vertical circle, they will both be brought and made to lie horizontally or on a level with the cushions of the seats within the space existing between the two seats, and upon a supporting cleat F, and thus form a comfortable sleeping couch entirely enclosed within the compartment, substantially as and for the purposes set forth.

No. 21,070.—Charles L. Harrington, of Buffalo, N. Y.—*Improvement in Sleeping Cars for Railroads.*—Patent dated August 3, 1858.—The engravings and claim give an idea of the nature of this invention.

Claim.—The single rods *v v* in relation to the berths or couches Nos. 1 and 2, the said rods being without collars or projections, and attached at each end to the side of the car, in combination with the shifting seats with slotted arms A B, and reversible and convertible backs *a a*, the rail *o*, and bead *t*, with the partitions *s s*, the whole constructed, arranged, and operated in the manner and for the purposes set forth.

No. 20,507.—Charles G. Page, of Washington, D. C.—*Combined Umbrella and Head Rest.*—Patent dated June 8, 1858.—The rest is a thin piece of metal fastened to the umbrella by bands *b*. When the rest is not needed for use it may be tied anywhere upon the inside of the umbrella. This invention will be further understood by reference to the engravings.

Claim.—Combining a head rest with an umbrella, as set forth.

No. 20,197.—Lovett Eames, of Kalamazoo, Mich.—*Improved Hub Machine.*—Patent dated May 11, 1858.—This invention consists in a peculiar means employed for feeding the mortising tool to its work,

whereby the tool may be fed with a variable speed commensurate with its cutting capacity.

Claim.—Operating or giving the feed movement to the carriage B, in which the mortising tool is fitted or placed by means of the horizontal rotating disk K, provided with the ledges *e f*, and having its shaft G stepped in the treadle H, in connexion with the rollers *i h* on the shaft L, which is rotated from the driving shaft F, the parts being arranged as shown, or in an equivalent way, to operate as described.

No. 19,424.—David A. Hopkins, of Paterson, N. J.—*Improvement in Journal Boxes.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that various arrangements and constructions of ledges and flanges, both internal and external, have been used to secure the anti-friction metal in its casing or backing, and that various forms and sizes of bearings have been used, some of which occupy a no greater portion of a circle around the journal than mine. But I am not aware that in any case the ledges for retaining the bearing have been so constructed as to completely surround said bearing, extending to its extreme edge, in such a manner as to secure all parts of its borders from escape, should they be broken.

Neither am I aware that in any case the combined construction of the anti-friction metal and backing has been such as to give a narrow bearing of the anti-friction metal or lining upon the top of the axle, while at the same time a contingent or occasional side bearing was furnished by the backing, as described and shown, or that in any case that side of the backing which is next the axle has been so made as to fit it, and thus allow the bearing metal to be completely worn away, with the exception of the ledges used for keeping it in place.

The particular improvements which I *claim* are, first, providing the housing with a diaphragm, as described, or in manner equivalent, to prevent or nearly destroy the formation of currents of air, caused by the end play of the axle into and out of the housing.

Second. The combination of a boss, or its equivalent, upon the axle, with its location inside of the housing, and the feeding of the oil only to that portion of the axle not between the packing and the boss, as set forth, said boss being formed by turning a recess in the axle, or by any other convenient means.

Third. Combining with the housing a movable stuffing box which surrounds the journal, and may be moved with it, without opening a passage for air or dust into the housing, the parts being combined, arranged, and operating substantially as set forth for the purposes stated.

Fourth. The combination of the backing F with the bearing brass I, when both are constructed and combined substantially as described for the purposes stated.

No. 20,363.—James A. Norris, of Philadelphia, Pa.—*Improvement in Journal Boxes.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the glands

D D[1], &c., with a box A, having stuffing boxesformed in each end, substantially as and for the purposes described.

Second. Arranging a packing O between the adjacent sides of the box, as described, whereby the entrance of any dust between said sides is rendered impossible.

No. 19,548.—Levi Dederick, of Albany, N. Y.—*Improvement in the Mode of Tightening and Securing the Keys of the Journal Boxes of Connecting Rods or Pitman.*—Patent dated March 9, 1858.—Springs *h* are applied to the tightening keys of the journal boxes *b b*[1] of connecting rods and pitmen A in such a manner that the said springs will drive up the keys *g* to tighten up the boxes as fast as required by the wear of the boxes and journals, and hold the keys in their places to retain the proper degree of tightness of the boxes.

Claim.—The application of springs to act upon the tightening keys of the journal boxes of connecting rods and pitmen, substantially as and for the purpose specified.

No. 19,471.—Israel S. Reeves, of New Orleans, La., assignor to J. B. Slawson, of said New Orleans.—*Improved Omnibus Fare Box.*—Patent dated February 23, 1858.—The parts marked *h* is the frame of the box; *a* the opening in which the fare is put, which falls into the chamber *b*. This chamber has glass sides *i* and *f*, through which the fare can be examined before allowed to pass into the drawer *d* through the opening *e*; *m*, a movable table, which is the base of the chamber *b*, actuated on by the spring *o* to hold the end of *m* against the glass plate *f*.

Claim.—The glass plates *i* and *f*, as arranged in connexion with the sliding table *m*, the whole being operated in the manner substantially as and for the purpose set forth.

No. 19,765 —Samuel Ward Francis, of New York, N. Y.—*Cane for Paying Omnibus Fares.*—Patent dated March 30, 1858.—The slide G is drawn out in H, the cane is shaken and tube B comes out, the cover F is removed, together with spring E and piston D. Three cent pieces are let fall, one by one, into the tube B, then the piston, spring, and cover F are put in, the tube is inserted in the cane and made fast by pushing in slide G. When the cane is to be used, the knob R is pressed down, wire T is thus pulled upon and puts lever L in motion, projection K acts on lever I, uncovers opening P, and the end of long arm of lever L K pushes two pieces half way out, which are removed by the driver.

The inventor says: I do not limit myself to the arrangement just described, as I know it can be modified in a variety of ways to obtain the same result.

But I *claim* inserting pieces of money in a cane for the purpose of handing omnibus fares, substantially as described and set forth.

No. 20,349.—Royal E. House, of Binghamton, N. Y.—*Improved Omnibus Register.*—Patent dated May 25, 1858.—The nature of this invention is such that the weight of each person passing over the machine puts into motion a recording machine, and, bringing it against paper, or a suitable material to receive the record, previously adjusted for that purpose, makes an impression or mark. This is accomplished by a movable step C adapted to receive the foot, and, consequently, the weight of a person passing over it, combined with a spring, produces a reciprocating motion of the recording instrument, forcing it against the material receiving the record.

Claim.—The combination of a step, protected substantially as described, resting on a yielding support, such a spring or its equivalent, with recording mechanism, to be operated by the step, substantially as and for the purpose described.

No. 20,986.—Louis Brauer, of Washington, D. C.—*Improved Omnibus Register.*—Patent dated July 27, 1858.—This invention consists in an improvement in omnibus registers, whereby the weight of a passenger on the step is made to operate the indicator or register.

The inventor says: I do not claim moving the indicator of a register by pressure upon the steps.

But I *claim* the employment of an elastic step, by means of the movable rods K K, for operating the register plate and bell in the manner set forth.

No. 21,372.—J. B. Slawson, of New Orleans, Louisiana.—*Improvement in Fare Boxes for Omnibusses, &c.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. The arrangement of an opening in the top of the fare box, through which outside passengers can deposit their fare, when such opening communicates with a chamber in which the fare first falls, and is temporarily arrested previous to being deposited in the receiving drawer beneath, for the purposes set forth.

2d. I claim the arrangement of the passage block D and cover E over the opening in the top of the fare box, for the purposes described.

No. 22,295.—Albertus Larrowe, of Cohocton, New York.—*Improvement in Sled Brake.*—Patent dated December 14, 1858.—The nature of this invention consists in the manner of operating a self-acting brake for sleighs for the purpose of stopping them.

Claim.—The arrangement of lever *c*, scrapers *e*, and rods *f*, operating as described, for the purpose of a self-acting brake, and self-relieving and backing the sled, as set forth.

No. 19,994.—John Hoyt, of Fishkill, New York.—*Improvement in the Runners of Sleds.*—Patent dated April 20, 1858.—The nature of this invention consists in connecting the two bobs of the sleigh or sled together by a jointed reach, so that the rear bob X is drawn from or near its front end, at the same time that it has an oscillating motion in a vertical direction entirely independent of the front bob A; also in attaching and connecting the rear bob to the body of the sleigh by a double-cranked axle F, to permit it to have a longitudinal motion to compensate for the different distances between the

two bobs, which may be caused by the different angles by them in passing over a sinuous or uneven track.

The inventor says: I *claim*, 1st. The combination of the T-headed noddle pin P, with the dog joints D D^1, and the front bob A, as described, and for the purposes set forth.

2d. The combination of the noddle pin P with the jointed reach R, constructed and operated as and for the purpose described.

3d. The attachment of the rear bob X to the double-cranked axle F and to the body of the sleigh, in the manner and for the purposes set forth.

No. 19,980.—Silas Bullard, of Hartland, Michigan.—*Improvement in the Runners of Sleds.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim giving a movement to sleigh runners independent of the load that is above them; nor do I claim giving the runner on one side a movement independent of that of the other; nor do I claim the use of the link joint for connecting sleigh runners to the frame-work of a sleigh.

But I *claim* constructing the rear runners of sleighs in separate frames, each frame being hung by link joints to the cross-bar H, so as to admit of a fore and aft rising and pitching movement in each runner, which shall be independent of the movement of the opposite runner, as set forth.

I also claim the construction of the tie beam H, so contrived as to hold the separate forward runner frames at the proper distance apart by the fastening bolts B *h* near its ends, and at the same time to allow the independent rising and pitching movement in each runner by making the mortise holes in H^1 so large as to admit the bars E^2 E^2 to play loosely therein, so as to allow of a slight rolling motion on the axis of H^1 whenever the runners rise or pitch from the irregularities of the ground.

No. 20,903.—William W. St. John, of Lima, New York.—*Improvement in Attaching Sleigh Runners.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention

The inventor says: I do not claim allowing motion to the hind runner at the bolsters, said runner being drawn along by a connexion at its forward end.

But I *claim* the combination of the T-formed slide 5, cap 3, and joint 4, for attaching the hind runner of sleighs to the body when said runner is drawn by a connexion to its forward end, substantially as and for the purposes specified.

No. 21,255.—James Harrison, jr., of New York, N. Y.—*Improvement in Metallic Springs.*—Patent dated August 24, 1858.—This invention consists of a strip or plate of metal wound into a spiral form in such a manner as to give the several coils or revolutions of the spiral a conical form.

Claim.—The coiled spring, as described, having the several revolutions of the coil approximating to the form of cones; or, in other words, having the sides of its several coils inclined to the axis thereof substantially as specified.

No. 19,764.—William R. Fee, of Cincinnati, Ohio.—*Improvement in Pneumatic Springs.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The described pneumatic spring, having a hollow metallic piston working closely in a hollow metallic cylinder, and packed by leather and oil, for the purpose of increasing the elasticity of the spring, and preventing explosions and leakage, the whole being constructed substantially as set forth.

No. 19,450.—Daniel G. Rollin, of New York, N. Y.—*Improvement in Volute Springs.*—Patent dated February 23, 1858.—The object of this invention is to obtain in a volute spring the requisite amount of play in the direction of the endwise strain, with sufficient rigidity to sustain strains transverse thereto, and it consists in a double volute spring, which has the form of two volutes adjoining each other, and is constructed of a strip of metal coiled spirally so that the rings of the spirals overlap each other, and forms ends or bases which are symmetrical.

The inventor says: I wish it to be understood that I do not confine myself to the peculiar manner in which the double volute spring is made, or to the peculiar machinery which I have described for making it, as these may be varied without affecting the principle of my invention.

But I *claim* a double volute spring, constructed substantially as described, having the form of two volutes rigidly connected so as to form a single spring.

No. 20,127.—George J. Lucas, of Poughkeepsie, New York, assignor to Himself and John G. Lucas, of said Poughkeepsie.—*Improvement in Adjustable Seats for Vehicles.*—Patent dated April 27, 1858.—The nature of this invention consists in the means employed to convert, in a short time, a one seat vehicle into one with two seats.

The inventor says: I do not claim broadly and irrespective of the arrangement shown, so connecting wagon seats that one may be folded or closed over the other, for this has been previously done.

But I *claim* the connexion of the two seats B C by means of levers D D and links I I, substantially as and for the purposes set forth.

No. 20,033.—John A. Boyce, of Monroe, New York.—*Improvement in Attaching Shafts to Vehicles.*—Patent dated April 27, 1858.—This invention has for its object the combination of the two fastenings, viz: the bolt attachment and the hemispherical or other suitably formed projections, made to bear against corresponding depressions in the ring *e*, by which each is relieved of a portion of the strain which would otherwise bear upon it.

Claim.—Attaching the shafts or poles to the axles of carriages or other vehicles, by means of the combination of fastenings, as described, namely, the bolt connexion and the projections *c c* on the pieces *b b*, made to bear against the depressions *d d* in the double concave ring *e*; the whole being constructed and arranged in the manner and for the purpose set forth.

No. 19,567.—F. L. KIDDER and A. E. AEBY, of Brooklyn, New York.—*Improvement in Attaching the Springs of Vehicles.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—So arranging and connecting the springs of four-wheeled vehicles with the body and axles as that the draught is transmitted from the bolster longitudinally through the springs to their points of connexion with the body of the vehicle at each side, and thence, in like manner, through the hind springs to the hind axle, forming a direct line of draught on each side of the body from the front to the rear axle, thus dispensing with the necessity of the ordinary perch and braces to support the axle, using for this purpose the O G or such other form of spring as will accomplish the object in the manner substantially as described.

No. 19,558.—H. P. GOODALE, of Clinton, Massachusetts.—*Improvement in "Fifth Wheel" for Vehicles.*—Patent dated March 9, 1858.—The object of this invention is to connect the front axle with the front spring of the vehicle, and also with the reach, in such a way as to allow the former to turn freely, both vertically and horizontally, so that said axle may be turned or moved to conform to the inequalities of the surface of the ground without straining or at all affecting the reach, and the axle is also allowed to be turned freely by the team for the guidance of the vehicle.

Claim.—The arrangement of the reach H with the groove *f* to receive a screw *e*, in combination with the conical shell or cap E and projection C, connected by bolt D, substantially as and for the purpose set forth.

No. 20,652.—THOMAS MCCONAUGHY and JAMES MCCOLLUM, of Burnsville, Alabama.—*Improvement in Metallic Wheels for Vehicles.*—Patent dated June 22, 1858.—The wheel consists of a box B feathered at each extremity; two wrought metal bands shrunk upon the feathers; a system of peculiarly constructed braces, and a wrought metal rim R connected with the central portion by screw rods. The brace C consists of a shank and head, and is attached to the box by a bolt through the shank.

Claim.—The combination of the feathered box, wrought metal bands, and system of braces C, with the screw rods and rim of the wheel, constructed, arranged, and operating substantially as and for the purpose set forth.

No. 19,088.—JOHN HEIDEN, of New York, N. Y.—*Improvement in Wheel Vehicles.*—Patent dated January 12, 1858.—This invention consists in having both the front and back wheels attached to levers, in both pairs of wheels, connected by rods in such a way that both the front and back pairs of wheels may, as the shafts of draught pole is turned, be "cramped," or turned simultaneously in opposite directions. The object of this construction is to turn the vehicle in a small space.

The inventor says: I am aware that vehicles have previously been constructed so that their front and back wheels could move or turn simultaneously, as shown.

But I am not aware that the particular means employed for effecting the purpose, as shown, has ever been employed. The devices hitherto employed for such purposes, so far as I am aware, have been complicated, their operation attended with considerable friction, and the movement of the wheels comparatively restricted, cross levers being employed to connect the two pairs of wheels.

I do not claim, broadly, connecting the front and back wheels of vehicles so that both pairs of wheels may be "cramped" or turned simultaneously, for the purpose specified.

But I *claim* attaching the front and back wheels J J G G to their respective levers K K L L M H H and I, which are pivoted respectively to the bars A B, and connected by the rods N N, substantially as and for the purpose set forth.

No. 19,092.—LOUIS KILLNER, of Brooklyn, N. Y.—*Improvement in Velocipedes.*—Patent dated January 12, 1858.—This invention consists in the use of treadles in connexion with a gearing board, so arranged and applied to a wheel vehicle that the occupant thereof may propel the vehicle along by operating the treadle with a greater or less speed commensurate with the strength or physical capacity of the occupant; also in using, in connexion with the treadles, levers so arranged as to serve as auxiliaries to the treadles when an increased propelling power is required.

The inventor says: I *claim* the treadles E E connected by strip H, or its equivalent, and used in connexion with the guides *h* and board G, arranged to operate as and for the purpose set forth.

I also claim the adjustable or yielding foot-pieces *d* attached to the treadles E E, substantially as described for the purpose set forth.

I further claim, in connexion with the treadles E E, the auxiliary propelling devices formed of the levers J J M M N N, arranged as described and for the purpose set forth.

No. 21,615.—ISRAEL MOSES, of New York, N. Y.—*Improvement in Ambulance Wagon.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* an army ambulance constructed and arranged as described—that is to say, having ability to transport the sick and wounded under cover, either lying or sitting, by means of a system of sectional folding seats arranged along the sides as described; as also for carrying the surgeon's medicines and implements in removable cases, fitting in and under said seats and arranged in drawers under the body of the vehicle, so that said cases may be used for general or detached service as required. In the arrangement of an adjustable door capable of serving as a table, as set forth. In the arrangement herein described of the hammock for one, two, or more persons. And in combining with the vehicle, as a central support, the tent necessary for the hospital camp; the whole being combined and operating as a connected device for transporting, subsisting, and

protecting the sick and wounded of an army and their appropriate attendants, as herein set forth.

No. 19,112.—Sylvester A. Hough, of Oxford, Ga., assignor to Himself and A. S. Hough, of Madison, Ga.—*Improvement in Wagon Brakes.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying the brake rubbers by the gravity of the load broadly considered, as such is not new.

But I *claim* as an improved construction of running gear for rendering the gravity of the load thus available, the secondary frame H I secured to the front axle, in combination with the plates *e e*, connecting the same with the main frame, the rollers *c c* between the frames, and the notches *m m* related to the connexion of plates and frames, as described, when used with a slotted connexion of coupling bar and rear axle.

No. 21,569.—Albertus Larrowe, of Cohocton, N. Y.—*Improvement in Self-Acting Wagon Brake.*—Patent dated September 21, 1858.—In the engravings letter A shows the hand wheels; B the brake bar; C a cross-piece on which the bar B rests, and is guided by the spring which passes over each end of it into the brake bar as the bar moves forward or backward; D the guide pole; E the neck yoke; G the rubbers; on the front side of these rubbers is a piece of metal which extends on the side of the rubber and which operates in a groove in the bar B, and is to prevent the rubbers from falling out of place; H the rear lever; *c* rods extending from the lever H to the brake bar, the lower ends of which pass below piece C, and is also a guide to it in giving direction to the movement of the brake bar.

Claim.—Constructing the rubbers with the flanges on each side operating loosely in grooves in bar B, and resting on springs *e* for allowing the rubber to rise upon an inclined plane, and relieve the friction of the wheels when backing the wagon and for replacing the rubbers, the whole operating as described and for the purposes set forth.

No. 19,477.—Jethro W. Barnes, of Murfreesboro, N. C.—*Improvement in Manure Wagons.*—Patent dated March 2, 1858.—The wagon body A is furnished with two inclined sides *a* a^1, one of which is made to work up and down, and at the same time has a vibratory motion given it by a wedge-shaped piece *c* fastened to the outside and resting on the lever *i*. The bottom of the body is provided with two hinged pieces *d d*, which open and close the passage through which the manure drops. Two bent straps *e* are connected with the hinged piece *d*, and pass under projection *f f* on the ends of piece d^1. C is a screw shaft placed inside of and near the bottom of the wagon, which has a vertical adjustment; this shaft grinds and feeds the manure to the discharge opening, and prevents the choking up in the bottom of the machine.

The inventor says: I *claim* converting the broadcast distributor into a drill machine by reversing the axle, substantially in the manner set forth.

I also claim the movable side or end *e*, in combination with the sliding bottom *g*, as set forth, whether the machine is used for a drill or broadcast machine.

No. 19,550.—Edward L. Dorsey, of Johnson county, Indiana.—*Improved Machine for Fitting Wagon Tires.*—Patent dated March 9, 1858.—The spring slide M governs and applies the main wheel B to the rim or tire. The small wheels D D are attached to the head piece N N of the arms on horizontal axis, and guide the main wheel on a direct line. The small wheels E E are also attached to the arms on perpendicular axis, and are to guide the wheels D D on the edge of the tire. The hand F, permanently attached to the axis of the wheel B, is to mark the starting point.

The inventor says: I do not claim the wheel B, or the measuring of the tire by means of this wheel.

But I *claim* the arrangement described of the wheels E E and D D, with the wheel B, hand F, and spring slide M, substantially in the manner and for the purpose fully set forth.

No. 19,372.—J. W. Langdon, of Marengo, Illinois.—*Improvement in Extension Reach for Wagons.*—Patent dated February 16, 1858.—This reach is formed of two parts A B, one being placed over the other, and connected by clasps or guides *a a*, which keep them together, but allow them to slide longitudinally. To one part B there is fitted a rack C, and a pinion D in the other part A, the pinion gearing in the rack, and provided with a stop or pawl E, and has several teeth *e*. The pawl is secured down upon the pinion by means of a thumb-screw F.

The inventor says: I am aware that reaches have been devised in various ways so as to be rendered capable of being extended as occasion may require, and I do not broadly claim constructing a reach of two parts so connected as to be extended or shortened.

But I *claim* the arrangement of the pawl E, screw F, pinion D, and rack C, as and for the purposes set forth, whereby the reaches may be expanded, contracted, and locked at pleasure, and effective assistance given to the team, when necessary, by the driver.

No. 20,795.—Jonathan Hibbs, of Tullytown, Pennsylvania.—*Improvement in the Running Gear of Wagons.*—Patent dated July 6, 1858.—This invention is an improvement in that class of vehicles which have both of the axles capable of turning on king-bolts or centre-pins, in order thereby that the vehicle itself may be turned in a curve of shorter radius than it could be when the hind axle is fixed.

As shown in the engravings, both the axles are connected to any suitable framing, as *a a*. At *b* is the front axle, held to the bolster by the king-bolt b^1; and at *c* is the hind axle, held in like manner by the bolt c^1. At *a* is a curved or segment rack, the arc being struck from *b* as its centre. At *e* is represented a similar rack, curved in the

opposite direction, and attached to the hind axle by pieces e^1 in like manner.

Claim.—The method described of operating both the axles of a wagon in turning curves, namely, by means of the curved rack affixed to each axle, in combination with the connecting pinion, in the manner and for the purposes substantially as set forth.

No. 20,504.—Benjamin B. Munroe, of South Dansville, New York.—*Improvement in Brake for Wagons, &c.*—Patent dated June 8, 1858.—A is the tongue, to the forward end of which the team is secured by a yoke. B is the brake-bar, pivoted to the tongue, in the centre, at *c*. The tongue is secured in the hounds *h* by a pin *p* passing through them in mortises, which admit of a backward and forward movement of the tongue. The brake-bar has hinge joints *i* near the brakes at each extremity.

The inventor says: I *claim*, 1st. The brake-bar B, when jointed in the manner and for the purpose set forth.

2d. I claim the extension perch, constructed in the manner specified.

No. 19,947.—John T. Price, of Rockville, Indiana.—*Improvement in Giving Adhesion to Driving Wheels of Steam Vehicles, Ploughs, &c.*—Patent dated April 13, 1858.—The wheels are so arranged that one (or one set with spurs) makes a perfect wheel; if that is not power enough, two can be applied, or even three, as seen in the engravings. When three are applied the corrugations run zig-zag across the face of the wheel, as seen at letters W W W W running across.

Claim.—The arrangement of spurs on driving wheels for a steam plough or land carriage, so that the said spurs do not interfere with the rolling of said wheel, unless it should slip on the ground, and then, when it slips, said spurs (aided by the diagonal corrugations tending to face the dirt against them) to take effect and prevent it, as substantially set forth.

No. 21,081.—George F. Outten, of Norfolk county, Virginia.—*Improvement in Safety Whiffletrees.*—Patent dated August 3, 1858.—A is the whiffletree; B the rod; *c* clips or bands; D D the hooks; E the traces; F the lever; G the strap.

Claim.—The hooks D D, constructed with two different angles, and which allow the traces to commence detaching as soon as they commence revolving, and are released entirely at one-fourth of a revolution, operating as and for the purposes set forth.

XI.—HYDRAULICS AND PNEUMATICS.

No. 22,219.—Henry M. Paine, of Worcester, Massachusetts.—*Improvement in Air Engines.*—Patent dated November 30, 1858.—The nature of this invention consists, first, in moistening atmospheric air previous to its entrance into the pump, so as to refrigerate and render it highly sensitive, at comparative low temperatures, when pressed into the heater, and thus obtain an expansive force possessing great elasticity and lubricating property not realized in the use of air or the gases in their normal condition.

Claim.—The simultaneous moistening and refrigerating of the air previous to its entrance into the pump, in combination with the modifying valve P, substantially in the manner and for the purposes described.

No. 22,281.—John Ericsson, of New York, N. Y.—*Improvement in Air Engines.*—Patent dated December 14, 1858.—This invention consists in so constructing, arranging, and actuating the supply and working pistons within a single cylinder, that the cold supply air, in being transferred to the heater for the purpose of having its tension augmented, shall cool that portion of the cylinder in which the working piston moves, and keep it at so low a temperature that any kind of metal, or any other suitable material, may be employed for rendering the piston air-tight.

The inventor says: I *claim*, first, the within described system of levers, rock shafts, and connecting rods, or its equivalent, for combining the supply and working pistons with the crank shaft of the engine to produce the operation specified.

Second. The ring C^4, the notches C^3, check pins C^5, and the elongation C^2, of the supply piston, or their equivalents, for effecting the required transfer of the air to and from the heater, and the cooling of the cylinder and preservation of the packing of the working piston.

Third. The telescopic tube *g* applied within the working cylinder and its prolongation, by means of which tube the air is brought in proper contact with the heating surfaces, substantially as set forth.

No. 19,475.—Jacob Armdt, of Wheeling, Va.—*Improved Bellows.*—Patent dated March 2, 1858.—A A A A is an oblong right-angled trunk resting on platform B B B. C C is a plank dividing the trunk into two parts, and in it is placed the valve D. E E E E is the lower plunger. H is a valve in the plunger E E E E. By working the lever M M M, the lower plunger E E, &c., is put in operation, and the air, coming in through the plunger valve H and being forced through the middle valve D, is pressed against the upper plunger N N N N, which is forced downwards by its own weight; a continuous blast is forced out at the throat V.

The inventor says: I do not claim the movable wings with the

springs attached, as they are but a modification of the well known arrangement of metallic packing.

But I *claim* the combination of the trunk A A A A with the lever plunger E E E E, the upper plunger N N N N, and the blast gauge Q Q Q, substantially as and for the purposes set forth.

No. 20,045.—DAVID CUMMING, of Sorrel Horse, Pa.—*Improvement in Blowing Apparatus.*—Patent dated April 27, 1858.—The nature of this invention consists in certain improvements in apparatus for blowing a uniform and efficient stream of air for the purpose of concentrating a flame from a lamp or gas burner.

The inventor says: I *claim*, first, the bellows B in combination with the exhaling bellows or receiver C, when the former and latter are compressed by springs or weights of different capacities in proportion to the exits of the said bellows, for the purpose of producing a uniform blast, as described.

Second. The arrangement of the bellows B and C on the base A, with the channel D, valve *a*, orifice E, valve *b*, and exit *c*, essentially as described for the purpose set forth.

No. 19,013.—WILLIAM S. CARR, of New York, N. Y.—*Improvement in Supply Cocks.*—Patent dated January 5, 1858.—*k* is a valve in the cock A, opening upwards by the primary supply from the pipe *d; l* is a seat formed in the cock by a division 5, in such a manner that water passing from the pipe *g* goes through said seat in the direction of the arrows to the pipe *n;* over the seat *l* is a diaphragm *x* of India rubber, leather, or other suitable material, kept in place by a screw cap 6 confining its edges tightly; *m* is a plunger passing through the cap 6, and formed as a bottom end of a size to set over and cover the seat *l*—the diaphragm *x* intervening—and the plunger is forced towards the seat *l* by a regulated amount of power from the lever *n* and weight *o*, or an equivalent device. The cock A and parts are to be sustained on a plate *p*.

The inventor says: I do not claim the use and secondary supply of water; neither do I claim any peculiar arrangement of pipes in connexion with such two supplies and a hot water boiler; nor do I limit myself to the manner of arranging the water pipes shown in figure 2, as the same forms no part of my invention.

But I *claim* a weighted diaphragm *x*, or its equivalent, and seat *l*, between the secondary supply and the hot water boiler, in combination with the valve *k*, or equivalent, between the primary supply and the hot water boiler, substantially as and for the purposes specified.

No. 20,314.—SETH ADAMS, of Boston, Mass.—*Improved Valve Cock.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim any of the stop cocks to which I have had occasion to refer in the explanation of the difference between them and my improved disk valve cock.

But I *claim* my improved disk valve cock, made substantially as described, viz: with one coupling pipe, a valve seat, disk valve, and

valve chamber, arranged and applied together essentially as specified, so that when the valve may be raised above the bore of the coupling pipe, and a column of fluid may be passing through the said pipe, such column shall flow through the pipe and valve chamber in a line with the axis of the pipe, or in a straight line, and enter the valve chamber at one side and pass out of its bottom, or enter at its bottom and pass out of its side, and through an opening of the valve seat, whose sectional area shall be equal to or greater than that of the bore of the coupling pipe.

No. 20,788.—HENRY GETTY, of Brooklyn, N. Y.—*Improvement in Faucets.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim supplying air to the cask or barrel through the cock.

Neither do I claim a self-closing or valve faucet.

And I do not claim a drip hole to allow water, leaking through at the valve stem or piston rod, to run away at the discharging orifice.

But I *claim*, first, the cylinders *g* and *h*, and slots 3 and 4, in combination with the arm *i* on the valve stem *e* and the inclines 6 6, substantially as and for the purposes specified.

Second. I claim the suction pipe *k* between the point of leakage or overflow at the spindle rod or valve stem and the delivery pipe, when said pipe *k* is in such a position to the discharging liquid that the rush of said liquid past its end shall augment the speed of the liquid in said pipe and draw away any leakage, as specified.

Third. I claim the air tube *l*, of thin sheet metal, or equivalent material, inserted into the shell of the faucet, substantially as and for the purposes specified.

And, in combination with said tube *l*, I claim the self-acting air valve *o* on the cock, substantially as and for the purposes specified.

No. 20,853.—N. P. WHITTELSEY, of Meriden, Conn., assignor to JAMES A. FRARY, of Meriden, aforesaid.—*Improved Faucet.*—Patent dated July 6, 1858.—This invention relates to an improvement in that class of faucets designed for drawing molasses and other thick substances. The object is to obtain a free passage for the substance to be drawn.

Claim.—The adjustable gate B constructed in the form of a segment of a sphere, and fitted to the tube A over a concave seat *a* provided with a packing *e*, substantially as and for the purpose set forth.

No. 22,402.—MARTIN ROBBINS and JAMES POWELL, of Cincinnati, Ohio, assignors to JAMES POWELL, aforesaid.—*Improvement in Faucets.* Patent dated December 21, 1858.—This invention relates to that class of cocks in which a valve and seat take the place of the more customary taper chamber and perforated plug, and consists in an arrangement to insure the effective relative working of the valve and the key, and to prevent leakage around the stem of the latter.

Claim.—The application to the key stem of the collar I, cushion Q, and loose collar R, or their equivalents, arranged and operating in

combination in the manner described, to compensate for the lateral wear or displacement of the stem.

No. 20,799.—GILBERT HUBBARD, of Montville, Mass.—*Improved Measuring Faucet.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the passages A *e* with the rotating cylinders B B^1, provided with followers N, connected by the lever P, and operated through the medium gearing *i h* G, pawl *g*, nitchet F, and spring H, the above parts being used in connexion with the cut-off M, arranged with the nut J and levers K L, or other equivalent device, whereby the cut-off may be closed automatically and simultaneously with the cessation of the rotation of the cylinders B B^1, substantially as and for the purpose set forth.

No. 19,929.—A. JAMINET, of Florisant, Mo.—*Improvement in Filterers.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining one or more doubled-chambered preparatory-separating vessels B B^1 B^2 B^3 with one or more filtering vessels E E^1 E^2, and furnishing both sets of vessels with puppet or other valves D D, and operating said valves by means of tilting troughs through the agency of the weight of the filtered water, all substantially as and for the purposes set forth.

No. 19,335.—CHARLES BALLARD, of Worcester, Massachusetts.—*Improvements in Filtering Apparatus.*—Patent dated February 16, 1858.—The pipe B is fastened to the supply pipe leading from the reservoir fountain, with the aperture G on one side, the filter being turned so that the passages D D range from right to left, the water will have free entrance to the case through the filtering medium F. When the pipe C is turned so that its opening H agrees with the left hand passage in the lever head, the water is drawn in the centre of the filter.

The inventor says: I *claim*, first, increasing the extent of the surface of the filtering medium by folding or supporting the folds, substantially as described.

Second. I claim the combination of the pipes B and C and heads, having passages, as described, with the case A, when constructed and operating as set forth.

No. 21,964.—LEMUEL P. JENKS, of Boston, Massachusetts, and FRANCIS DRAPER, of East Cambridge, Massachusetts.—*Improved Filtering Cock.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the reversal of the filter to change the current, nor the reversion of the vessel containing the filtrating portion of the filter, nor the purifying the filter by means of the specific gravity of a small portion of water left behind after the full current has ceased.

We do not claim the alternate transmission of the water from one side to the other in filtering cocks, nor do we claim that device in combination with the optional passage of liquid through the case without passing through the filter.

Nor do we claim the alternate transmission of the water by one passage across the width of the filter.

But we *claim* the combination and arrangement of a filtering cock, substantially as described, giving the optional transmission of the water through the filtering medium, in either direction, or through the filtering case; the former, without unnecessary impediment to the current, by one passage across the width of the filter, from a rotating two-way cock placed by the side of the filtering medium and closed or discharging at pleasure, the filtering case and the filtering medium being stationary.

No. 21,809.—JOHN K. BARNEY, of Warren, Rhode Island.—*Improved Gauge for Contents of Casks, &c.*—Patent dated October 19, 1858. The body of the instrument is composed of two rods inserted in hollow tubes, marked *a a*, which tubes are united so that the rods turn therein as upon a hinge, with arms on each end of the rods, marked *b b* and *c c*. Attached to the arms *c c* is an index *d* made to slide in an open bar, so adjusted and adapted as to show the exact distance between the points of the arms *b b* when extended in the cask.

Accompanying the instrument are tables of calculations by which, when on inspection, the contents of the cask are ascertained when the measurements are made, by means of a sliding scale adapted to the table.

Claim.—The double rods, with arms, tubes, and index, as described, and their combination in the instrument, by which the cask is measured in length and diameter, outside or inside, in manner set forth, and the construction of the tables with slides, by which is found by inspection the mean diameter, the proper allowance for thickness of staves or head, and the quantity of contents of the cask, from the given or ascertained admeasurement.

No. 21,814.—ERASTUS T. BUSSELL and JOSEPH SMITH, of Cincinnati, Ohio.—*Improved Liquid Gauge.*—Patent dated October 19, 1858.—The nature of this invention consists in providing a double-spring valve cock, with a graduated cylinder, and plunger working therein, by means of which all manner of liquid substances can be measured as they are drawn from the barrel, and, when so measured, can be discharged suddenly into a jug or other vessel without the use of a tunnel.

Claim.—The double spring valve, composed of valves F F, springs S, and rod E, or their equivalents, combined with a measuring faucet, as shown and described.

No. 20,532 —CHARLES VANDER WOERD, of Cambridge, Massachusetts, assignor to ALVAH CLARK & SONS, of said Cambridge.—*Improved Hose Coupling.*—Patent dated June 8, 1858.—This invention consists in the employment of an elastic tube E placed within the coupling

A B, and arranged in relation to the other parts, that the pressure of the water within the hose will keep the coupling water tight. Also, in a peculiar means for connecting the heads of the coupling together.

Claim.—The arrangement and combination of an elastic tube E with the heads of the couplings A B, so as to cover the joint *j* and allow the same to be kept tight by the pressure of the liquid, substantially as shown and described.

No. 22,166.—JAMES C. COOKE, of Middletown, Connecticut.—*Improved Hose Coupling.*—Patent dated November 30, 1858.—This invention consists in providing each part or half of the coupling with both male and female flanges, or parts that interlock each other, arranged and applied in such manner that either half of one coupling will readily match or unite with either half of any other coupling, and thus prevent the necessity of ever changing ends with the length of hose or other article upon which the coupling is placed or used, as is often the case with the ordinary coupling; and this invention further consists in providing this coupling with a tapered part upon which the hose is fastened, the end being beveled, and with a tapering ring or band screwed or otherwise fastened to the coupling.

Claim.—The female parts *a a* in combination with the male parts *c c*, arranged and made to operate substantially for the purpose specified.

No. 22,296.—CHARLES LENZMANN, of Brooklyn, New York.—*Improvement in Engine Hose.*—Patent dated December 14, 1858.—This hose consists of a seamless tubular web, woven in a peculiar manner, of the best and strongest hemp, thoroughly saturated and covered with a composition of matter of which linseed oil and umber are the principal ingredients, with the addition of a proportion of yellow ochre, or a similar pigment, for the purpose of producing a more agreeable color.

Claim.—As a new article of manufacture, the hempen hose, woven, saturated, and covered as described.

No. 21,307.—JOHN B. ALDEN, jr., and EDWIN L. GATES, of Worcester, Massachusetts.—*Machine for Cleaning Hose, &c.*—Patent dated August 31, 1858.—A represents the frame, a part B of which is jointed to the other, so as to be movable to the position shown in the dotted lines in the engravings, and which has bearings for the brush C, and the other part similar ones for the brush D The brushes C D are bolted or geared to admit of their separating from each other without stopping their rotary motion, they being cylindrical brushes. F F are rolls to guide the hose. I is a roll supported by the arms J L and receiving motion from D. O is a catch to hold the part B in place when not opened.

The inventors say: We are aware that revolving brushes are not new, and do not claim such, as they have been used, but only when constructed and operating as described.

We *claim* the combination and arrangement of the brushes, one or both of which is movable to and from the other during operation, and the rolls F F I, when constructed and operating in the manner and for the purposes substantially as described.

No. 19,029.—JOHN HYDE, of New York, N. Y.—*Improvement in Hydrants.*—Patent dated January 5, 1858.—A is the hydrant; B the water pipe connecting with it; C the valve; D the waste pipe; E the space between the open and shut valve; F the aperture to admit air into the upper part of the space E when the valve is open; G is the collar or shoulder on which the valve rests to shut off the water; H is the valve. The lower part of the rod C is bored out and a branch D added; the branch D being hollow, the two constitute a siphon. This rod is firmly set on the valve H, and the hole closed at the lower end where the rod is fastened to the valve by a nut.

Claim.—The application and use of a siphon to hydrants for the purposes specified, constructed and arranged substantially as described.

No. 19,022.—RICHARD DE CHARMS, of Philadelphia, Pennsylvania. *Improved Hydrant.*—Patent dated January 5, 1858.—The claim and engravings explain the nature and object of this invention.

The inventor says: I do not claim to have invented a plug and hydrant operating on the principle of wasting water by a three-way cock, but I merely claim to have improved them (as they have been from time immemorial constructed on that principle) by a very peculiar simplification of their operation. For, in respect to so much of my present improvement as pertains to the voiding of the waste water, that which I do *claim* is—

The making the solid rod of the three-way cock, by which it is operated, a tube bent at the top so as to let on, stop off, and waste the water, by the simple turning of that tube as the top of a faucet. The combining of the first two with the last of these three functions in the vertical motion of a single member of the three-way cock is what I claim as the gist of my improvement of that hydraulic machine, and this feature of my claim, together with the provision of the two air-tight chambers, and the shaft for deriving the waste water as well from the outside as from the inside of the plug or hydrant, substantially as set forth.

No. 19,206.—WASHBURN RACE and S. R. C. MATHEWS, of Seneca Falls, New York.—*Improvement in Hydrants.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim broadly, for we are aware that hydrants have been constructed, and their parts arranged in various ways, so that they could be removed for repairs without excavating, the parts being rendered capable of being withdrawn from the case; but we are not aware that an arrangement like ours has ever been used for effecting the purpose.

Neither do we claim the casing of hydrants, when the case and base or pipe D are in one piece and permanently attached to the pipe from the "main," as that has been previously done.

Neither do we claim, separately, the arrangement of the valves B^1 G.

But we *claim*, 1st. The annular valve B^1 and the disk valve G attached to the rod C, in combination with the escape or leak-opening *j* and seat F, the above parts being arranged to operate as and for the purpose set forth.

2d. The combination of the case A, induction pipe D, provided with flanch *k* and the jacket E, when arranged as shown and described to effect the desired end, to wit: the ready removal, when necessary, of the case and working parts of the hydrant for repairs.

No. 19,330.—KINGSTON GODDARD, of Philadelphia, Pennsylvania.—*Improvement in Hydrants.*—Patent dated February 9, 1858.—When the water is required to run, the handle C must have its outer end elevated to a position which causes the plunger B to descend and press upon the plate *h*, whereby the valve *c* is opened and the water rushes up on all sides of the plunger, between it and the shell A, and exits through the spout F.

The inventor says: I do not wish to be understood as claiming broadly the use of a plunger, or the construction of a self-closing valve.

But I *claim*, 1st. The plunger B operated upon by a weighted handle, in combination with the self-closing spring valve C; the whole constructed and operating substantially as and for the purpose specified.

2d. The construction of the shell A in two sections, in combination with the removable valve seat piece D and bottom piece *e*, the several parts arranged and operating substantially as described for the purposes set forth.

No. 19,513.—JAMES POWELL, of Cincinnati, Ohio.—*Improved Hydrant.*—Patent dated March 2, 1858.—This invention provides a hydrant which prevents any waste of water, and thus saves the foundations of buildings from being undermined, avoids freezing in winter, and affords facilities for getting at and repairing its valves without digging up.

The inventor says: I *claim*, 1st. The combination of two plungers E F working in line with each other, and the double-chambered cylinder C having two escape passages, substantially as and for the purposes described.

2d. The combination of the peculiarly shaped slotted cam L and the crank J, with the two plunger shafts G H, substantially as and for the purposes set forth.

No. 19,511.—JOHN PARHAM, of Philadelphia, Pennsylvania, and SAMUEL P. PARHAM, of Trenton, New Jersey.—*Improved Hydrant.*—Patent dated March 2, 1858.—The object of this invention is to prevent the water being obstructed by the valve and foreign substances which the water may contain when the valve is open and the water is passing up through the main pipe into the plug cylinder.

Claim.—The peculiarly combined arrangement for a fire plug or street hydrant, consisting of the case or cylinder A of the plug or hydrant, which has its valve seat E on a level with the bottom of hte waste passage N, so that the whole of the waste water may discharge, and its main or supply pipe B a short distance above the lower end of the cylinder, so that the valve F may be let down below out of the way of the free passage of the water, and the hollow revolving but not rising and falling female nut J K, which is made to operate the screw rod of the supply valve, so as to force it down into the reception chamber O below the supply pipe B and the waste valve M *m*, which is coupled loosely and peculiarly to the main valve rod *a* and fast to a spring *e*, so as to be held closed when the main valve is opened, and opened when it is shut; all substantially as and for the purpose set forth.

No. 21,338.—JAMES R. HIGGS, of Utica, New York.—*Improved Hydrant.*—Patent dated August 31, 1858.—This invention consists in placing in the upper part of the hydrant a cylinder which extends from the cap of the pipe downwards, in which cylinder is the principal valve and the valve shaft, by means of which the valves are opened and closed, and which cylinder, with the shaft and valve, may be removed without interfering with the case or pipe; the use of two valves, one of which is placed at the bottom of the cylinder and the other further down in the pipe, both valves being made to operate at the same time. The waste rod is connected with the cylinder and valve rod in such a manner that the waste pipe is opened and shut when the valves are shut and opened.

The inventor says: I *claim*, 1st. The cylinder C, constructed substantially as described.

2d. The combination of the cylinder C with the upper valve E and its rod G, when contained and operated in case A, substantially as described.

3d. The combination of the cylinder C and valve E with the waste rod S and waste pipe *a*, substantially as described.

4th. The combination of the cylinder C and valve E with the lower valve F, substantially as described.

No. 21,858 —JAMES SWAN, of Brooklyn, New York.—*Improvement in Hydrants.*—Patent dated October 19, 1858.—The design of this invention is to shut off the water from the hydrant below the surface of the earth sufficiently to protect it from freezing, and at the same time to exclude it entirely from within the hydrant.

Claim.—The use of the elastic tube in combination with the metal or rigid tube A, for the purpose of excluding water from the entire length of the hydrant, when arranged, combined, and operated substantially as described.

No. 22,357.—SAMUEL P. FRANCISCO and WILLIAM P. DICKINSON, of Reading, Pennsylvania.—*Improvement in Hydrants.*—Patent dated December 21, 1858.—The nature of this invention consists in providing a cylinder and piston for the hydrant or fire plug with suitable openings in both; the openings in the piston being provided

with valves on the under side ; the air admitted through the openings in the cylinders is allowed, after water has been drawn, to flow into the cylinder under the piston, when the piston is raised by the operator, either through the piston openings or the orifice at the side of the cylinder ; and the operator, by the downward motion of the piston, which thus compresses the air, is enabled to eject the water remaining in the cylinder and delivery pipe, thus preventing any danger from freezing by allowing no water to remain in the cylinder or delivery pipe.

Claim.—Providing said cylinder and piston with suitable openings for the admission of the air, and for the purposes set forth.

No. 19,224.—James S. Gwynne, of New York, N. Y., assignor to Samuel Nicolson, of Boston, Massachusetts.—*Improved Hydraulic Engine.*—Patent dated January 26, 1858.—An apparatus constructed to embrace the principle of this invention can be employed as a pump, a steam engine, or a water wheel.

The inventor says : I *claim* applying and arranging the roller passage *b b*, the roller D, and the cam piston B, together, and in the case A, in such manner that a liquid, when expelled from the pump, may pass out through the said roller passage *b b*, as described.

I do not claim the combination of an air vessel with a pump.

But I claim the arrangement of the closed air vessel G on the case A, and in respect to, and so as to operate in connexion with, the opening *b b* and the roller D of the said case, or serve not only as an air vessel, but as a receiver and guide for the roller, substantially as set forth.

No. 20,523.—Joseph F. Warner, of Philadelphia, Pennsylvania.—*Improvement in Hydraulic Rams.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Using the water after passing the puppet valve by conducting it to a vessel or cup or basin having a waste opening or openings in the bottom, and used as a power upon a lever or beam to overbalance another power which is greater when the cup is empty, and less when the cup or basin is full. The conducting pipe D, the closed valve chamber A, the set screw I fixed over the valve, the fulcrum H, and beam or lever G, all the parts as substantially set forth or used in combination for the purpose of keeping any hydraulic ram to which it may be attached in motion.

No. 19,398.—Calvin Woodward and George M. Woodward, of New York, N. Y.—*Improved Hydraulic Valve.*—Patent dated February 16, 1858.—G are the valves, which are formed of the section or segment of a tube, so that they may be fitted snugly within the tubes F and cover the orifices of the passages *a*. The valves G have tenons or axes *c*, one at each end, which fit in holes made in caps H which cover the tubes F, and are connected by screw bolts I which extend entirely through the opening C and through the centre of the caps H.

Claim.—The arrangement and combination, as shown and described,

of the valves G, caps H, and bolts I, the caps serving the extra purpose of bearings for the valves, and the bolts the double purpose of packing the caps and stopping the valves.

No. 20,169.—William C. Perrine, of New York, N. Y.—*Improvement in Fluid Metres.*—Patent dated May 4, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

The inventor says : I *claim* making the measuring chambers gradually larger in each direction from near the middle, where the exterior edges of the diaphragms are fastened substantially as described, so that the diaphragm will be held by the water or remain in contact with the part so enlarged until it is drawn away by the centre of the diaphragm or by the plates which move and traverse with the centre of the diaphragm.

I claim the recesses P P in the ends of the measuring chambers in combination with the plates H H, arranged to work into them, (the said recesses.)

I also claim the openings *w w* in the plates H H provided with valves, or such equivalent openings as will well answer the same purpose.

I claim making recesses *p p* with their sides parallel in the flanges T T, so that that portion of the diaphragm in or opposite to said recesses may vibrate a very little between the measuring chamber and the line where it is bound or held firmly by the flanges.

No. 20,979.—Ephraim D. Weatherbee, of Worcester, Massachusetts, assignor to Himself and Lorenzo Harding, of Worcester aforesaid.—*Improved Fluid Metre.*—Patent dated July 20, 1858.—To construct this metre a tight vessel A is made having a partition B across its middle reaching from the bottom to a little above the top of the sides, and dividing the vessel into two equal parts On the sides of the vessel there is made two supports L opposite to each other to hold the shaft C which lays across directly over the partition B ; on this shaft C is fastened the tube D at right angles to it ; this tube is to have inside a proper quantity of mercury S, or to be otherwise weighted. Between each pair of the tubes F is put a short tube G projecting down below the bottom of the vessel, and having at their lower ends valves I^1 I opening downward ; under each pair of tubes F is placed two small vessels H^1 H, which are suspended by rods K K.

The inventor says : I do not wish to be understood as confining myself to the exact shape or proportion described, but to vary them as may be found convenient, so long as I keep the same principles or modes of operation.

What I *claim* is, 1st. The arrangement of the weighted tube D, the vessels H and A, when constructed and operating substantially as set forth.

2d. I claim the combination of the siphons J J with the vessels H^1 H, and tubes G with valves I^1 I, for the purposes specified.

No. 22,315.—Charles William Siemens, of London, Eng —*Improvement in Fluid Metres.*—Patent dated December 14, 1858 ; patented in

England March 4, 1853.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the construction of rotary fluid metres with a revolving wheel or drum, having tangential or oblique apertures, and connected with a counter and enclosed in a fluid-tight case, and so arranged that the fluid to be measured flows from the centre towards the circumference of the wheel or drum, substantially in manner described.

Second. The application to rotary fluid metres of retarding vanes, substantially in manner and for the purpose described.

Third. Constructing the revolving part or wheel of a fluid metre and the fixed part or pipe which introduces the fluid into it with two or more collars or flanges on one or both of the said parts, so as to check the passage of the fluid by the producing of eddies, substantially in manner described.

Fourth. Supporting the wheels or revolving parts of fluid metres by means of a flat or hollow plate or cap of steel, or other suitable material, attached to the wheel and resting upon a fixed pivot, and combined with an oil chamber, substantially as described.

Fifth. Constructing fluid metres with a revolving wheel or drum having tangential or oblique apertures and retarding vanes, and provided with an oil chamber and pivot, and connected to a counter and enclosed in a fluid-tight case, substantially as described.

Sixth. Constructing fluid metres with a dirt box or strainer arranged so that it may be opened and the dirt removed without disturbing the metre or the pipes, substantially as described with reference to figures.

Seventh. Constructing fluid metres with the wheel work or a portion of the wheel work of the counter enclosed in an oil chamber which is exposed to the pressure of the fluid in the metre, substantially as described.

No. 19,414.—William M. Faris, of Wheeling, Va.—*Improved Water Metre.*—Patent dated February 23, 1858.—This invention provides a simple attachment for hydrant pipes, whereby the exact quantity of water used by each family in a city may be measured.

Claim.—The employment of two vessels, constructed and combined in the peculiar manner shown, in combination with the horizontal discharge pipes and a registering device, whereby nearly an accurate registration of the quantity of water discharged may be effected with a uniform or ununiform pressure of the head or source, substantially as described.

No. 20,842.—William Darker, jr., of Philadelphia, Pa., assignor to J. B. Thompson, of Philadelphia aforesaid.—*Improved Water Metre.*—Patent dated July 6, 1858.—This invention consists in combining and arranging, with an oscillating piston A enclosed in a box B, a series of parts for operating a slide valve K connected with the registering apparatus in such a manner as to cause the valve to be moved at the end of each oscillation of the piston.

Claim.—The combination and arrangement of the eccentric cams G G^1, angular rods H H^1, attached to the valve K, and curved springs

E E^1, and friction rollers F F^1, on the sides of the piston A, for giving the required reciprocating movement to the valve, substantially in the manner described.

No. 21,283.—Franklin A. Tenney, of Concord, N. H.—*Improved Water Metre.*—Patent dated August 24, 1858.—In this invention the water, as it flows from the measuring vessel, will first fall on to one of the wings *j*, and then on one of the wings *m*, during its passage to the eduction tube *n* at the bottom of the casing A. The said wings *m j* prevent the eduction valves *l l* of the measuring vessel from being tampered with by means of any instrument inserted into the eduction pipe *n*.

Claim.—The arrangement of the shifting weight *e*, the spring valves *l l*, and the pins *k k*, or the equivalents of said parts, with the double-chambered vessel B, substantially in the manner and for the purpose set forth.

No. 19,286.—William Boyers, of Mount Carroll, Ill.—*Improvement in Pumps.*—Patent dated February 9, 1858.—The cylinder A must be located at the bottom of the well, from which a tube D conducts the water upward to the delivery spout *a*. The two pistons G H are situated in the same cylinder A, one above the other, so that no additional diameter of well is required for employing two pistons instead of one. One piston is lifting while the other is descending, so that they move continually in opposite directions; from the sides of the pistons there projects, through slots *l l* in opposite sides of the cylinder A, ears or lugs *g f*, to which the small connecting rods *b c* are attached.

The inventor says: I do not claim the employment of two pistons working in the same cylinder.

But I *claim* the combination of the connecting chain *h* with the lifting rods *b c*, and with double pistons G H working in a single cylinder A, substantially in the manner and for the purposes specified.

No 19,699.—Jacob O. Joyce, of Cincinnati, Ohio.—*Improvement in Pumps.*—Patent dated March 23, 1858.—By operating hand lever C and imparting to it a vibrating motion, said motion is communicated to the valves *h* and h^1 by means of shaft B and arms D E. As the valve h^1 rises, it is closed by the action of the water on ball F, and the valve G is forced to the position represented in the drawings, the water passing through passage *l* into the air vessel and out through hose N.

Claim.—The arrangement of the circular chambers having their valves operated as described, with the wedge valve G and its inlet and exit openings; the whole being arranged in the manner and for the purpose set forth and explained.

No. 19,671.—James B. Atwater, of Brooklyn, N. Y.—*Improvement in Pumps.*—Patent dated March 23, 1858.—This is an arrangement of the plunger E and other parts of the pump, so that the water, as it is raised and pumped up, is made to act as an efficient packing, and the pump is thereby rendered very durable.

Claim.—The arrangement of the plunger E and cylinder A, with their respective enlarged portions *c d*, constructed and operating as and for the purpose set forth.

No. 20,442.—SILAS S. PUTNAM, of Boston, Mass.—*Improved Pump.*—Patent dated June 1, 1858.—The nature of this invention consists of a double acting pump, so arranged as to force the water from the eduction pipe or nozzle both at the upward and the downward stroke of a single pump rod.

Claim.—The single cylinder A, with its partition head D, in combination with the pistons M and N, operating in the manner substantially as set forth.

No 20,787.—A. A GENUNG, of Painesville, Ohio.—*Improvement in Pumps.*—Patent dated July 6, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—Forming the plunger rod in two separate and distinct parts, and constructing said parts with the barbs D^1 and D^2 and raised surface E^1; also the form and location of the guides I^1 J^1 and K^1, as specified, or their equivalents, by which said arrangement of parts, in combination with the motion of the wind wheel, I am enabled to apply the connecting and disconnecting principle to the plunger, for the purposes set forth.

No. 20,783.—GILBERT B. FARNAM, of Meriden, Conn.—*Improvement in Pumps.*—Patent dated July 6, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The use of the thimble E^2, cap D^1, guide rod m^1, having a reacting spring N attached to its upper end and confined within the air-tight thimble, in combination with the valve L^1 and elastic diaphragm O, for the purpose of lifting and dropping said valve squarely from and to its seat, and at the same time protecting the guide rod and reacting spring attached thereto from the rust of the liquids acted upon by the pump.

No. 20,880.—GEORGE HIBSCH, of Buffalo, New York.—*Improved Pump.*—Patent dated July 13, 1858.—In this improvement there is placed at the lower end of a vertical cylinder A two screw wheels B B, similar to those used for screw propellers, one of a "right" and the other of "a left-hand thread," and by means of a gearing they are revolved in reverse directions, thereby causing a change of direction in the current of water; the action of the upper wheel B gives an increased impetus to these currents, which forces the water to the top of the cylinder, where it is discharged from the spout.

Claim.—The two screw wheels B B, constructed and operated as set forth, in combination with the bands C C, when arranged, in relation to the cylinder A, in the manner and for the purposes described.

No. 21,043.—HENRY ZENG, of Elizabethport, New Jersey.—*Improvement in Pumps.*—Patent dated July 27, 1858.—This improvement consists in the employment of a loose plate, or disk valve F, fitted to

and held in place in the upper part of the cylinder B by the piston rod D.

The inventor says: I do not claim broadly the employment of a water chamber in the upper part of the pump cylinder, nor broadly the employment of a valve therein.

But I *claim* the combination of a loose plate or disk valve F with the piston rod D, in the upper part of the cylinder B, substantially as and for the purpose shown and described.

No. 21,561.—FOSTER HENSHAW, of Washington, D. C.—*Improvement in Pumps.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is, first, operating the piston by a curved slot, possessing the characteristic features described and arranged or formed in a vibrating handle, substantially as set forth.

Second. In the construction of lifting pumps the combination of three or more valves, arranged and operating as before described.

Third. The arrangement of washers I I, formed as specified, with the series of valves, substantially as and for the purposes set forth.

Fourth. Casting in the well pipe a series of steps, essentially as described.

No. 21,560.—SYLVESTER H. GRAY, of Bridgeport, Connecticut.—*Improvement in Pumps.*—Patent dated September 21, 1858.—This invention relates to an improvement in the ordinary hand reciprocating pump, and consists in a novel means employed for adjusting the handle relatively with the spout.

The inventor says: I *claim* having the upright or stand B of the pump handle provided with a claw or hook *a* at one side of its lower end, and having a bolt *c* pass through the lower part of the upright or stand, the bolt being provided with a curved or hook-formed head *d*, the above parts being used in connexion with flanch *a* on the upper end of the pump cylinder, as and for the purpose set forth.

I further claim, in connexion with the upright or stand B, the cover C, arranged as shown, so that it may be secured to the cylinder A by the upright or stand, as shown and described.

No. 21,801.—HENRY W. REGAN, of Cressona, Pennsylvania, assignor to Himself and GEORGE H. NEUER, of Harrisburg, Pennsylvania.—*Improvement in Pumps.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Combining with the water ways of a double acting pump, and air chambers divided by a partition *e*, so that each of the water ways shall have its own air chamber, but the water from each to be transmitted into a common chamber B before its exit from the pump, substantially in the manner and for the purpose set forth.

No. 22,201.—OLIVER W. PRESTON, jr., of Corning, New York.—*Improvement in Pumps.*—Patent dated November 30, 1858.—The pump cylinder A and its ports *p p* are of ordinary construction; the induction pipe *g* is closed and opened alternately to the two valve

chambers *r r* by ball valves *s s* of India-rubber, or other suitable material, which are actuated by the motion of the water. For closing the eduction pipes into the air chamber D a valve is employed of peculiar construction, to operate in a single chamber J, for both ports of the pump. This valve is made in two parts *t t*, which may be the halves of a ball valve, and these parts are connected by an elastic strip or band *u* of the proper length to allow the valve halves *t t* to reach from one valve seat to the other.

The inventor says: I *claim* the employment of the elastic band *u*, or its equivalent, serving to close the valves *t t*, and also as a means to keep said valves in place, substantially in the manner and for the purposes specified.

I also claim the construction of the piston B with the concave cleft plates *d d*, in combination with the disks or rings *b b* and double adjusting piston rod *c k*, all arranged substantially as and for the purpose set forth, at the same time disclaiming all other modes designed to effect similar purposes not substantially equivalent thereto.

No. 22,182.—A. L. Keeports and George Palmer, of Littlestown, Pennsylvania.—*Improvement in Pumps.*—Patent dated November 30, 1858.—The nature of this invention consists in the combination of the fountain pump with the main stem, and in determining the point which is termed the true point at which to place the gain of leverage in operating the pump.

Claim.—The combination of the main pump *r* with the reservoir *a* and ascension pipe *b* elastic spring valve V, the whole arranged in relation to the proportions existing between the valves and pipes, operating as described and for the purposes set forth.

No. 22,165.—Asahel Cooley, of Springfield, Illinois.—*Improvement in Pumps.*—Patent dated November 30, 1858.—A is the suction chamber; B B^1 the cylinder; C C^1 the air chamber; D D^1 the discharge pipe; E E^1 the piston; F F^1 its valve; G G^1 its lower valve; H the working lever; I I the ring around the discharge pipe; K K^1 the pitman for connecting the lever to the ring; and L a transverse section of the pitman.

The inventor says: 1st. I *claim* the parts E, G, F, *s*, and *c c c*, composing the piston and its valves, when combined with the hollow piston rod D, substantially as described.

2d. I claim the parts H, K, and I, constructed as described, when combined with the hollow piston rod D, for the purposes and in the manner described.

No. 19,981.—Samuel Chichester, of Poughkeepsie, New York.—*Compound Air Pump and Gasometer.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A machine composed of a reservoir and two pumps, whose pistons, having their weight proportioned as described, are combined with a shaft K, or its equivalent, to which the power of a spring or weight, or other constant first mover, is applied by means of a cord or chain *f*, connecting them with a loose pulley on the said shaft; a

wheel M fast upon the said shaft; a stop for acting on the said wheel to stop the shaft, and a proper contrivance for engaging the loose pulley with, and disengaging it from, the shaft; the whole operating substantially as described for the purpose set forth.

No. 19,173.—William F. Horton, of Lockport, N. Y., assignor to Walter K. Marvin, of New York, N. Y.—*Improved Pump Bucket.*—Patent dated January 19, 1858.—D is a flange attached to nut E, and made the same size as flange B, both of these flanges being made convex on their sides, which are presented to the packing. E is a nut which passes over the screw F or shaft A, and made secure by the packing in its place. Fig. 2 represents a section of this bucket, showing the flanges B and D and their convexity, the packer C and its convexity, and the washer *d*.

The inventor says: I do not claim any single member of this bucket as new, either shaft, flanges, washer, or packing.

But I *claim* the peculiar arrangement of the flanges D and B with the corrugated washer *d* and packing C, when all are operated and secured in the manner described and for the purpose set forth.

No. 20,443.—Emmett Quinn, of Trenton, N. J.—*Improvement in Pump Buckets.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the central diaphragm *e*, having its under edge concentric with the connecting pin of the rod and in contact with the bottom of its jaw, in combination with the valve V^1, constructed and operating so that the diaphragm receives the pressure on the valve and transmits it directly to the piston rod.

I also claim the combination of the dovetail recess in the metallic core with the plug, penetrable by nails, filling the same, for the more easy and economical attachment of the valve and packing, as described.

No. 21,756.—William C. Hibbard, of West Roxbury, Mass.—*Improvement in Centrifugal Pumps.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, in the construction of the fan wheel, the combination of the curved guide plate B with the vanes C arranged around a central open space, substantially as described, and working in connexion with the covers D and F and casing A, or such other equivalent devices as will co-operate with it upon the same principle.

I do not claim the spiral passage of discharge, constantly enlarging towards its exit to receive the accumulated discharge from the fan wheel, as that has before been used; but, in combination with the centrifugal pump, I claim the expanding outlet constructed upon the principle described, whether employed in combination with the spiral passage of discharge or applied directly to the fan wheel, substantially as described.

I also claim constructing the casing of a centrifugal pump, with a detached cover F, in combination with the fan wheel and fixed casing, substantially as described.

No. 20,060.—S. H. Gray, of Bridgeport, Conn.—*Improved Pump Coupling.*—Patent dated April 27, 1858.—This invention consists in the employment of a curved or bow-shaped bar fitted underneath lugs attached to one of the parts to be connected, the ends of the bar resting on the other part, or on a flanch connected therewith, and in line with its centre; the bar being adjusted or set by means of a screw, so that the parts will be firmly secured together and allowed, while the bar is being set, to adjust themselves so as to fit snugly and water-tight.

The inventor says: I *claim* the curved or bow-shaped bar D fitted underneath the lugs or projections *l l* on the base A, and bearing on the flanch *b* of the cylinder B, the bar D being adjusted by a thumb-screw E, or its equivalent. It being understood that I do not claim any of the above named parts separately or in themselves considered, but the whole, when arranged and applied to a pump, for the specific purpose set forth.

No. 19,907.—Eugene Bellamy, of St. Louis, Mo.—*Improvement in Double Acting Force Pumps.*—Patent dated April 13, 1858.—The claim and engraving explains the nature of this invention.

The inventor says: I *claim*, first, the division piece V as constructed with top and bottom grooves *u*, fitting or corresponding flanches u^1, on the lower chamber and on the adjustable piece U, for the purpose set forth.

Second. I claim the cylinder B as constructed with flanches *b* fitting into grooves *d* in cylinder A, as a removable cylinder, easily removed, so that another can be replaced in case of breakage.

No. 19,680.—Ezra Cope and Isaac W. Bragg, of Cincinnati, Ohio.—*Improvement in Oscillating Pumps.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We do not claim the movement nor the arrangement of any part of our pump separately considered.

But we *claim* the described arrangement of two single acting oscillating plunger pumps to oscillate upon a single trunnion placed between them, as shown, in combination with the employment and use of two or more induction ports in the one chamber of the trunnion, and two or more eduction ports in the other chamber of the trunnion, arranged to alternately communicate with corresponding ports or openings and passages in each cylinder, substantially as and for the purposes set forth in the specification.

No. 19,834.—William Douglas and Benjamin Douglas, of Middletown, Conn.—*Improved Portable Pump.*—Patent dated April 6, 1858.—By a peculiar arrangement of pipes, air vessels and a suction and force chamber, so that a portable and efficient pump is obtained, and one that is especially applicable to watering gardens, syringing plants, washing windows, and like purposes.

The inventors say: We do not claim an elastic cover *d* placed over a chamber E in order to form a pump, for such device has been previously used, and pumps thus constructed are generally known as bellows pumps.

Nor do we claim any of the parts separately.

But we *claim* the pipes A F B and the chamber E provided with the flexible cover *d* and lever L, or their equivalents, and the cup M, the parts being constructed and arranged relatively with each other so as to operate as and for the purpose specified.

No. 19,180.—John S. Barden, of New Haven, Conn.—*Improvement in Rotary Pumps.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a rotary pump constructed with a cylindrical case, an annulus or ring piston, and a wing or slide either hinged or fastened firmly to the piston, and made to slide through a recess in the edge of the case, the said ring piston being moved around in the case by an eccentric placed within such piston; this principle of construction being common to the pumps or propellers described in the specifications of the United States patents numbered 13,979, 14,599, and 18,314, and also in the specifications of several foreign patents.

But what I *claim* is the above described application or arrangement of the reciprocating cylinder D, and its chamber C, with the case chamber B, the induction opening *d*, and the slide wing E, fixed permanently to and so as to vibrate with the ring piston, and slide up and down in accordance with other movements thereof, and have a water passage through it, as specified.

I do not claim making both the induction and eduction passages in the slide wing, as this is shown in the pumps described in the said patents 13,979 and 14,599.

But I do claim arranging one passage only in the slide wing, and the other in the reciprocating cylinder D, or through the case as specified.

No. 19,581.—William Peirce, of New Orleans, La.—*Improvement in Rotary Pumps.*—Patent dated March 9, 1858.—In operating this pump the blades *o* fall of their own weight, and draw the water through the pipe *e*, discharging it at *f*. The projection *m* prevents the water from passing between the centre piece *a* and rim *d*.

The inventor says: I am aware that separate blades designed to be thrown out by centrifugal force, and having shoulders to arrest their movement, have been used in connexion with an eccentric inner surface. This I do not claim, as such pumps require rapid rotation to render them operative. I also disclaim the connecting of blades and arresting their motion by shoulders of the opposite blade when separately considered.

But I *claim* the united blades whose amplitude of motion is limited by shoulders of the opposite blades, as described, in combination with the projection *m*, in filling the space between rim *d* and centre-piece *a*, as specified.

No. 20,796.—Alanson P. Holly, of Seneca Falls, N. Y.—*Improved Rotary Lamp.*—Patent dated July 6, 1858.—As represented in the engravings, a tight case A is shown having two cylindrical compartments *a a*, communicating with each other by an open space in the middle An induction pipe G opens in the middle of the case from the bottom, directly beneath the communicating space between said compartments, and an eduction pipe H leads upward through the top of the case directly over said communicating space. Within these compartments are placed, respectively, two cylinders B C.

Claim.—A rotary pump provided with eccentric cylinders B C, having concentric portions *f f f f*, and corresponding depressions *g g g g*, and operating within the compartments *a a* of the case, substantially in the manner specified.

No. 21,318.—Levi Burnell, of Milwaukie, Wis.—*Improved Rotary Pump.*—Patent dated August 31, 1858.—By inspecting the engravings it will be perceived that the piston f^1 does not commence to recede into the cam box until after the piston d^1, which immediately succeeds it, has been thrust out to its extreme actuating position to take the place of the said piston f^1 in carrying forward the body of water in the piston-way, and also that the piston d^1 does not commence to recede into the cam box until the piston *f* has been thrust forward into its actuating position, and so on with the other pistons.

Claim.—Operating the double sets of radially sliding pistons $d\ d^1$ and $f f^1$ in directions at right angles to each other by means of the three-sided stationary cam *g*, the rotating cam box $b\ b^1$, and the cam yokes *c e*, arranged and operating with each other in the manner set forth.

No. 21,550.– M. R. Clapp, of Seneca Falls, N. Y.—*Improved Rotary Pump.*—Patent dated September 21, 1858.—This invention consists of a cylindrical case A provided with internal teeth or cogs *b b*. A cylinder C of less diameter than the case revolves within the same on a shaft D, having bearings on each side. A circular portion is taken out of the side of C to receive the pinion E, which revolves on the journals *f* in bearings in the side plates *g g* of said cylinder. The teeth of the pinion correspond with and mesh into the internal gearing *b* and the cylinder C, being rotated in the direction indicated by the arrow; the pinion traverses the periphery of the case revolving in a counter direction to that of the cylinder.

Claim.—The combination and arrangement of the revolving toothed pinion E and cylinder C with the abutment K or its equivalent, cylindrical case A, and internal gearing *b*, substantially as and for the purposes set forth.

No. 21,632.—B. T. Trimmer, of Rochester, N. Y.—*Improved Rotary Pump.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that annular pistons are and have been employed in rotary pumps, and the use of such I do not claim, except in combination with the described devices for rendering their operation durable and efficient.

But I *claim* the construction of the triangular reciprocating butments L, working in grooves in the case *f f*, with arms clasping around the edge and into the annular recesses *d* of the loose piston G, to admit of the butment accommodating itself to eccentric action of the piston without materially obstructing the motion thereof, and at the same time packing against its seat *a* and the periphery of the piston by the pressure of the water on its double inclined surfaces *i k*, the parts being arranged and operating substantially in the manner described.

I also claim the combination and arrangement of the two cylinders or cases A A, cams I, pistons G, and butments L, with the chambers C E, and ports *b b* and *c c*, whereby the parts will operate conjointly for the purpose described, or either cylinder work independently of the other, substantially as set forth.

No. 21,904.—Daniel J. Rogers, of Magnolia, N. C.—*Improvement in Mode of Operating Pumps.*—Patent dated October 26, 1858.—The nature of this invention consists in the arrangement of the flexible frame, elevated rocking shaft, pendulous lever, elevated balls and pump pistons, in the relation to each other as shown.

Claim.—The arrangement of the intermediate auxiliary lever, flexible frame C D D E, pistons, elevated rocking shaft F, elevated weighted rod G H, and pendulous handle or lever I, in the relation to each other as shown and for the purposes set forth.

No. 19,276.—Simeon Wood, of Worcester, Massachusetts.—*Improvement in the Mode of Operating Pistons of Pumps.*—Patent dated February 2, 1858.—This invention consists in effecting the operation of the pistons of a system of pumps communicating with a receiver R by the rotation of wheels W W^1 W^2 over the heads of the piston rods when said rotation is produced by the turning of a horizontal weighted disk D resting upon the wheels. Power applied to the pulley *c* rotates disk D, which by its weight causes the rotation of the wheels and the consequent turning of the system about the discharge pipe *p*. As the wheels rotate they recounter the inclined planes *c* on the piston rods, depressing the pistons. The connexion of levers *l* and arms *i* causes the depression of one piston to lift the piston in advance.

The inventor says: I disclaim the actuating of pistons by the rolling of wheels over upward projecting inclined planes, separately considered, as not embracing the full scope of my invention.

But I *claim* the combination of the weighted disk D with the system of wheels W W^1 W^2, the floor *j*, and the protruding inclined planes or their equivalent, arranged and operating substantially as set forth.

No. 21,071.—R. G. Hatfield, of Mount Vernon, N. Y.—*Improved Tube for Conveyance of Sound.*—Patent dated August 3, 1858.—The object of this invention is to collect an adequate volume of sound at distances from a tube and reflect the same through the tube in parallel lines of vibration, provision being made for properly reflecting the sound at the angles of the tube should any be required.

The inventor says: I am aware that implements, such as speaking trumpets and musical wind instruments, have been provided with flaring mouths or ends, for the purpose of projecting the vibratory lines of sound parallelly and the paraboloid, and approximate forms have been given the mouths of such implements; I therefore do not claim separately the mouth B, for that has been previously used.

But I *claim* the mouth B, in combination with the reflector E, the mouth and reflector being of paraboloidal or approximate form, and arranged relatively with each other, so as to operate substantially as and for the purpose set forth.

I further claim the plate F, placed in the elbow *b* as described, for the purpose specified, and also the combination of the mouth B, reflector E, and plate F, when arranged to act conjointly as described for the purpose set forth.

No. 21,898.—ROBERT NELSON, of New York, N. Y.—*Device for Elevating Water by the Combustion of Volatizable Hydro-carbon.*—Patent dated October 26, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* elevating water by producing a vacuum within a proper receiver A by means of any hydro-carbon fluid, when so applied and arranged with suitable mechanism that the fluid will be volatilized in proper or described quantities and exploded by one and the same source of heat.

I further claim the particular means employed for volatilizing and exploding the hydro-carbon fluid, to wit: the box M provided with a lamp N and valve O and attached to the box G into which the tube J from the box or receptacle I passes, the tube J being provided with a cock L, which, as well as the valve O, is operated by the movement of a slide *g*, substantially as shown and described.

No. 21,928 —CALEB RIDER, of Plymouth, Mass., assignor to GEORGE T. MCLAUTHLIN, of Boston, Mass.—*Improvement in Water Metres.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* as my invention is the union or combination of the following elements or features, viz:

1st. Making the inlet aperture of the tub and the outlet apertures of the wheel of the same aggregate area.

2d. Forming the buckets of two planes or curves, the lower one making an angle of 27°, or thereabouts, with the plane of rotation of the wheel, and 90° with the float or upper portion of the bucket.

3d. Making the tub circular and of sufficient height and diameter to allow free action of the water therein, and causing the water to enter from the flume on a tangent thereto, whereby the inlet current is relieved from immediate and direct contact against the floats and buckets of the wheel, and caused to spend its force on the water already accumulated in the tub, and through that upon all the floats and buckets of the wheel itself, the whole forming a water motor, arranged and operating substantially as described.

No. 19,214.—FREDERICK SMITH, of Buffalo, N. Y.—*Improved Water Wheel.*—Patent dated January 26, 1858.—By this improvement the water enters the scroll and acts with its full percussive force upon the radial buckets; then glides smoothly into spiral buckets and gives a full reaction force, aided by the pressure of air above, which is induced to enter the bucket case through a hollow central shaft by the suction of the buckets and a vacuum existing between the water and the hollow shaft.

The inventor says: I do not claim, broadly, admitting air into the bucket case to secure the full percussion, reaction, and free discharge of the water, irrespective of the peculiar manner in which the air is introduced, and the peculiar construction of wheel in connexion with which this principle is employed.

But I *claim* the peculiar construction, arrangement, and combination of the hollow perforated vertical shaft C, radial and spiral buckets A B, and the scroll and cylinder case D E, whereby the two actions of the water, to wit: the full percussion and the full reaction are employed in the same wheel without one interfering with the other, and whereby also a continuous draft of air is admitted into the bucket case above the water, so as to fill the vacuum or space between the water and perforated shaft, and the force and gravity of the water in its reaction thereby greatly increased and a free discharge secured, substantially as set forth.

No. 20,187.—JESSE BARTOO, of East Aurora, N. Y.—*Improved Water Wheel.*—Patent dated May 11, 1858.—The nature of this invention consists in the employment of a cast-iron segment H, an adjustable band D, and semi-cylindrical cap C, in combination with a water wheel for the purpose of adjustability and the protection of the wheel against unequal wear and waste of water.

Claim.—The iron segment H in combination with the adjustable band D and semi-cylindrical cap C, for the purposes substantially as set forth.

No. 20,234.—ALONZO WARREN and ELIJAH DAMON, jr., of Wareham, Mass.—*Improvement in Water Wheels.*—Patent dated May 11, 1858.—This invention consists in the employment or use of auxiliary buckets *l* attached to the under side of the wheel and arranged relatively with the space or leak between the lower rim of the wheel and the scroll, whereby the water or leakage water as it escapes is made to impinge on auxiliary buckets, and thereby assist in propelling the wheel. It also consists in using, in connexion with the auxiliary buckets, certain means for preventing the upward escape of water between the upper disk of the wheel and the scroll, so that all the waste water will be rendered available.

The inventors say: We *claim* the supplementary or auxiliary buckets *l* attached to the under side of the lower rim *m* of the wheel, and arranged relatively with the edge of the rim and plate *k*, as shown, for the purpose set forth.

We further claim, in combination with the auxiliary buckets *l*, the annular L shaped plate C and D attached to the scroll A, in con-

nexion with the ledge *c* on the upper surface of the disk *b* of the wheel, the whole being arranged to operate as and for the purpose set forth.

No. 20,200.—J. H. FAIRCHILD, of Jericho, Vt.—*Improvement in Water Wheels.*—Patent dated May 11, 1858.—This is an improvement in that class of water wheels in which the water is made to act upon the wheel by means of atmospheric pressure or suction, produced by a vacuum formed in a draft below the wheel. It consists in the peculiar construction of the wheel and gates in connexion with the draft, whereby the wheel is exceedingly simple.

The inventor says: I do not claim, separately, the draft tube F, for that has been previously used.

But I *claim* the tube F in combination with the wheel formed of the screws D D placed on a shaft B, and working within the tubular projections *a a*, the whole being arranged to operate as described.

I also claim, in combination with the wheel and draft tube, the gates E E, arranged as described.

No. 20,335.—JOHN CUSTER, of Finley, Ohio.—*Improvement in Water Wheels.*—Patent dated May 25, 1858.—The wheel and chute are arranged in such a manner that the wheel is capable of being raised and lowered as circumstances may require, and the water properly directed into the buckets at any point or portion of the wheel within the range of its adjustment.

The inventor says: I do not claim, broadly, so forming the buckets of horizontal water wheels that the percussive force of the water, as well as that caused by gravity, are obtained, for buckets have been devised and arranged in various ways to accomplish this purpose.

But I *claim*, first, placing the plate A loosely on the shaft B, and rendering the same adjustable thereon by means of set screws *b* or their equivalents, in connexion with the adjustable mouth F, in the sluice D, the parts being arranged substantially as shown and described, for the purpose set forth.

Second. The buckets C constructed of the form shown and described, so that the percussive force of the water is obtained, and also the force produced by its weight, as it passes from the buckets, and the water at the same time allowed to pass in a very direct and uninterrupted manner through the buckets, so as not to occasion much loss of power by friction.

No. 20,456.—JOHN TYLER, of West Lebanon, N. H.—*Improvement in Water Wheels.*—Patent dated June 1, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I *claim* combining an elevated air tight cap with the casing and shaft of a water wheel whose buckets descend from a close head for the purpose of enabling said wheel to be operated without loss of power when entirely immersed in back water, and also for the purpose of furnishing an independent upper bearing to the shaft of said wheel of so firm a character as to enable said wheel to be connected directly to the machinery to be propelled thereby, without any auxiliary shafting or journal boxes, substantially as set forth.

I also claim combining the flanched box of a sliding gate with the mouth of the water way of my improved water wheel. for the purpose of enabling a number of said wheels to be readily bolted to a wooden water tube or trunk, and to be operated independently of each other, substantially as set forth.

No. 20,921.—DAVID K. KRAATZ, of Ephrata, Pa., assignor to ISAAC S. ROLAND, of Bareville, Pa.—*Improvement in Water Wheels.*—Patent dated July 13, 1858.—In this invention when the water first strikes against a bucket it will drive a current of air violently through the aperture in the flanch a^1 at the upper end of the bucket, which will produce a pulsation of the atmosphere within the air chamber above the wheel of sufficient force to drive the dead water out from the spaces between the preceding bucket of said wheel.

Claim.—The perforated flanch a^1 which closes the spaces, between the upper ends of the series of buckets *d d* when the perforations in the said flanch are made to open into a close air chamber, substantially in the manner and for the purpose set forth.

No. 21,578.—ALPHA SMITH, of Sauquoit, New York.—*Improved Water Wheel.*—Patent dated September 21, 1858.—The nature of this invention consists in having the buckets of the wheel in curved form and provided with ledges or projections, so that each individual bucket will virtually consist of a series of buckets extending from the periphery to the centre of the wheel, and against which the water will act successively in its passage through the wheel, and a corresponding relative speed observed between the water and the wheel at all points, whereby the desired effect is obtained.

Claim.—Constructing the buckets C with ledges or prominences *d*, the buckets being curved and fitted between the shells *a d*, which form the body of the wheel A, and arranged relatively therewith, substantially as and for the purpose set forth.

No. 21,753.—W. H. HARBAUGH, of Piqua, Ohio.—*Improved Water Wheel.*—Patent dated October 12, 1858.—The nature of this invention consists in the peculiar construction of buckets for water wheels, in the operation of which the percussive and reactive force of the water will be combined and made to act near the outer periphery of the wheel, and thereby secure greater leverage and more power from a given quantity of water than is obtained by water wheels in ordinary use; and also in the employment of a projecting annular float or rim in combination with said peculiar form of bucket, so that the wheel will be partially supported by the force of water acting beneath the rim and the friction upon the shaft upon which the weight of the wheel rests will be greatly diminished.

The inventor says: I *claim*, first, the peculiar arrangement of the bucket E in combination with the projecting annular float B, for the purposes specified.

Second. I claim the peculiar form of the bucket E, with reference to the percussion plate *a*, all arranged and operating in the manner and for the purposes set forth.

No. 21,757.—JOHN P. HOYT and DAVID W. HOYT, of Lumber City, Pennsylvania.—*Improved Water Wheel.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of a wheel as constructed with the casing as constructed, when the two are so arranged that the water will be received on the broad backs of the buckets, and be discharged by their inclined fronts between the casing and the shaft of the wheel, in the manner specified and for the purpose set forth.

No. 22 282.—JOHN H. FAIRCHILD, of Jericho, Vermont.—*Improvement in Water Wheels.*—Patent dated December 14, 1858.—This invention relates to an improvement in a water wheel for which letters patent were granted to the above named inventor, May 11, 1858. The object of this invention is to simplify the above mentioned patented wheel without departing from the principle of its operation, or in the least degree detracting from its efficacy, and at the same time regulate in a more perfect manner the supply of water thereto, so that the speed of the wheel may be made uniform, or constant with a varying supply of water.

The inventor says: I *claim* the single wheel D in combination with the draught tube F, said wheel being placed within the penstock A, and arranged either horizontally or vertically with said tube substantially as and for the purpose set forth.

I also claim the annular gate H, placed within the sliding frame G in connexion with the adjustable plate J, arranged substantially as shown to operate as described.

No. 21,791.—ALDEN WHITMAN, of Auburn, Me.—*Improved Water Wheel and Chute.*—Patent dated October 12, 1858.—A is a shaft carrying the wheel B, *c c c* are its buckets (the number for a wheel depend upon its diameter) arranged in order as shown in the engravings, so that the interstice shall be of sufficient extent for the water to escape without any resistance to the wheel; D is an inclined tapering spout conducting the water in a direct course upon the buckets on the under side of the wheel and in a direct line with its travel on the double bucket curving concentrically with the same about the length of one bucket at the aperture of the discharge E.

Claim.—The peculiar form of the bucket in conjunction with the corresponding form and relative position of the spout thereto, in the manner described and for the purpose set forth.

No. 19,115.—CHAUNCEY B. WHITNEY, of Ithaca, N. Y., assignor to PHILIP CASE, of Ithaca, N. Y.—*Improved Chute for Water Wheels.*—Patent dated January 12, 1858.—*a* in fig. 3 is a transverse section of the flume or water chest. In it L L is the flanking or sides, and M M the inner flanking. N is the shaft and connected with it are dotted lines representing the hub or centre of the water wheel, the buckets and rims of the wheel; *b* is a vertical section of the flume at right angles to the one above named, in it O is the entrance for the water, and the lines P P, continued from the entrance, show the concoidal or screw-shaped top of the flume.

Claim.—The double helix or scroll or curved funnel-shaped flume or water chest, when combined with the described bucket in the said water wheel.

No. 20,437.—JOHN MCCARTY, of Catharine, N. Y.—*Improved Horizontal Water Wheel.*—Patent dated June 1, 1858.—The bucket F in this water wheel is so formed that the water is retained or allowed to act sufficiently long against the bucket, so that they may receive its full effective force, and is then discharged at the centre of the wheel. Four chutes K K K K are employed, arranged relatively with the bucket and wheel, so that the water will be properly presented or conducted to the bucket, so as to act in the most effective manner.

The inventor says: I do not claim broadly the operating of all the gates simultaneously. I am aware that many horizontal centre vent wheels have been devised, and I am also aware that four chutes have been employed to let the water on the wheel at opposite points of its shafts for the purpose of preserving the equilibrium of the wheel. I, therefore, do not claim, separately, the chutes K, nor do I claim, broadly, a centre vent or centre discharge wheel.

But I *claim*, 1st. The buckets F, constructed of the form specifically as shown and described for the purpose set forth.

2d. I claim, in combination with the buckets thus formed, the four chutes K, arranged as shown and described.

3d. I claim the manner of operating the gates L, the same being curved and attached to the levers M as shown, and connecting the levers M with the rising and falling frame O, the parts being arranged as described for the purposes set forth.

No. 20,350.—JAMES B. JOHNSON, of San Francisco, Cal.—*Improvement in Wind Wheels.*—Patent dated May 25, 1858.—This invention consists in the peculiar means employed for giving a uniform speed to the wheel, during variable degrees of velocity of the wind, and also in a peculiar means employed for stripping the wheel when desired.

The inventor says: I do not claim operating the adjustable sails *i* by means of the sliding head or plate I, actuated by a governor through the medium of the levers as shown, for this has been previously used.

Nor do I claim the manner of attaching the rotating plate C to the framing A, for this has also been previously done.

But I *claim* constructing the wind wheel G with stationary and adjustable sails *h i*, substantially as and for the purpose as set forth.

No. 20.336.—WILLIAM H. DERRICK, of Stockton, Cal.—*Improvement in Wind Wheels.*—Patent dated May 25, 1858.—The object of this invention is to render the wind wheel, by a very simple means, self-regulating and self-adjusting, so that the wheel will rotate with equal or nearly equal speed during variable degrees of velocity of the wind, or made to veer in accordance with it.

Claim.—The movable or traversing vane G with weight H attached, in combination with the permanent or stationary vane F arranged as shown, or in an equivalent way to operate as and for the purpose set forth.

No. 19,383.—George W. Shaw, of Thompson, Conn.—*Improved method of furling the Sails of Wind Wheels.*—Patent dated February 16, 1858.—This wind-mill is formed of vertical sails E placed between two horizontal frames B and C. They are set angularly, so that the wind may enter the frames between the sails and propel it by reaction and passes out between them, the wind as it leaves the wheel acting simultaneously upon the greater portion of the sails.

The inventor says: I *claim* attaching the sails E to the frames B C, substantially as shown, whereby the wind is allowed to pass between the sails and within the wheel, and to act against the sails as it passes out from the wheel.

I further claim attaching the upper ends of the sails E to rollers *h*, which have cords *i* passing around them at one end, the ends being connected to a plate F placed on the shaft A, and resting upon the spring G, the above parts being used in connexion with the movable frame C, whereby the area of the sails may be increased or diminished as desired, for the purpose set forth.

XII.—LEVER, SCREW, ETC.

No 19,830.—W. H. Cloud, A. L. Hatfield, and C. H. Burdick, of Fremont, Ohio.—*Improvement in Clasps for fastening Bags.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The peculiar construction of semi-circles *a a*, with thin edge to prevent slipping, and hinge B at one side, clasp *c* and catch *d* on the other side, the peculiar construction of lever *f* so as to be operated upon by the pressure of the bag when fastening, and thumb-piece *h*, by which it is easily opened, the whole being arranged and combined in the manner and for the purposes set forth, or in any other manner substantially the same.

No. 21,520.—George H. Smith, of Glenwood, Iowa.—*Improvement in Spring Balances in combination with a Knife* —Patent dated September 14, 1858.—This invention consists in placing a spring balance within the handle of a knife, such as is used by butchers and retail dealers in articles that are cut and sold by weight, so that articles may be cut and weighed by one and the same implement, the work being done equally as accurate and more expeditiously that by any usual mode.

The inventor says: I do not claim the knife.

Nor do I claim in the abstract, or when separately considered, a spring balance.

But I *claim*, as a new and useful article of manufacture, a knife having a spring balance inserted in its handle, as and for the purposes set forth.

No 19,437.—John McMurtry, of Lexington, Ky., assignor to Daniel Wiehl, of Fayette county, Kentucky.—*Improvement in Cotton Bale Hoops.*—Patent dated February 23, 1858,—The nature of this invention will be understood by examining the claim and engravings.

The inventor says: I *claim*, first, splitting one end of a cotton bale hoop so that it may be contracted or expanded in width as may be required, in order to effect the locking of the hoop around the bale without slack, substantially as set forth.

Second. The combination of the split and shouldered end of the cotton bale hoop with the slotted end, in the manner described and for the purpose set forth.

No. 21,517.—Albert C. Richards, of Newtown, Conn.—*Improvement in Clasps for Cotton Bale Hoops.*—Patent dated September 14, 1858.—

This invention consists in a peculiar mode of clasping or tying cotton bale hoops by the use of three rings. The hoop is made of unusually thin hoop iron. Three rings A C C are employed, one of these rings is larger than the other two. They may be made of malleable cast iron and very small.

Claim.—The use of the three rings A and C C in combination with the hoop B, as a cheap and convenient cotton bale hoop, substantially as described.

No. 21,305.—John Agnew, of Columbia, S. C.—*Improvement in Coupling for Bale Hoops.*—Patent dated August 31, 1858.—This invention consists in having a small metal casting, with a longitudinal slot in it of double taper form, and having the ends of the hoops doubled or bent over in loop form, so that the same may bind or become wedged in the casting, forming a perfect coupling or fastening.

Claim.—The socket A, provided with the double taper opening *a*, in connexion with th· loops *b b* at the ends B B of the hoops, substantially as and for the purposes set forth.

No. 19,709.—David G. Olmstead, of Vicksburg, Miss.—*Improvement in Cotton Bale Ties.*—Patent dated March 23, 1858.—This invention consists in a clasp A, made of cast metal, and a band B, made of thin metal, so that it will bend easily. The band is bent at right angles to its length, and inserted through the open space of the clasp A; the band is then carried around the bale or package, and passed through the clasp, where it is secured by the wedge C.

Claim.—The clasp A and wedge C, arranged and operating in combination with the band B, with its bent extremities *a a*, substantially in the manner and for the purpose specified.

No. 19,490.—Frederick Cook, of New Orleans, La.—*Improvement in Metallic Ties for Cotton Bales.*—Patent dated March 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the friction clasp or buckle for attaching the ends of iron ties or hoops for fastening cotton bales and other

packages, so that the ties are prevented slipping by the friction against a certain portion of the buckle.

I claim also the looping of the ends of iron ties or hoops for bales into a buckle, by the form of which they are prevented slipping by friction, when the strains of the expansion of the bale comes on the ties. The ends of the hoops or ties not being attached together in any way, the connexion being formed by a distinct buckle or friction clasp.

I also claim the described "slot" cut through one bar of clasp, which enables the end of the tie or hoop to be slipped sideways underneath the bar in clasp, so as to effect the fastening with greater rapidity than by passing the end of the tie through endways.

No. 20,311.—P. C. INGERSOLL, of Green Point, N. Y., assignor to Himself and H. F. DOUGHERTY, of said Green Point.—*Improvement in Securing Metallic Bands on Cotton Bales.*—Patent dated May 18, 1858.—This invention consists in having a metal plate provided at each end with an opening or recess, through which the two ends of the hoop pass, and having a batten riveted to the outer side of the plate; this batten being recessed at its outer ends on its face side to receive the ends of the hoop, which are bent so as to pass in those recesses, and so keep the hoop from moving.

Claim.—The batten B, pivoted to the plate A, provided with openings *a a*, the button B being provided with recesses *c* at its ends, and the whole arranged as and for the purpose specified.

No. 21,190.—WILLIAM FIELD, of Providence, R. I.—*Improvement in Metallic Bands for Binding Bales.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not confine myself to the staple-shaped key, as shown in the first described class, as two single keys may be used, and produce the same effect in preventing the loops from slipping.

I *claim* first, arranging the band over the clasp and the ends of the band, which are bent under to form the loops by which the band is connected with the clasp, so that the ends lie above the clasp, and the band, covers and protects both of these ends, and also the clasp, substantially as described.

Second. Connecting the looped ends of the band with the clasp by means of a double key or its equivalent, arranged substantially as described, so that the turning of the key prevents the loop from slipping as described.

Third. Arranging the key or keys on the under side of the band and clasp, for the purpose described.

No. 21,360.—GEORGE W. PENNISTON, of North Vernon, Ind.—*Improvement in Machine for Tightening and Securing Metallic Bands for Cotton Bales, &c.*—Patent dated August 31, 1858.—The object of this invention is to produce a machine which will, with the greatest ease and facility, secure metallic and other hoops for cotton and hay bales, &c.

Claim.—The construction of a hoop tightener and holder in connexion with doors D D, and arms B B, and lever A, constructed as described, or any other construction substantially the same, and which will produce the same results.

No. 21,272.—INCREASE C. PLANT, of Macon, Ga.—*Improvement in Metallic Bands or Ties for Bales, &c.*—Patent dated August 24, 1858.—The nature of this invention consists in constructing a bale tie or lock of cast or wrought iron, or copper, or other metal, to be used in connexion with iron or other metallic bands for baling cotton or other articles in such a manner that the two ends of the band may be easily connected, and as easily loosed and shortened in repressing the bale, without injuring the fastening.

Claim.—The bale, tie, or lock, made open at one edge and both ends, so that the band may be inserted in it edgewise, in the manner substantially as described.

No. 21,848.—ALBERT C. RICHARD, of Newtown, Conn.—*Improvement in Clasps for Metallic or other Flexible Bands.*—Patent dated October 19, 1858.—This clasp consists of the frame *a* and ring *b*, made of cast iron. Frame *a* has a recess in which ring *b* can be easily inserted, the inside of one of the ends slightly inclined; the length or longitudinal diameter of the recess in frame *a* is such, that when the end of the band *e* is inserted in it, and against the inclined surface at *c*, and ring *b* placed in contact with the band with one end, while the other end of ring *b* rests against the opposite extremity of the recess of frame *a*.

The small ring *f* is made of cast iron, and is employed for combining the frame, ring *b*, and band at one end.

Claim.—The use of frame *a*, and ring *b*, in combination with band *e*, substantially as described.

No. 22,372.—JAMES C. MCGREW, of Smithfield, Ohio.—*Improvement in Machines for Elevating Hay.*—Patent dated December 21, 1858.—The nature of this invention consists in arranging a platform, on the sheers by which the hay or fodder is hoisted, for the hay and fodder to slide upon, as it is elevated to the top of the stack or rick being built or formed.

Claim.—In the described machine for elevating hay, grain, fodder, &c., the arrangement of the bar a^3, and inclined platform, a^1 a^2, with the sheers and hoisting fork, all substantially as described, for the purposes set forth.

No. 19,087.—JAMES H. GILL, of Mount Pleasant, Ohio.—*Improvement in Hay and Straw Elevators.*—Patent dated January 12, 1858.—This invention consists: 1st. In hinging the base of the boom which sustains the hoisting mechanism to a strong portable carriage, and combining with it an adjustable apron or fender, which not only assists in sustaining the boom in an inclined position, but also serves to protect the bundles of hay and straw as they are elevated. 2d. In giving support to the stationary section of the fender, retaining the sliding

section in the position as it is raised, and keeping it off from the stack.

The inventor says: I do not confine myself to the precise method as described, of connecting the fender, as many other equivalent ways can be used to accomplish the same object.

I *claim*, 1st. The combination of the inclined hoisting boom hinged to the supporting frame with the adjustable fender, arranged as described for the purpose set forth.

2d. The combination of the hinged forked feet *e*, with the sliding section of the fender, for the purpose described.

No. 19,939.—GEORGE MARTZ, of Pottsville, Pa.—*Improvement in Machine for Hoisting and Dumping Coal.*—Patent dated April 13, 1858.—In practical operation two of these machines are combined and arranged in such a manner that the car of one shall be ascending, while the car of the other is descending. The tilting bar J is yielding, so that in case the engine is reversed just a moment after the load of one car has been dumped, and before said car has passed down below the tripping bar or plate, this car shall have a chance of rising without breaking the machine.

The inventor says: I *claim*, 1st. The employment, in combination with the car F, and dumping chute I, of the peculiar arrangement of mechanism consisting of the sliding gate B, pivoted platform E, confining catches T, *g g*, trip bar H, tilting or dumping stop bar J, all substantially as and for the purposes set forth.

2d. The employment of the tilting or dumping stop bar J, whether yielding or stationary, above the front of the platform E, substantially as and for the purposes set forth.

3d. Having the sections *d d* of the railroad attached to the platform, so that they may rise and come in contact with the wheels of the car and cause the car to assume a proper lifting position, and also serve for lifting the car, and likewise for holding it from forward or backward play while tilted or dumped, substantially as and for the purposes set forth.

No. 20,455.—GEORGE THOMPSON, of Cincinnati, Ohio.—*Improvement in Machinery for Hoisting and Lowering Goods, &c.*—Patent dated June 1, 1858.—The goods to be raised are placed on platform C, and if the load is too heavy to be hoisted with the crank H, the pinion and shaft M is brought in gear, the crank placed on the pinion shaft which now becomes a driver capable of hoisting a very heavy weight. This machine can be used for persons going up and down stairs.

The inventor says: I *claim*, first, the use of windlass H, one or more, whether parallel or tapered, corrugated or grooved in combination with the travelling frame, for the purpose set forth.

Second. I claim the use of the brake P, or its equivalent, for the purpose substantially as described.

No. 19,250.—AUGUSTUS HUNT, of Philadelphia, Pa.—*Improvement in Apparatus for Hoisting Ice.*—Patent dated February 2, 1858.—The claim and drawings explain the nature of this invention.

The inventor says: I *claim*, first, the employment, for raising and delivering ice, of two cradles, so arranged in connexion with any suitable driving apparatus, that one shall ascend simultaneously with the descent of the other, said cradles being so constructed and arranged as to retain and deliver the ice without the aid of assistants.

Second. Forming that portion of the cradle on which the ice rests with an incline, and combining that incline with the retaining and releasing levers K and K^1, or their equivalents, for the purpose specified.

No 20,170.—REUBEN PACKARD, of Rockland, Maine.—*Improvement in Hoisting Machines.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The circular plate or its equivalent, arranged substantially as described, in order that it may be turned easily and held in any desired position by pawls or their equivalents, for the purpose of sustaining any combination of mechanical powers constructed thereon for drawing or lifting heavy weights or their equivalents.

No. 22,008.—DANIEL W. BARR, of Lancaster, Pa.—*Improvement in Hoisting Machines.*—Patent dated November 9, 1858.—The object of the central pulley J is to keep the burden in the centre of the hatchway while hoisting by means also of the double pulleyed hoisting tackle K, and drums or attachments, the ropes keep spread and prevents that twisting so annoying by the use of the ordinary means employed, and to the saving of time and muscular force.

Claim.—The central pulley J, bevelled cog wheels and drums C, side wheels H I, double pulley hoisting tackle K, slide door T, drum and crank P, with cord N, with the whole combined and arranged substantially as described, for the purposes set forth.

No. 21,837.—WILLIAM KEARNEY, of Newark, New Jersey.—*Improvement in Hoisting Jacks.*—Patent dated October 19, 1858.—The nature of this invention consists in combining a screw shaft with a right and left thread, two concave worm wheels, two worms with different threads, the journals of the worms working in eccentrics, two nuts or boxes, and an adjustable crank by which the speed and power of the jack may be varied as in use it may be required.

Claim.—The combination of the screw shaft, two or more concave faced worm wheels, two or more worms of different threads, the journals of the worms in eccentrics, two nut cases or boxes with an adjustable crank, in the manner and for the purpose specified.

No. 20,372.—ALBERT C. RICHARD, of Newtown, Connecticut.—*Improvement in Lifting Jacks.*—Patent dated May 25, 1858.—This invention consists of a portable lifting jack, by which railroad cars or other heavy bodies may be raised and traversed in every direction, whether upon a horizontal plane or an inclined one.

Claim.—The standard A, provided with screws and pinions, in combination with the traverse bar D and the adjustable friction rollers M, the whole being constructed substantially as set forth.

No. 21,342.—Joel C. Jackson, of Rochester, New York.—*Improvement in Lifting Jacks.*—Patent dated August 31, 1858.—The nature of this invention consists in a certain construction of jack, whereby with the use of certain adjuncts thereto a railway car or any similar body may be raised to any desired height with a single lift or operation of the machine.

Claim.—The arrangement of the screw *c*, slides *s s*, and nut N, in combination with the bar B or fork T, in the manner and for the purpose substantially as described.

No. 21,107.—Amos Jones, of Lebanon, New Hampshire, assignor to Himself and Solon M. Davis, of said Lebanon.—*Improvement in Mechanical Jack.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Constructing an improved jack by combining a doubly toothed shank with a suitable head-piece A, when the teeth of said shank are arranged in such a manner as to furnish the necessary fulcrum and catches for the operating lever C in the performance of its appropriate functions, substantially as set forth.

No. 20,624.—George E. Clay, of Stillwater, Minnesota.—*Improvement in the Mode of Applying Lever Power.*—Patent dated June 22, 1858 —The nature of this invention consists in so gearing the vibrating arms G H to which the rachet pawls are attached together by a series of cog wheels F, so as to enable a continuous rotary motion to be transmitted to a shaft A by the vibratory or oscillating movement of a lever on which the motive power is first exerted.

The inventor says: I am aware that oscillating spring fall arms or bars and rachet wheels have heretofore been employed for giving a continuous motion to shafts, and I do not therefore lay claim to these parts.

But I *claim* the combination of the oscillating arms or bars G H, secured to the pinion E, and cog wheel F, which turn loosely on the horizontal shaft A, and pinions K L, and cog wheel M, for gearing the two arms together, substantially in the manner and for the purpose described.

No. 21,822 —T. J. Davis, of Schroepell, New York, and J. B. Warner, of Volney, New York —*Improvement in Machines for Lifting Heavy Weights.*—Patent dated October 19, 1858.—In figure 1, A is the inclined plane or way for the weight to slide on; B the sliding beam with alternate rachets in it; C the bent levers acting as palls falling into said ratchets; D the lever to which the power is attached; E is the foundation for supporting the inclined plane; F the tongue working in a groove on the under side of the beam B; *a* the fulcrum of the power lever; C C the fulcrum to which are attached the pall levers C; *d* the screws for securing a longer arm to the lever D.

In figure 2, A^1 is the foundation; B^1 the rachet wheel; C^1 the pall levers; D^1 the power lever.

Claim.—The combination of lever D operating horizontally, and lever C moving parallel to each other in a line with the fulcrum, and catching alternately into rachet B as they are made to reciprocate by the vibrations of lever D, as described and set forth.

No. 19,291.—Jacob C. Geisendorff, of Cincinnati, Ohio.—*Improvement in Lubricating Apparatus for Journal Boxes for Railroad Cars.*—Patent dated February 9, 1858.—A represents the end and A^1 the journal of the axle; B is the grease box; C is the step or journal bearing. Secured in the bottom of the box B by cleats *b* is a frame D, which is at each end provided with a pair of cheeks *d*, which confine to a vertical point the journal boxes E of a suitable lubricating roller F, by means of the spring G the summits of the boxes E E are held strongly against the axle A A^1; H is a rachet wheel mounted on the front end of the roller shaft *f*; I I are spring pawls which, being hinged to the frame D, engage with the rachet wheel H on opposite sides.

Claim.—The guards E, springs G, rachet wheel H, and pawls I I^1, or substantially equivalent devices, in the described combination with the lubricating roller F and axle A A^1, for the purposes set forth.

No. 20,331.—John W. Cochran, of New York, N. Y.—*Improvement in Lubricating Car Axles.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the rollers *h h* upon the coil *e*, said coil having within it a shaft or rod of metal or wood with the rods *d* attached to studs *c*, in their relation to each other and to the box and axle, as and for the purposes set forth.

No. 20,406.—John W. Cochran, of New York, N. Y.—*Improvement in Lubricating Car Axles.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The elastic rings *c* upon the roller *b* serving the double purpose of elastic bearing and oil conductors, as set forth.

No. 20,674.—Seth H. Whitmore, of Cincinnati, Ohio.—*Improvement in Oil Cups for Lubricating Engines.*—Patent dated June 22, 1858.—F is an axial stem capable of being partially rotated by means of a lever J, and provided with two collars G H which fit respectively the top of the upper floor and the bottom of the lower floor, the collars occupying the relation of valves and the floors that of valve seats.

Cldim —The combined arrangement of the external valves G and H mounted on a central stem F, and operating as described in connexion with the globe A B C D F.

No. 19,108.—John B. Tom & Stephen D. Tucker, of New York, N. Y.—*Improved Method of Lubricating Journals, &c., by a Pendulum Valve Arrangement.*—Patent dated January 12, 1858.—A is a reservoir into which the lubricating material is put, (see figures 1 and 2.) B is a cock having a chambered plug or cylinder C. This plug or cylinder has one or more chambers, which, as the plug revolves, connect alternately with the reservoir A and the outlet passage D. On the stem of the plug are the worm wheel E, running loose, the rachet wheel F, made fast, and the crank handle G, also made fast. To the

worm wheel E is attached pawl H, which drops into and carries forward the rachet wheel F and the chambered plug C.

The inventors say: We do not claim any peculiar mechanism for moving the chambered plug or cylinder, as that may be done in various ways; but what we *claim* as novel and useful is the chambered plug or cylinder moved by mechanism for rendering it automatic or self-operating or any or all modifications of the same or their equivalents, for the purposes already set forth, substantially as described.

No. 19,551.—William Diller, of Lancaster, Pa.—*Improvement in Lubricating the Axle Boxes of Carriage Wheels.*—Patent dated March 9, 1858.—The box A has a series of oblique or inclined grooves B, formed in its inner side, extending entirely around the inner surface, and placed at such distances apart that the portion of the arm C of the axle around which one groove will pass over as the box rotates, will adjoin or nearly adjoin the portion of the arm around which its adjoining grooves will pass over. These grooves are made of a requisite depth and breadth to form oil chambers for the perfect lubrication of the arm without diminishing in any appreciable degree the bearing of the box.

Claim.—The oblique or inclined grooves or oil chambers B formed within the axle-box A, substantially as and for the purpose set forth.

No. 19,385.—William K. Stevens, of Alexandria, La.—*Improvement in Lubricators.*—Patent dated February 16, 1858.—The two valves F F are so arranged relatively to each other and to the passages *a* and *b*, that when the spindle D and disk E are turned to bring one valve in a position to open the passage *a*, it moves the other over the passage *b* and thus allows the oil to descend by gravitation from the cup B to the chamber A without allowing steam to pass through the chamber. The spindle is turned by a lever G.

Claim.—The arrangement shown and described of the disk E and valves F, when the latter operate and are rendered adjustable, substantially as and for the purposes set forth.

No. 21,816.—Elias Clampitt, of Baltimore, Md.—*Improved Lubricator.*—Patent dated October 19, 1858.—The nature of this invention consists in supplying lubricating matter to steam cylinders, chests, &c., when it is required under a pressure of steam, by means of a valve which opens upon a downward pressure upon the cup, and closes itself by means of a spiral spring when said pressure is removed.

Claim.—The peculiar construction of my valve E and the introduction of hollow tubes G into stem J, (in connexion with valve E,) with its openings c^1 and flange below acting as a valve against the lower end of shaft J supplied with a spiral spring F at top, producing thereby a self-acting valve when the presure on cup A is removed, as described.

No. 19,750.—William Clough, of Madison, Indiana.—*Improvement in Lubricator for Railroad Axles.*—Patent dated March 30, 1858.—This invention consists in a "hand" E attached to a sleeve F, which is fitted to work on a spindle within the oil box. It has also attached

a slotted or jointed arm G, that is connected with an eccentric wrist *b* at the end of the axle, which gives a rotary motion to the wrist, and causes the hand to receive a swinging motion, which alternately dips it into the oil in the oil box A, to take up a small quantity of oil, and lifts it up into contact with the journal B to deposit the oil upon the journal. It also consists in making the slotted arm, sleeve, and hand of a single piece of wire, so that the sleeve will constitute a spring.

The inventor says: I do not claim the use of an arm, deriving such a motion from the axle as to dip into the oil or grease, and deposit it upon the journal at every revolution thereof.

But I *claim* the combination of the oiling finger E, slotted arm G, and wrist *b*, in the manner and for the purpose described.

And I also claim making the oiling finger E, sleeve F, and slotted arm G, from the same piece of wire, in the manner and for the purpose set forth.

No. 20,665.—Robert Ross and William Holland, of Philadelphia, Pennsylvania.—*Improved Oil Cup for Machinery.*—Patent dated June 22, 1858.—When sufficient oil has been introduced into chamber *b* the stem *h* is allowed to rise and close the valve *s* by the action of the spring *t*. By then turning the handle *x*, the key *k* unscrews and raises valve *e* and allows the oil to flow into the steam cylinder, the previous closing of valve *s* preventing the escape of steam.

The inventors say: We *claim* the combination of the spring valve stem with the screw valve *e* in the intermediate chamber *b*, as set forth, each operating in conjunction with and at the same time independently of the other, to the extent and in the manner set forth.

We also claim the air passage *u* within the stem *h*, in combination with the oil passage m^1 around the stem *h*, in the manner set forth.

No. 19,572.—Judson Mattison, of Oswego, New York.—*Improvement in Machine for Packing Flour.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, as a protection to the sack or barrel to be packed, a stationary or movable cylinder containing a screw or some other packing apparatus arranged to work within said cylinder and force the flour or other substance to be packed out of said cylinder, and pack it into the sack or barrel that surrounds it, substantially as described.

I also claim a traversing or yielding platform, so constructed and arranged as to hold the sack or barrel up around the cylinder containing the packer, substantially as described, and yield as the sack or barrel is filled with packed flour or other substance being packed by the machine; and in combination with the traversing platform I claim one or a series of weights K, arranged so as to counterbalance the weight of the material being packed on the platform, so as to pack the flour or other substance uniformly, from the bottom to the top of the sack or barrel.

No. 19,811.—Simon Ingersoll, of Brooklyn, N. Y., assignor to Himself, S. B. Turner, and George W. Kimball, of said Brooklyn.—*Improvement in Presses.*—Patent dated March 30, 1858.—By raising lever P, the pawl X will drop in the teeth of rachet O; and by pulling down lever P, the windlass N will turn and wind up the rope L, which, being fastened to the lever *g*, at D^{IIII}, by bolt *z*, the connecting chain I being fastened to the same bolt, and passing round shieve J to lever *g*, at D^{II}, will pull both levers *g h* at the same time in opposite directions, and pass from D^{IIII} to D^{I}, and from D^{II} to D^{IIII}, which will complete the pressing of the bale.

The inventor says: I am aware that levers similar to those used by me have been used before in various ways. I therefore disclaim them in and of themselves considered.

But I *claim* the levers *g g*, *h h*, chain I, shieve J, when arranged on the beams E K, in the manner shown and for the purpose set forth.

No. 22,387.—Enoch Thomas, of Beverly, Va.—*Improvement in Cam Press* —Patent dated December 21, 1858.—The nature of this invention consists in the mode of constructing and arranging the journal boxes, so as easily to vary the space under the follower, and retain the uniform position of the pressure; also, combining the cam and windlass cast in one solid piece.

Claim.—The mode of making and arranging the journal boxes so as easily to vary the space under the follower, and retain the uniform position of the pressure, in combination with the cam and windlass, cast solid, when constructed and operated substantially as specified, and for the purposes set forth.

No. 20,346.—Jacob Hibbard, of Weathersfield, N. Y.—*Improvement in Cheese Presses.*—Patent dated May 25, 1858.—This invention consists in operating the follower of the press by a system of levers and a weight, whereby a progressive power is obtained, and the cheese or curd so acted upon, or subjected to such a pressure that all the whey and useless substances will be expelled from it, and all the cream or oily and essential substances retained.

The inventor says: I am aware that progressive power presses have been previously used for compressing hay, cotton, and other substances; and I do not claim, therefore, broadly such operation.

But I *claim* the combination, as described and shown of the levers, I G, connecting rods F H, weight L, and follower D, for the purpose set forth.

No. 21,883.—Hartwell Kendall, of East Dorset, Vt —*Improvement in Cheese Press.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Applying the power through the sliding frame F G H K, by means of the ratchet wheel O, and the pawls, lever, and crank connected therewith, or their equivalents, so that the shaft of said rachet wheel shall act upon and move the eccentric, at the same time serving as an anti-friction roller, whereby simplicity, lightness, and compactness of construction and greater efficiency of action are secured, as specified.

No. 19,071.—Nathan Chapman, of Mystic River, Connecticut.—*Improvement in Cotton Press.*—Patent dated January 12, 1858.—The nature of this improvement consists in making the rods which connect the head and foot of the press in two parts, and connecting them by a hinged joint so that one of the parts can be vibrated while the other remains stationary; in hanging the press box on pivots so that it may be turned upright to be filled and turned horizontal to press the cotton; also in constructing and arranging the pivots of the press box that they may serve for pins in the hinge joints of the connecting rods; in making the boxes on which the pivots of the press box turn to traverse on ways so as to accommodate the position of the press box, and in arranging a bar to slide in a groove for the purpose of holding the follower in place and guide it in the press box.

Claim.—The bar T^{I} and groove T, as described, in combination with the follower, for the purpose of holding it in position while the press box is turned up to be filled, and to guide it in the press box while it is pressing the ball.

No. 19,202.—David G. Olmstead, of Vicksburg, Mississippi.—*Improvement in Cotton Press.*—Patent dated January 26, 1858.—The wheel H may be cast solid; it consists of a plate *g*, and spiral flanges *h h* on the opposite surface of the plate, starting from the periphery thereof, but gradually approaching the centre as they wind around until they reach the shaft I. These flanges are of sufficient strength to sustain the tension of the chain, and from a point at the periphery gradually increase in width toward the shaft sufficiently to cause the chain or rope to wind in the proper positions on the flanges of the shaft.

The inventor says: I do not claim the employment of a fusee wheel, single or double, for the purpose of pressing.

But I *claim* providing the fusee wheel with holes or equivalent means of attachment at intervals from end to end of the flanges thereof, so that the leverage of the press may be readily varied when desired, substantially as specified.

No. 19,279.—James A. Disbrow and James E. Cronk, of Poughkeepsie, N. Y., assignors to James A. Disbrow aforesaid.—*Improvement in Cotton Presses.*—Patent dated February 2, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We are aware that windlasses have been previously used and arranged in various ways to operate the followers of presses, but we are not aware that the windlasses, ropes, and followers have been so arranged that the ropes could protect the press box from lateral pressure, while the substance within the box was being compressed. We do not claim, therefore, broadly, the employment or use of windlasses for operating the follower.

But we *claim* the arrangement of the drums H H, ropes J, and follower K, substantially as shown and described, whereby the ropes are made to serve the double function of lateral supports, and as a means for connecting the follower to the gearing or driving parts.

We further claim applying the power to the follower K, substantially as shown and described, to wit: by means of the rotating press box A and base B, annular rack E, gearing F *b* G G, in connexion with the drums H H and ropes J, or their equivalents.

No. 19,399.—F. W. Witting, of Yorktown, Texas.—*Improvement in Cotton Presses.*—Patent dated February 16, 1858.—The nature of this invention consists in having one side of the press box B made movable, or so arranged that it may slide, and having toggles connected with it, the toggle being attached to rods I I, and so arranged with a follower E connected with a power screen, that as the follower descends it will automatically engage with the mechanism and move the side of the box inward, compressing the cotton.

The inventor says: I do not claim broadly compressing cotton by giving or subjecting it to both a lateral or vertical pressure, for this has been previously done.

But I *claim* the peculiar means employed for effecting such purpose, whereby the two movements are produced by one and the same application of power, to wit: having the side *k* connected to the toggles formed of the levers *n o*, in which the bars I G are attached, the bars I being provided with projections *q r* arranged relatively, as shown, with the follower E, which is operated by the screw C, or its equivalent.

No. 19,381.—H. W. Randle, of Barnsville, Alabama.—*Improvement in Cotton Presses.*—Patent dated February 16, 1858.—Power being applied to the shaft P causes the withdrawal of the follower C, and permits the bale to be discharged from its chamber. As the follower is drawn out of the box B the rear of its frame encounters the cross piece *d*, and thus enables the power exerted in the withdrawal of the follower to overcome the strength of springs *s*, and cause slide pieces *e e* to be withdrawn from off the string pieces of the box. Shoulder *i* of lever *l* then rises in front of cross piece *d*, (*fig.* 2,) and box B turns to its vertical position.

Claim.—The revolving box B and follower C, mounted on a carriage as described, in combination with the sliding frame *d e e*, so constructed as to lock the box and be withdrawn, substantially as set forth.

No. 19,413.—Eugene Duchamp, of St. Martinsville, Louisiana.—*Improvement in Cotton Presses.*—Patent dated February 23, 1858. The object of this invention is to obtain a progressive or variable power, so that the power is increased and the speed decreased as power is required, and the power decreased and speed increased as a gradually less or diminishing power is required.

The inventor says: I am aware that presses have been devised in various ways, so that the plungers may be operated by a progressive power, and levers variously arranged have been used for such purpose. I therefore do not claim broadly, and irrespective of the means employed, thus operating the plungers.

But I *claim* the arrangement and combination of the link G, levers F J E I, straps D H, and plungers B C, as and for the purposes set forth.

No. 19,571.—Joseph Loving, of Moscow, Tennessee.—*Improvement in Cotton Presses.*—Patent dated March 9, 1858.—This invention relates to an improvement in that class of presses in which a progressive power is obtained, and consists in the peculiar means employed for actuating the follower, whereby a progressive power is not only obtained by a very simple means, but the small amount of friction attending the operating or moving of the follower gradually diminishes as the lever power is increased.

The inventor says: I do not claim broadly so operating the follower of the press that a progressive or variable power is obtained, for various plans have been devised for effecting this purpose.

But I *claim* the peculiar means employed for thus operating the follower, to wit: the crossed levers F G in combination with the rollers *a a b* and *e e f*, attached respectively to the follower bar E and straps *c c*, substantially as shown and described.

No. 19,714.—Hiram Ross, of Rockport, Indiana.—*Improvement in Cotton Presses.*—Patent dated March 23, 1858.—This is an improvement on that class of presses in which a progressive power is obtained, and consists in the employment of toggle E E^1 in connexion with a lever G, so arranged that the work is performed expeditiously.

The inventor says: I do not claim separately the toggles E E^1 for operating the follower D, for they are a common and well known device, and have been previously used for similar and analogous purposes.

But I *claim* the toggles E E^1, in combination with the lever G, provided with the semi-circular projections I J, and connected with toggles by cords or chains F K; the whole being arranged to operate substantially as and for the purpose set forth.

No. 19,821.—Henry Shrader, of Burnsville, Alabama.—*Improvement in Cotton Presses.*—Patent dated March 30, 1858.—A A is the frame; B B are the braces; *c* is the cap or beam to which the braces are jointed; R R are two double racks to which both braces are connected by the head H of the racks; I is a shaft on which is fastened the pinion P; this gears into the two racks.

The inventor says: I do not claim the use of racks, as they have been heretofore used; neither do I claim the toggle joints.

But I *claim* the construction and combination of the double racks with the toggle joints, as above described, for the purpose explained, and in the manner as set forth.

I also claim the hinge connecting the lower ends of the toggle levers with the follower, in combination with the operation of the levers, as described, by which both followers are operated in the same time and with the same application of power.

No. 19,838.—William Field, of Providence, Rhode Island.—*Improvement in Cotton Presses.*—Patent dated April 6, 1858.—This in-

vention consists in connecting the followers with each other by chains, or any other flexible connexion, so arranged that the motion imparted to the upper follower D is transmitted by it to the lower one E, whereby the power is only applied to one instead of both the followers. Also in arranging the chains connecting the followers; and also the screw *g* that gives motion to the upper follower, so that the strain of the screw on one side of the top of the press is counterbalanced by the strain of the chains on the opposite side, by which means the press is borne by the top girt alone, and not, as in other presses, transferred to the frame, thereby requiring it to be made of great strength.

The inventor says: I *claim*, 1st. The arrangement of the chains, or their equivalent, connecting the followers, so that by applying power and motion to one follower it is transmitted to the other, and also the followers retain their parallelism to each other, however unequal the resistance at either ends.

2d. The combination of the screw for raising the follower with the chains, or their equivalent, for raising the followers, when arranged as described, for the purpose set forth.

3d. The guard plate, in combination with the followers, for the purpose described.

No. 20,973.—Redding G. Williams, of Hannahatchee, Georgia.—*Improvement in Cotton Presses.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Arranging the press in relation to the screw that any required length of lever for operating the press may be obtained, the press resting on the upper main sill A, instead of resting on the ground sill, as set forth.

No. 21,317.—Thomas J. Bottoms and James A. Bullock, of Thomas county, Georgia.—*Improvement in Cotton Presses.*—Patent dated August 31, 1858.—The lever D is attached to the staff C of the follower C^1 by means of the pin *c*, which passes through the end of the staff C, and through the bridle plate *z*. The box B is of a form and dimensions to receive the material to be pressed, and the follower C^1, which enters at the end F, and plays within it, fitting closely.

Claim.—The combination of the follower staff C, bridle *h*, lever D, follower C^1, and the revolving perforated box B, operating as described and for the purposes set forth.

No. 21,894.—Cornelius Martratt, of Waterford, N. Y.—*Improvement in Cotton Presses.*—Patent dated October 26, 1858.—The nature of this invention is explained by the claim and engravings.

Claim.—The application of the racks connected to the frame, in combination with the pinions and side shafts, revolving freely, and connected to the sides of the follower L, for the purpose of distributing the pressure equally over the surface of follower as it is raised, and obviating the tipping and end strain and diminishing the friction, substantially as set forth.

No 19,708.—Charles Moore, of Trenton, N. J.—*Improvement in Presses for Extracting Oil from Linseed.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the combination of the ground plates with the hair padding, or such other padding as may be used, fastened to the plates of the press, with its edges made thicker than the body of the padding.

I also claim connecting the upper plate D to the top of the press by links or staples and pins, and the plates to one another by links and pins, so arranged that the plates may be pressed together without cramping the links by which they are connected.

No. 19,149.—Charles Moore, of Trenton, N. J.—*Improvement in Presses for Packing the Pulp of Linseed or other Seeds Preparatory to Extracting the Oil from them.*—Patent dated January 19, 1858.—The nature of this invention consists in arranging a hinged hopper M over the mould, into which the pulp or other substance is to be passed, in combination with a follower L, working down through the hopper, and pressing the pulp or other substance into the mould O.

Claim.—In combination with the described mould and hinged hopper a follower fitted to work through the said hopper into the mould, and operated substantially as described for the purposes set forth.

No. 20,551.—Lincoln L. Cummings, of Munnsville, N. Y.—*Improvement in Hay and Cotton Presses, &c.*—Patent dated June 15, 1858.—The object of this invention is to overcome the difficulty attending the free or perfect operation of the press, in case the follower in its descent assumes an inclined position. This object is attained by having the screws which, in connexion with rotating nuts J, form the device by which the follower is operated, fitted in movable plates, so that the screws and nuts may, when necessary, be shifted or adjusted for the purpose of regulating, during the operation of pressing, the position of the follower.

The inventor says: I do not claim the screws I and nuts J for the purpose of operating the follower B, for they have been previously used.

But I *claim* the caps D, plates E E, and the bar C, in combination with the screws I I and nuts J; the whole being arranged to operate as and for the purpose set forth.

No. 22,216.—Henry Barnes, of Blairsville, Penn., assignor to Himself and N. G. Macrum, of Pittsburg, Penn.—*Improvement in Hay and Cotton Press.*—Patent dated November 30, 1858.—In operating this machine, when the cam or eccentric is twined in the direction of the arrow, so as to shove the follower C inward, the speed of the follower will be gradually decreased as the periphery of the cam or eccentric gradually approaches nearer its axis. The leverage and power will, therefore, be correspondingly increased as power is required.

Claim.—The arrangement and combination of the geared eccentric F, inclined rack E, and follower D, substantially as and for the purpose shown and described.

No. 19,232.—Joseph W. Bocage, Pine Bluff, Ark.—*Improvement in Jack-Screw Presses.*—Patent dated February 2, 1858.—These improvements refer only to the "Jack-Screw Press," and are designed—1st, to simplify the same so that negroes may superintend its management; 2d, to render the follower of the same capable of self-lowering; and, 3d, lessen the weight of the toothed rack-bar, which carries the follower, without impairing the strength at the point where the greatest strain comes upon it.

The inventor says: I *claim* the arrangement and combination of the follower E, toothed rack-bar F, pinion G, grooved pulley I, and windlass L, in the position and manner specified, for the purpose of rendering the follower capable of pressing upward and self-lowering, as set forth.

Second. Giving the toothed rack-bar a gradual taper on each edge, from bottom to top, so that it shall contain less metal, and require less power to raise it, substantially as set forth.

No. 20,509.—Philip H. Raiford, of Mobile, Ala.—*Improvement in Ratchet Presses.*—Patent dated June 8, 1858.—The object of this invention is to actuate the pawl *a b* that moves the ratchet *c* by means of an eccentric *e f* on a revolving shaft *g*. The power with which the ratchet is operated by this arrangement is inversely as the difference between the longest and shortest radii of the eccentric.

Claim.—The combination of the eccentric pawl and ratchet with the platen of a press, substantially as described.

No. 19,256.—William R. Musser, of Baltimore, Md., and John Coleman, of Lynchburg, Va.—*Improvement in Tobacco Presses.*—Patent dated February 2, 1858.—The nature of this invention consists in the application of levers A and U to a stout piston-rod *d d* running through the head of the press E for the purpose of giving pressure to the platen H I J of the press, which is detached from the piston-rod and made to fit over the top bar. M is the truck which is used for the purpose of running the braces K K containing the material to be pressed under the rod, and removing them after being pressed.

Claim.—The application of the levers A and U, the sheaths over which the chain passes, said chain being connected to the end of lever U; the braces K K to retain the pressure, and the movable truck passing under the press. Also the combination of the whole as a new and useful machine for mechanical purposes, substantially as set forth.

No. 21,079.—David L. Miller, of Madison, New Jersey.—*Improvement in Mode of Operating Presses.*—Patent dated August 3, 1858.—L is the movable or press plate, which is provided with a hole in its centre to receive the lower end of the movable cylindrical nut C, which is also provided with a shaft or bearing at its lower end, upon which it revolves when turned by the large crank D.

The inventor says: I do not pretend to claim the individual or separate parts of the described apparatus for operating presses, as my patent on "lifting jacks" covers both the gearings, outer cylinder B and inner cylinder C.

But I *claim* the application of two distinct actions by means of the bevel gearing D, endless screw gear G, barrel B, cylindric nut *c*, arranged and operated substantially as described and shown.

No. 20,947.—Henry Krause, of New York, N. Y.—*Improvement in Machine for Pressing Grapes.*—Patent dated July 20, 1858.—The grapes pass from the hopper A down between the soft roller D and the hand roller E, where they are thoroughly mashed or squeezed, but the skins and seeds adhere to the roller D, and not to the roller E. The skins and seeds are scraped off the soft roller by the scraper F, and thrown out of the door Y. The juice passes down through the strainer N into the receiver, from thence through the pipe *e* to the casks.

The inventor says: I do not claim to be the inventor of rollers for pressing grapes.

But I *claim* the soft roller D, in combination with the adjustable hard roller E, arranged and operated by means of the cogged gearing, in the manner and for the ostensible purpose substantially as described and shown.

No. 22,014.—William Cameron, of Petersburg, Virginia.—*Improvement in Machinery for Pressing Tobacco.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the construction of the ring which contains the tobacco boxes, viz: by segments held together by a band which can be tightened or loosed, and move independent of said segments, as set forth.

I also claim the forming of a press by means of one, two, or more of such rings, enclosing a series of tobacco boxes with plates above and below them, and screw-rods furnished with hand wheels and nuts passing through said rings and plates, substantially as described.

No. 20,623.—Thomas F. Christian, of Wilson, North Carolina.—*Improvement in Machine for Sowing Marl, Dirt, &c.*—Patent dated June 22, 1858.—The nature of this invention consists in providing suitable buckets to lift the marl or dirt from excavations, and also the water that accumulates in the bottom of the same, and an apron to receive and elevate the marl or dirt to the top of the pit, which is worked by cranks and wheels.

Claim.—The adjustable marl, dirt and water elevator, in combination with the movable pinions *p p*, cross bar *n*, and endless apron *s*, as described, and with the additional elevator and extension piece, for the purpose set forth, and substantially as described, in the manner specified.

No. 21,145.—Horatio B. Osgood, of New Haven, Connecticut.—*Improvement in Counter Scales.*—Patent dated August 10, 1858.—The nature of this invention consists in an improved method of bringing the pea *e* to a standard weight for reading from a double scale—*i. e.*, a scale marked on each side of the beam.

Claim.—The method of bringing the pea to a standard weight, and to enable it to indicate weight from scales on opposite sides of the beam, consisting of the adjustable pins, in combination with the pea as described, substantially in the manner set forth.

No. 19,061.—James Kelly, of Sag Harbor, New York, assignor to Himself and John Sherry, of Sag Harbor, New York.—*Improvement in Platform Scales.*—Patent dated January 5, 1858.—In this improvement the bars B, arms C, arm E, lever F, and rod H, form the connexion between the scale beam I and platform D. If the weight upon the platform D bears upon one projection *d* more than on the others, it will not affect the operation of the scales, because the arm C are connected, and the pressure of the weight will be transmitted equally to all the bearings.

Claim.—The combination of the bars B by linking together the extremities of the arm *c*, when the said bars and arms are arranged in respect to each other as set forth.

No. 19,985.—Charles H. Earle, of Green Bay, Wisconsin.—*Improvement in Platform Scales.*—Patent dated April 20, 1858.—This invention consists of a peculiar arrangement of means employed for connecting the scale beam with the platform, the object being to simplify the construction of platform scales, and render the different parts less liable to get out of repair.

The inventor says: I *claim*, first, supporting the platform by plates I I^1, arranged as shown, and connecting the platform with the beam Q, by means of the bent lever O, rod N, and arm M, or an equivalent device, for the purpose specified.

Second. The auxiliary weight formed of the chain U, in connexion with the cup T, arranged as shown, or in any equivalent way, to operate as and for the purpose set forth.

No. 20,492.—J. F. Keeler, of Cleveland, Ohio.—*Improvement in Platform Scales.*—Patent dated June 8, 1858.—The nature of this invention consists in constructing platform scales with a spirit lever G, or plumb line C, so arranged that the level of the scale, or any variation therefrom, will be indicated and corrected by a weighted pointer or indicator *a*.

The inventor says: I *claim* the application of a device for levelling the bearings of platform scales, when arranged substantially as described.

I also claim combining with platform scales a weighted lever or indicator, in such a manner that the platform scales may be used either with or without it, substantially as set forth.

No. 22,244.—Elnathan Sampson, of St. Johnsbury, Vermont.—*Improvement in Platform Scales.*—Patent dated December 7, 1858.—This invention consists in dispensing with the lower cross-bars and their attachments, heretofore employed for sustaining the platform and indicating the weight of objects brought upon the same, and substituting therefor a more simple and economical combination and arrangement of parts, which shall not only render the scale more effective and sensitive in its operation, but also less liable to get out of order from the constant traversing of cars and other objects over its platform.

Claim.—The arrangement of the stationary frame B, descending and sliding platform L L^1, rising frame H, descending arm O, and weighing beam, when the whole is combined by means of links E E I N, and knife-edge bearings D G M M^1 K, and arranged in the manner and for the purpose as described.

No. 20,792.—Samuel H. Hartman, of Pittsburg, Pennsylvania.—*Improvement in Machines for Testing the Strength in Springs.*—Patent dated July 6, 1858.—The spring is placed upon the point *b* of the cross-head I, and the cross-head E is then run down upon it until its point *c* rests upon the highest point of the spring, which is then held between its highest and lowest points. The steam cock L is then turned so as to admit steam under the piston G, which rises and compresses the spring. When an amount of pressure has been put upon the spring equal to that which it is designed to sustain, the steam cock L is turned so as to connect the cylinder with the exhaust K, and the piston drops to its original position.

The inventor says: I *claim*, first, the application of steam through mechanical appliances, substantially such as represented, to the compressing springs, with a view of testing their temper or strength, substantially as described.

I also claim, in combination with steam applied as stated for compressing the spring to ascertain its temper or strength, the application of a steam indicator, for showing in pounds weight or otherwise the amount of pressure applied, as set forth.

No. 21,950.—John Ferrier, of Charlestown, Massachusetts.—*Improvement in Tackle Blocks.*—Patent dated November 2, 1858.—This invention consists in constructing the block with two rows of pulleys, one placed above the other, with the axis of one row at right angles to that of the other, the rope passing around the pulleys of the blocks so that a great number of pulleys may be placed within a block of less cumbersome dimensions than usual, friction diminished, and a strong block obtained.

Claim.—Placing two rows of pulleys C D in each block, the axis *a* of one row being at right angles to the axis *b* of the other, and the rope passed or adjusted around the pulleys, as and for the purpose set forth.

No. 21,028.—J. Scheitlin, of Columbia, South Carolina.—*Improvement in Machine for Weighing and Registering Grain.*—Patent dated

July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a bucket F with two compartments, for a grain weighing and registering machine, which is suspended freely from the arm R of the balance until the weighing is completed, and does not require to be turned or oscillated to dislodge the grain.

Second. The combination of a bucket with a tipping bottom to open and close the compartments alternately, with a tipping tray operating substantially as described.

Third. The combination of the roller-arm, or its equivalent, with the scale beam B and registering apparatus, in such manner that the same part of the mechanism which makes the count also resets and locks the tipping bottom, so that no miscount can be made.

No. 21,999.—James W. Martin, of Philadelphia, Pennsylvania, assignor to Lewis Rothermel, of said Philadelphia.—*Improvement in Weighing Carts.*—Patent dated November 2, 1858.—This invention relates to an improvement on a weighing cart, which was patented by the inventor May 20, 1856. The device is intended for weighing loads previously to being dumped, so that the purchaser can ascertain the weight of the article bought, and thereby prevent imposition. It consists in an improved mechanism whereby the cart body may be firmly secured to its bed, and also, when necessary, detached therefrom, and elevated so as to be connected only with the scale beam for the purpose of having the load weighed.

Claim.—The shaft E, provided with hooks *d d* and arms *e e*, which are connected by rods *f f* with lever *h*, having their fulcra *i* connected by pendants *j* to the arms *k* of a shaft *l*, which is connected with the scale beam G by the arm *o* and rod *a*, the rods *q* of the body resting on the lever *h*, when the latter raises the body, and the latter provided with the rod *c* for the hooks *d* to catch over; the whole being arranged substantially as and for the purpose set forth.

No. 20,513.—William Schnebly and Thomas Schnebly, of Hackensack, New Jersey.—*Improvement in Automatic Grain Weighing Machines.*—Patent dated June 8, 1858.—The inventors say: We do not claim to be the first inventors of weighing machines in which the weight of grain was made to open and close valves for regulating the supply and discharge of the same; for many such machines have been made.

Neither do we claim broadly in weighing machines the operating of the parts which control the supply and discharge of the grain by means of the scale beam, or by means of parts connected with the scale beam; many other machines have been made in which this feature is seen. The patent of W. H. Bramble, April 8, 1856, is an example in point. In this device a connexion is made, for one of the purposes just mentioned, with the scale beam; our connexion is behind or in the rear of the fulcrum. It is a great and important point to have the scale beam elongated in front, or in advance of the fulcrum, and to operate the parts which control the supply of, and discharge of, the grain by arms M M^2 in front of the fulcrum. This arrangement permits the discharge valves O O to be kept open for the full exit of the grain until the opposite tub I has been filled. The valves could not thus be kept open if they were operated by means of the rear end of the scale beam. The use of the elongated arm in front of the fulcrum also permits a great simplification of the machine, and dispenses with the necessity of connecting rods and levers, lessens the number of points of friction, and promotes the probabilities of accuracy.

We therefore *claim* the weighing of grain, &c., automatically, under a continuous flow or otherwise, without employing the gravity or weight of grain being weighed for the purpose of checking or cutting off the supply of grain entering into the receptacles to be weighed, or for the purpose of discharging the grain from the receptacles in which it has been weighed, during the period of the process of weighing, or when the quantity of grain is being determined or weighed, substantially in the manner as set forth.

We claim providing the hopper B with hinged valves *c c*, each having a lever with a weight D D on it, and attached thereto, when used in combination with projecting arms, which are made to operate the same, in the manner and for the purpose as set forth.

We claim the balanced valve E in its location below the hopper and above the stationary chute or bridge, when used in combination with projecting arms G G, cams F, &c., and a pendulum, with an adjustable weight, in the manner and for the purpose substantially as set forth.

We claim the toggle joints P P, in combination with vertical hinged valves, when operated on and for the purpose as substantially set forth.

No. 19,466.—John Hartman, jr., of Philadelphia, Pennsylvania, assignor to John Hartman, sr., of said Philadelphia —*Improvement in the Construction and Arrangement of the Weighing Mechanism Applied to the Carts of Coal Dealers and Others.*—Patent dated February 23, 1858.—This invention consists in supporting the platform levers C and C^1 directly upon the cart axle tree and a single cross piece F fixed to the thill, or shaft timbers B B, so as to dispense with the supplementary frame; in making the weight points of the said levers to serve also as axles to friction rollers, so as to cause the latter to bear directly against parts of the bottom frame of the cart body without a dragging motion; and also to allow the tilting motion of the body without its carrying with it both of the platform levers; and also the mode of keeping the body in its proper position in connexion with the shaft's frame, so as to permit its more free motion up and down in weighing and in tilting the body, so that it shall not impair its fixed security thereon whilst the cart is used in hauling or driving.

The inventor says: I *claim*, first, supporting the platform lever C and C^1 directly upon the axle tree E and the cross piece F, which is fixed to the thill timbers, substantially in the manner and for the purposes set forth and described.

Second. I claim the use of the friction rollers I I, so that their axles shall serve as the weight points to the levers C and C^1, the same

being applied to the levers so as to operate substantially in the manner and for the purposes set forth and described.

Third. I also claim the combination of the vertically slotted plates *f f*, rigidly fixed to the axle tree E, and the thill pieces B B, as described, with the friction rollers *g g* working in the said slots and upon the journals *h h* fixed in the frame of the cart body as described, so as to operate together in the manner and for the purposes set forth and described.

No. 19,263.—William Riker, of Penn Yan, New York.—*Improvement in Safety Winch.*—Patent dated February 2, 1858.—A represents the shaft to which the winch is applied; B the main arm or lever of the winch; C C the ratchets placed on the shaft; D D are the pawls placed on the sides of the lever and attached to the cross bar I. The operator must take hold of the handle C and turn either direction, when one of the pawls will catch and allow him to exert his force upon the shaft. When he lets go the handle the pawl will leave the ratchet and the winch will hang down loose upon the shaft, and there will be no danger from the winch if the shaft continues to revolve.

Claim.—The means used to operate the pawls D and D, substantially as above specified; also the racthets C and C, when used in combination with the devices mentioned.

XIII.—GRINDING MILLS, ETC.

No. 19,735.—Samuel Green, of Grand Rapids, Michigan, assignor to Silas B. Green, of Rochester, New York.—*Improvement in Belt Coupling.*—Patent dated March 23, 1858.—This invention consists of a metal plate C of oblong form, equal in length to the width of the belt to which it is applied, and firmly riveted to one end of the belt parallel with its edge. This plate or stock has one or more slots in it, in which slots tongues D, corrugated or grooved at one edge and provided with spurs, are fitted. The opposite end of the belt is passed through the slot in the plate, and, owing to its relative position with the tongues and plate, is firmly secured therein by the tension of the belt, and the two ends of the same are firmly connected.

Claim.—The plate or stock C slotted and provided with tongues D, one or more, corrugated at one edge and provided with spurs *g*, the whole being constructed, arranged, and applied to the ends A B of the belt, so as to act substantially as and for the purpose set forth.

No. 19,318.—Henry Underwood, of New York, N. Y.—*Improved Lap Joints for Belting.*—Patent dated February 9, 1858.—This invention is designed to prevent the ruffling or turning up of the outer ends of the laps which is generally caused by the friction produced as the joint passes over pulleys, drums, &c., and also to prevent the cutting

of the thin outer ends of the lap by the heads of the rivets in case the cement loses its adhesive property or gives way, and the connexion thereby formed solely by the rivets.

Claim.—The straps *b* placed on the rivets *a* a^1 which pass through the outer and inner ends of the laps or "skived" portion of the parts or ends A B of the belt, as shown, so that the straps may project over the outer thin ends of the laps, substantially as and for the purpose as set forth.

No. 21,596.—John H. Cheever, of New York, N. Y.—*Improvement in Machine Belting.*—Patent dated September 28, 1858.—This invention consists in so combining wire cloth or netting, or strands of wire, with India-rubber or gutta-percha to produce machine belting, or banding, that the wire shall give the banding or belting the great strength necessary to resist the great strain it is required to sustain, while that peculiar surface which has been found so useful for belting or banding is obtained by the India-rubber or gutta-percha.

Claim.—The manufacture of belts or bands of a combination of India-rubber or gutta-percha with wire cloth or netting, or strands of wire, substantially as and for the purpose described.

No. 20,564.—Marshall Jewell, of Hartford, Connecticut.—*Improvement in the Manufacturing of Round Belting.*—Patent dated June 15, 1858.—Fig. 1 shows two pieces of leather, one a little broader than the other, and put together so that one piece shall lap over the joint of the other and sewed through the centre.

Claim.—A new manufacture of round leather belting, composed of two or more thicknesses, stitched and twisted, as shown, in the manner and for the purpose set forth and described.

No. 19,272.—Morris Wells, of Brooklyn, N. Y.—*Improvement for Shifting Belts.*—Patent dated February 2, 1858.—The shifting bar A with a spring for shifting it in one direction and a cord D and pulley E for drawing it in the opposite, are placed in a box B B^1, and a bolt C F is provided for locking the bar, which brings the entire shifter within a very small compass and in such convenient form that it can be attached to a beam, post, or any required support, in a few moments, and is immediately ready for use.

The inventor says: I *claim* the arrangement of the shifting bar A, spiral spring C, pulley E, bolt F, and cords D *h*, within and relatively to the box B B^1, in the manner substantially as described, whereby the whole of the shifter is brought within a very small compass, and in such convenient form that it can be very readily attached in any convenient place.

No. 19,892.—Joel Woodward, of Philadelphia, Pa.—*Improvement in Machinery for Bolting, Dusting, and Separating the Ground Material.*—Patent dated April 6, 1858.—The nature of this invention consists, first, in the stationary brush, or distributor, resting on the coarse wire to keep the meal scraped off and distribute the same evenly. Second, the manner of making the separations in connexion and in

combination with the bolting, scouring, and dusting, by which room, power, and expense, are reduced, and any number of separations made that may be required. Third, the construction of the bottom and the manner of the discharge.

The inventor says: I *claim*, first, the stationary brush or distributor shown by letter *a*, for the purpose as set forth.

Second. The brushes E E E so arranged as to carry the meal or bran to or from the centre, whereby the substance can be scoured or brushed as much as desired, in the manner and for the purposes set forth.

Third. The manner of making any number of separations or any mode of combining more than two separations in the duster or separator, in the manner and for the purpose set forth.

Fourth. The manner of providing the corresponding bottom or platform below E E with sweeps or scrapers to carry the flour to spouts, as set forth.

Fifth. And the mode of regulating the brushes on the wire or cloth by the bolts or set screws, and the screw *b* at the bottom of the shaft I, in the manner and for the purpose substantially as described, and to be used in connexion with the specification.

No. 19,024.—David Geib, of Mifflintown, Pa.—*Improvement in Flour Bolting.*—Patent dated January 5, 1858.—This invention consists in the employment of two or more bolts in connexion with elevators and conveyors, so arranged that the inferior boltings of the first bolt are passed or fed into the second or other bolts, certain portions of the bolting of which are mixed, and others allowed to pass or be discharged separately therefrom. The object of the invention is to avoid the necessity of rebolting all the meal, good and inferior, in one and the same bolt, and thereby keep the superior portion free from the substances which darken it or render it speckled.

Claim.—The bolts C D, two or more, provided with conveyors, spouts, and elevators, combined and arranged with each other relatively as shown, or in an equivalent way to effect the purpose set forth.

No. 21,277.—Benjamin D. Sanders, of Holliday's Cove, Va.—*Improvement in Machinery for Bolting Flour.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* depriving superfine flour of fine offal or impurities by rebolting it after escape from the head of the first reel C^1, or by a second reel C^2, apart from the main body of meal, or coarse meal and coarse offal in the first reel, substantially as specified.

And I further claim rebolting the coarser grades of fine offal and material admixed therewith, passing off at the tail end of the second reel by or in a third reel C^3 for restoring to the superfine flour that which belongs to it, and for the more perfect separation, without waste, of impurities therefrom.

No. 19,303.—Samuel G. McMurtry, of West Urbana, Illinois.—*Improvement in Flour Bolts.*—Patent dated February 9, 1858.—The

nature of this improvement will be understood by examining the claim and engravings.

The inventor says: I am aware that fans have been previously applied to bolts to effect the purpose described, and I do not therefore claim the employment or use of the fan in itself considered.

Nor do I claim the employment or use of the rotating beaters or brushes within the bolt, for they have been previously used.

But I *claim* the arrangement of the bolt frame *b*, bottom plate *r*, flanches *l l*, plates *c d e*, and spouts E F G H, substantially as described, whereby the current of air is prevented from drawing through the centre of the bolt, but is spread so as to pass along near the surface of the bolting-cloth, while the flour is not only suspended in a current of dry air, but is conducted through the cloth out upon the annular plates, and down the peculiarly arranged air-tight spouts to the place of storing, nothing whatever being able to escape except through the proper channel.

No. 21,009.—S. B. Manning, of Alleghany, Pennsylvania.—*Improvement in Bran Dusters.*—Patent dated July 27, 1858.—This invention consists in making a bran duster in two sections or chambers, one of which is surrounded by a covering of coarse open wire-work which allows everything to pass through, except hard lumps of dough or foreign substances which ought to be separated from the feed, and allows nothing to pass into the lower chamber K that would injure the gauze by being thrown over it.

The inventor says: I do not claim as new the use of the wire gauze covering, nor the slats r^1 r^1, nor the concave *a*.

But I *claim* the use of a separate chamber covered with coarse wire net-work, in addition to and in combination with the ordinary chamber covered with fine gauze wire net-work, arranged substantially in the manner and for the purposes set forth.

No. 21,061.—Aaron Brooks, of Crawford county, Indiana.—*Improvement in Substitute for the Crank.*—Patent dated August 3, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A perpendicular pitman, and the dispensing with a crank by means of the wheel B B attached to the shaft A, and the slide or rollers E F attached to the pitman C C, and moving in the groove D D^1, the said pitman always moving perpendicular.

No. 21,030.—Charles Powel Stanford, of Mount Gregory, California.—*Improvement in Feeding Quartz, &c., to Machines for Crushing and Grinding the same.*—Patent dated July 27, 1858.—This invention consists in arranging a lever I, in connexion with the shoe H, in such a manner that it is agitated by the dropping of the stamper E whenever the crushing surfaces come close enough into contact to make a fresh supply desirable.

Claim.—The arrangement described of a lever I, which is adjustable by a set screw J, in connexion with a shoe H, in such a manner that said shoe is agitated by the dropping of the stamper, and some

of the quartz or other substance is caused to fall into the pan or mortar at such a time and in such a quantity as desired.

No. 20,601.—John A. Wilson, of Dover, New Jersey.—*Improvement in Hulling Stone Dress.*—Patent dated June 15, 1858.—Fig. 1 is a runner 36 inches in diameter. The inventor says: First draw two straight lines A^1 and A^2, intersecting each other at right angles. Second, describe a circle of 3 inches radius B for eye of stone; then describe a circle of 8 inches radius C. Third, draw a straight line D^1 from the intersection of circle B with a radius A^1 to the intersection of circle C with radius A^2; bisect line D^1 and describe arc of circle E^1; contract dividers $\frac{3}{4}$ of an inch and describe corresponding circle, which will show size and shape of first discharging furrow. Fourth, extend dividers 16 inches and place each foot at intersection of radial line A^1 with circle C, and describe first retaining furrow F^1 from side intersection to skirt of stone; contract dividers $\frac{5}{8}$ of an inch and describe corresponding line, which will indicate shape and width of retaining furrows.

Claim.—The manner of generating and constructing furrows in hulling stones for the purpose of equalizing the distribution of the grain over the surface of the stones, so as to prevent clogging at the eye, and retaining the grain on the periphery of the stone until perfectly hulled, as is substantially set forth and described.

No. 22,006.—Horace B. Allis, of Little Rock, Arkansas.—*Improvement in Flour Coolers.*—Patent dated November 9, 1858.—This invention consists in the combination with a polygonal, cylindrical, or conical cooler hung upon a nearly horizontal shaft, of radial or nearly radial screens for breaking up and separating the adhering particles of meal or flour, and thus facilitating the cooling action.

Claim.—The combination with a cooler hung so as to revolve upon a nearly horizontal shaft as described, of nearly radial screens, as stated and shown, and also the combination therewith, as an auxiliary to accomplish the desired result, of the solid flanges *g*, for checking the motion of the meal till the screens have arrived at the proper angle to properly distribute the meal, as set forth.

No. 22,116.—G. P. Ganster, of Reading, Pennsylvania.—*Improvement in Gearing.*—Patent dated November 23, 1858.—E and F are two wheels respectively. The collars of wheel F correspond in thickness with the plates of wheel E, and the plates D D^1 D^2 correspond in thickness with the wheels B. When the two wheels E and F are placed together they will mask, as seen in the engravings. Power being applied to wheel F, the teeth of the plates D^1 D^1, &c., will bear at their points upon the wheels B B^1 B^1 successively from end to end, only one tooth bearing at a time upon the rollers, except when the wheels change from one cog to the other, in which case one tooth of each end plate will bear upon its corresponding roller, thus changing the bearing from one end to the other, and the wheels from one end to the other.

Claim.—The arrangement on the wheels E and F, of the plates

A A^1 A^2, rollers or wheels B B B, plates D D^1 D^2, and collars *o o o*, the whole being constructed and operating in the manner and for the purpose specified.

No. 22,118.—Ebenezer A. Goodes, of Philadelphia, Pennsylvania.—*Improvement in Gearing.*—Patent dated November 23, 1858.—This invention is designed to supersede the ordinary cog or tooth gearing, and consists in having spiral ledges or threads formed on one wheel and made to gear or work into corresponding in its fellow.

Claim.—Providing the wheels respectively with the spiral projections *a* and spiral grooves *b*, substantially as and for the purposes shown and described.

No. 20,672.—William Webster, of Jefferson county, Washington Territory.—*Improvement in Gearing for Machinery.*—Patent dated June 22, 1858.—The nature of thisinvention consists in the employment in a face wheel B C of any required number of concentric movable rings of cogs *e e e e* gearing into a corresponding number of uniform pinions I I^1 I^2, either one of said rings being thrown into gear with its appropriate pinion at will, thus causing a change of speed corresponding with the change of proportion between the diameter of cog rings and that of the pinion.

The inventor says: I *claim* the compound annular cog-wheel described, the same being constructed and operating substantially in the manner specified.

I also claim, in combination with a wheel having two or more concentric rings of cogs, the use of a corresponding number of pinions on one shaft, or of a shifting pinion arranged for combined operation with the wheel, substantially as and for the purpose specified.

No. 21,245.—Charles D. Clark, of Chicago, Illinois.—*Improved Apparatus for Cooling and Ventilating Grain.*—Patent dated August 24, 1858.—The object of this invention is to cool and purify grain. A represents the blast-pipe; B the cylinder; C the rectangular grates; D the sectional view of the grates; E the blast; F the separating cone.

Claim.—The arrangement of the cylinder B, provided with rectangular grates, and blast-pipe A and separating cone F operating in connexion with the blast through the pipe E, substantially and for the purposes described.

No. 20,422.—J. G. Goshon, of Mercersburg, Pennsylvania, and William Bowers, of Chambersburg, Pennsylvania.—*Improvement in Machines for Cleaning Grain.*—Patent dated June 1, 1858.—The scourer consists of a disk B studded with upright teeth *a a*, and mounted upon a vertical shaft C, driven by pulley D. Around the edge of the disk and secured to it is a concave roughened rim E, and above the teeth and rim is a cap-piece F, concave on its under side. Under the disks are four arms *b*, terminated by brushes reaching to the casing G, which is of wire gauze, and opens into a chamber I, concentric with the beater chamber.

The inventors say: We make no claim to the employment of a disk scourer with upright beaters, separately considered, as such is not new.

But we *claim* the scourer composed of the spike-studded disk B, concave rim E, and concave cap-piece F, as described, in combination with the brushes H, and the casing enclosing the said parts, arranged and operating substantially as and for the purposes set forth.

No. 20,399.—PELEG BARKER, of North Adams, Michigan.—*Improvement in Machine for Elevating, Measuring, Registering, and Bagging Grain*—Patent dated June 1, 1858.—The measures, reservoirs B, elevators A, &c., comprising this invention, are secured to the separators and fanning-mill as connected to threshing machines in general use, in a permanent manner, with the lower ends of the measures high enough to admit of the hanging on of bags. The elevators pass entirely around the separator, with the lower quarter placed just below the lower edge of the shoe or grain board, so that the grain is discharged into the side of the trunk of the elevators. The perpendicular quarters of the elevators pass up on either side of the separator, with the top end inclining outward. The elevators receive their motion from the shake-rod of the fanning-mill.

The inventor says: I *claim* the application to threshing machines of elevators, reservoirs, measures, and registers, which will elevate the grain, measure it, and discharge it into bags, without the necessity of handling.

I do not claim this particular kind of elevators and fixtures, but these or any others substantially the same, which will produce the desired effect.

No. 21,144.—RUFUS NUTTING, of Randolph, Vt.—*Improvement in Machines for Fanning and Assorting Grain.*—Patent dated August 10, 1858.—A description of this invention is too long for a place in this volume; the reader will have an idea of it by an examination of the claim and drawing.

The inventor says: I *claim*, first, the arrangement of the screens J J^1 J^2 for separating and assorting, substantially as described, when so combined with shoes, frames, and motive arrangement, that the grain, seeds, beans, &c., are required to pass over them in a sliding or rolling manner, and not caused or allowed to drop on their surface, or fall thereupon vertically, or so as to strike an aperture endwise first, constructed and operated substantially as set forth.

Second. The hold-fast, substantially as described and for the purposes set forth.

Third. The extra-screens box, substantially as described and for the purposes set forth, in combination with the drawers.

Fourth. The percussion bar, substantially as described and for the purposes mentioned.

No. 22,359.—PHILIP C. FRITZ, of Barrytown, N. Y.—*Improvement in Machines for Separating Garlic from Grain.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Separating garlic from grain by passing the same between crushing rollers, in the manner substantially as shown and described, that the garlic seed and kernels of grain will be crushed separately between the rollers, and the crushed grain allowed to descend into a proper receptacle, while the garlic seed, on account of the moisture or juice they contain, adhere to the rollers and are scraped therefrom.

No. 20,490.—FRANKLIN B. HUNT, of Richmond, Ind.—*Improvement in Machine for Grinding and Cutting.*—Patent dated June 8, 1858.—This invention embraces the arrangement in the same machine of the two peculiarly constructed, hinged, adjustable troughs B C *b*, spring set-bar *s* s^1 s^2, and cutter or grinder-shaft E, with spring-key *e e*, and radial arms 6 7 8 9, whereby a machine is provided in which the operations of cutting straw, grinding apples, shelling corn, or cutting or slicing vegetables can be performed separately and at different periods.

Claim.—The arrangement in the same machine of the two peculiarly constructed, hinged, adjustable troughs or boxes B C *b*, spring set-bar *s* s^1 s^2, and cutter or grinder-shaft E, with spring-key *e* e^1, and radial arms 6 7 8 9, substantially as and for the purposes set forth.

No. 19,688.—CALVIN DICKEY, of Mercersburg, Pa.—*Improvement in Machine for Cutting the Leaves from the Sugar Preparatory to Grinding.*—Patent dated March 23, 1858.—This invention consists in having a series of cutters attached to a tubular flanch so as to form a hollow cutting cylinder, connected with a grinding or crushing mill, in such a way that the stalk of the sugar-cane will be drawn through it by the rollers of the mill, and the leaves cut from the stalk.

Claim.—The cutting device formed of the cutters *a* attached to a tubular flanch A, the whole being constructed and arranged so as to operate substantially as and for the purpose set forth.

No. 20,282.—BENJAMIN MACKERLY, of New Petersburg, Ohio.—*Improvement in Toothed Cylinder for Grinding.*—Patent dated May 18, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Producing a new manufacture in the shape of an improved toothed cylinder, by combining a properly perforated tube *a* with a series of teeth *b b*, and the journal pieces *c c*, substantially in the manner set forth.

No. 20,279.—BENJAMIN F. LOVE and JAMES H. FRAZEE, of Shelbyville, Ind.—*Improvement in Horse-Powers.*—Patent dated May 18, 1858.—The nature of this invention consists in the application of a friction-wheel C to the disk of a tread-wheel A, so that a uniform force or power may be employed in giving motion to the fly-wheel E, and at the same time retaining a perfect connexion in such manner that the axle of the friction-wheel may be moved in any direction, and its axle maintain its parallel with the axle of the fly-wheel.

Claim.—The method by which we combine the clamps B B with the bed-piece or main block A A, by means of the studs or trunnions *c c*, and the concentric bearings D E and E D, substantially as described.

No. 20,257.—JEREMIAH DARLING, of Cincinnati, Ohio.—*Improvement in Horse-Powers.*—Patent dated May 18, 1858.—This invention consists of two or more independent endless chains or series of friction-rollers G, running in double-flanged tracks *r*, in combination with an endless apron B of peculiar construction.

Claim.—The independent and endless series of friction-rollers above described, in combination with the double-flanged track *r* and the peculiarly constructed endless apron B, for the purpose of preventing friction and for increasing the efficiency of the horse-power substantially as set forth.

No. 20,461.—THOMAS H. WILSON, JOHN E. WILSON, JAMES F. WILSON, and R. J. WILSON, of Athens. Ga.—*Improvement in Horse-Power.*—Patent dated June 1, 1858.—A series of driving wheels are fitted on to an annular tread or way A, and attached to radius axles D connected at their inner ends; a wheel E from which the power is taken being fitted on the driving wheels C, the latter wheels rotating the former one with an increased speed due to their combined forward and rotating movements.

Claim.—The annular tread or way A, wheels C, any proper number being used and attached to axles D, and the wheel E, the whole being arranged to operate as and for the purpose set forth.

No. 20,421.—MICAH GILLAM, of Troy, Pa.—*Improvement in Horse-Power.*—Patent dated June 1, 1858.—This is an improvement in that class of horse-power in which a rotating inclined wheel is used for transmitting power from the animal to the machine to be driven. It consists in stepping the shaft of the wheel in an adjustable bar or shaft, whereby the wheel may be placed in a horizontal position and the speed of the wheel thereby regulated.

The inventor says: I *claim* arranging or hanging the wheel B substantially as shown, or in any suitable way, so that the plane of its rotation may be variably inclined, for the purpose set forth.

I further claim the peculiar means shown and described for adjusting the wheel B. to wit: its axis or shaft D being stepped in the shaft E, to which the cross-tree F is attached, the cross-tree F being provided with friction-rollers G G, and connected with a lever M, substantially as des ribed.

No 20,978.—WILLIAM RIDER, of Almont, Michigan, assignor to J. B. SWEETLAND, of Almont aforesaid.—*Improvement in Horse-Power.*—Patent dated July 24, 1858.—A right and left screw is placed on the shaft from which the power is taken, and arranged with worm-wheels and driving gear, whereby a simple device is obtained, and the requisite degree of speed transmitted from the driving shaft to that from which the power is taken with the least possible amount of friction.

The inventor says: I do not claim broadly a worm-wheel and screw, as that is a well known mechanical device.

But I *claim* the arrangement and combination as shown and described, of the right and left screws J J^1, placed in the shaft K, in connexion with the worm-wheels I I, which gear into the screw J J^1, and are rotated from the driving wheel D by means of the gearing F G G.

No. 21,495.—GEORGE HELY, of Rochester, Wisconsin.—*Improvement in Horse Ploughs.*—Patent dated September 14, 1858.—This invention has reference to the attaching of horses to the draught-arms of the power, and is designed for equalizing the draught of the several arms. Its nature consists in certain lever connexions between the several teams.

The inventor says: I do not claim the mere connecting the several teams, as such is not new.

But I *claim* the combination of the sliding levers D and the loose coupling bar E, with the draught chains, substantially as set forth.

No. 22,079.—J. HERVA JONES, of Rockton, Illinois.—*Improvement in Horse-Power Draught.*—Patent dated November 16, 1858.—The nature of this invention consists in providing the sweeps A of horse-powers with levers B, whether straight or otherwise, so attached to them by fulcra *a a a a* that when the draught of the teams is applied to the levers at, or nearly at, right angles to them, or to the sweeps, the inner ends of the levers shall, by means of the rods *c* or any other connexion, produce a movement to and from the centre of the horse-power. When the sweeps are in their places for operation, a flexible link D is placed upon or beneath them, immediately around the centre of the horse-power, and connected at its several corners to the inner ends of the rods *c*.

Claim.—The combination of the levers B B B B, and the flexible link D D D D, in the manner and for the purpose set forth.

No. 22,360.—EDWARD M. FULLER, of Salisbury, N. Y.—*Improvement in Horse-Power for Driving Reciprocating Saws.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The connexion of the saw to the main body of a horse-power which is operated by the circular movement of the animal, and extending the reciprocating rod *o*, or its equivalent, from the main body of the machine across the track of the horse to the saw, in such a position as to allow the horse to pass over it; the parts being constructed, arranged, and operating substantially as and for the purposes set forth.

No. 19,976.—CYRUS AVERY, of Tunkhannock, Pa.—*Improvement in Gearing for Horse-Power.*—Patent dated April 20, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, forming the main wheel with a wide periphery, cast whole or in sections, so that any desired number of series of intermediate wheels may work within it, one series above

another, and each series to gear into the main wheel, thus enabling me, by slipping on or shipping off one or more series of intermediate wheels, to produce a very low, very high, or medium velocity.

Second. I claim the method by which the main wheel is kept in position, viz: by means of a thimble attached to the centre of the bed plate in connexion with the flanges upon the lower intermediate wheels, and by the flange upon the outside of the main wheel, in connexion with the circle around and above it, and by the pivot at the top of the main shaft.

Third. I claim the method by which any desired velocity is obtained, namely, by removing or adding one or more series of intermediate wheels, as described.

No. 20,368.—LEA PUSEY, of Wilmington, Del.—*Improvement in Governor for Horse-Power.*—Patent dated May 25, 1858.—In this invention there are attached to the arms which are secured to or project from the fly-wheel shaft, or the fly-wheel itself, loaded levers provided with friction blocks connected by a spring rod and fitted within a stationary rim, whereby the speed of the horse-power or other machine to which the governor is applied, may be regulated as desired by a simple mechanical arrangement.

Claim.—The loaded levers D D^1, or sliding weights, provided with brakes *h*, connected by a spring and rods attached to an independent rotating disk, or rotating arms, or to the fly-wheel of the machine to which the device is applied, in combination with a stationary or revolving rim K; the whole being arranged to operate as and for the purpose set forth.

No. 19,769.—JAMES GRANT, of Rochester, N. Y.—*Improvement in Horse-Power Machines.*—Patent dated March 30, 1858.—The nature of this invention consists in constructing the cap A with an open centre over the pinion B, and making the centre bearing or axis of the cap in the bridge-piece *a*, and of making a double length pinion B, and a "female gear" in the hub of the bevel wheel C, to receive the lower end of the pinion, thus clutching it to the bevel wheel, whereby motion is transmitted from the planetary wheels D through pinion B, to the bevel wheel C. The centre pin E is lengthened at the lower end, and has two bearings *b* and *d*.

Claim.—Making iron horse-powers with an open centre to the caps A, and an adjustable or a fixed bridge-piece *a*, and making a double length or reversible pinion B, as and for the purposes specified.

No. 21,032.—JAMES A. STONE, of Rochester, N. Y.—*Improvement in Horse-Power Machine.*—Patent dated July 27, 1858.—The nature of this improvement is explained by the claim and engravings.

Claim.—The construction of the base when combined with the wheel I, to form a trussed arch, whereby not only is great strength secured, but the length of the shaft *c* and its consequent liability to vibration is lessened.

No. 19,408.—GEORGE E. BURT and GEORGE F. WRIGHT, of Harvard, Mass.—*Improvement in the Wheel and Axle Attachment of Horse-Powers, &c.*—Patent dated February 23, 1858.—B is a wheel attached to link A, by the bolt C passing through the thimble or hollow tube D; E is the pin to couple the sections together, and is kept in its place by the flanch F on the thimble D; and all are held in their proper places by the bolt C and the screw nut G.

The inventors say: We do not claim the method of chill-hardening cast iron, for we are aware it has been long known and used for boxes and other purposes.

But we *claim* the method by which the coupling pin E is held in its proper place by the flanch F, on the thimble D, in combination with the bolt C, the thimble D, the wheel B, and the link A, substantially as set forth.

No. 21,474.—HARLOW H. THAYER, of Sandwich, Mass., assignor to JAMES A. WOODBURY, of Winchester, Mass., and S. A. WOODS, of Boston, Mass.—*Improvement in Journal Boxes.*—Patent dated September 7, 1858.—By this invention, as the journal revolves in the box the surface of such journal will be lubricated by the sponge or wicking, or lubricator of the chambers *a a a*; the amount of surface so lubricated will depend on the width of each chamber and its angular position with reference to the side of the box, or to the axis of the journal. When this invention is in operation a constant circulation of the oil from the trough to the journal, and from the latter to the former, will take place; nearly all, if not all the entire surface of the journal being thoroughly lubricated at the same time.

The inventor says: I *claim* the combination of two or any other suitable number of lubricating chambers *a a*, and bearing surfaces *g g*, with one trough or channel arranged below them as specified.

I also claim the combination of the intercepting chamber *d*, at each end of the box, with the oil trough *d*, the lubricator chambers *a a*, and the bearing surfaces *g g*.

I also claim making the opening of the chamber *d*, of greater diameter than the journal, in manner and for the purpose as specified.

And, in combination with the intercepting chamber *d*, I claim the intercepting groove *f*, arranged in the cap B, in the manner and for the purpose specified.

No. 19,984.—JOHN DEUCHFIELD, of Oswego, N. Y.—*Improvement in Cooling and Drying Meal.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim forcing a current of air between a pair of mill-stones, while the same are in operation, for the purpose of keeping the stones in a cool state and preventing the heating of the grain, for such means, although not very efficient, have been previously used.

But I am not aware that parts arranged as herein shown, so as to allow the meal to be subjected to the blast during its entire, or nearly entire, passage from the stones to the bolts, and insure the perfect cooling and drying of the meal, have been previously used.

I *claim* therefore the arrangement and combination of the chests D J, shafts F K, elevators F^1, fan G, and spout I, substantially as and for the purpose shown and described.

No. 22,003.—Joseph H. Davis, of Woburn, Mass.—*Improvement in Mechanical Movement.*—Patent dated November 2, 1858.—A represents a frame in which the top and bottom journals *a b* are supported in suitable boxes or bearings. These journals are connected together as follows: On the upper journal *a* there is a spur wheel *c*, to which may be affixed on its underside a flat plate, or disk *d*, to shield the parts below it from conflict with said gear *c*. To the underside of the gear, or spur wheel *c*, and through the shield *d*, are hinged four arms *e e e e*, to each one of which the upper end of one of the bent arms B B B B is attached by a pivot or stud in the top of the bent arm, which enters a hole in the arm *e*.

Claim.—The arrangement set forth for transmitting power from any prime motor to a propelling gear or wheel, viz: through the intervention of a series of curved or bent and weighted arms, said arms working together and connected to the gearing at their ends, substantially in the manner and for the purpose set forth.

No. 19,807.—Joel Woodward, of Philadelphia, Pa.—*Improvement in Mills.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the mode of the bush on the plate A A, running up inside of the balance syne C C, in the manner and for the purpose set forth.

Second. And the mode of the lower stone K K working on a loose or balance syne C C, that has a nut or breaker *v v* resting on or fastened to the top of it, and may work with or without a balance or upper bearing, as set forth.

Third. And the manner of the inside pot or teeth Q Q, made to raise and lower to open and close the aperture *r r*, by means of the lever W (or screw) to regulate the feed of the stones and grinding of the crusher or breaker, in the manner and for the purpose set forth.

No. 19,386.—George Strause, of Boonsborough, Md.—*Improvement in Mill Bushes.*—Patent dated February 16, 1858.—This invention consists in adjustable segments C C situated in the centre of a brush block B. When put together, they compose a ring or tube, slightly tapering on the outer side, so that by having the joints or spaces between one another somewhat open, and by moving the segments simultaneously up or down in the aperture of the brush block B made conical, the central aperture between them will be enlarged or contracted, thus loosening or tightening the brush around the spindle A.

The inventor says: I *claim* providing the bush segments with shoulders *d d*, arranged substantially as described, whereby all the segments are adjusted by moving either one of them by means of a single set screw.

I also claim bevelling the upper end of the segments, in the manner and for the purpose specified.

No. 19,727.—John Wells, Baltimore, Md.—*Improvement in Mill-Bushes.*—Patent dated March 23, 1858.—The nature of this improvement consists in a plate P secured to the top of the bed stone B, having a depending perforated cylinder C embracing the outer surface of the collar through which the spindle S passes, the collar rotating with the spindle, which is free to move longitudinally through it.

The inventor says: I disclaim concentric rims, the one secured to the shaft and the other to the stationary portion of the system, as such is not new and does not constitute my invention.

But I *claim* the feathered spindle S and recessed flanged collar *a* resting upon plate P^1, in combination with plates P^1 and P, the cylindrical guide C depending from the latter plate, when said parts are arranged for joint operation substantially as set forth.

No. 19,421.—M. W. Helton, of Bloomington, Ind.—*Improvement in Cider Mills.*—Patent dated February 23, 1858.—Motion being applied to the shaft B, the apples are thrown into the hopper F, and pass down between the cylinder C and the cylindrical portion of the shell A, and are ground into pumice by the teeth *c b*. The pumice is forced along by the screw D, and its discharge from the orifice *f* is resisted by the stopper E, which is acted upon by the spring *g*. This resistance of the stopper subjects the pumice to a pressure, and the juice is consequently expressed therefrom through the perforations *i*.

The inventor says: I do not claim, separately, the toothed cylinder C, for that is a common device for grinding apples.

Nor do I claim, separately, the screw D, for that is a well-known device, and is frequently used as a feeder or conveyor. But I am not aware that a taper screw has been used in connexion with a toothed cylinder and stopper for the purpose set forth.

But I *claim* the arrangement and combination, substantially as set forth, of the yielding stopper E, taper screw D, toothed cylinder C, and case A, for the purpose specified.

No. 20,220.—Michael Stevens, of Lucas, Ohio.—*Improvement in Cider Mills.*—Patent dated May 11, 1858.—A is the standing parts of the press and mill; B is the beam; *s s* are the screws; *c c* are cylinders or rolls, being indented so as to gear together; D D are the sides of the mill; *e e* are two clearers, hinged at the bottom of the sides of the mill, and, extending upward, are bent forward so as to hook into the dents of the cylinders; as the cylinders revolve, each cog presses back the clearer, and a spring *i* is placed back of the clearer and presses it forward.

Claim.—The arrangement of the several parts for the purpose "of retaining the liquor," and in the manner set forth.

No. 21,874.—John Eiberweiser, of Cincinnati, Ohio.—*Improvement in Cider Mills.*—Patent dated October 26, 1858.—The nature of this invention consists in the construction and arrangement of the two cylinders *d* cutting and mashing the apples by providing the one with knives at a distance of two inches from each other, the knives being three quarters of an inch high, and the other with flutes or channels

corresponding with said knives. The invention has for its object the cutting and mashing the apples with the least possible power, and thereby obtaining, without any loss, the full amount of juice contained in the apples.

Claim.—The particular construction and arrangement of the two cylinders, constructed in such a manner as described.

No. 20,208.—Charles Leavitt, of Cleveland, Ohio.—*Improvement in Corn Mills.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The manner of securing the revolving grinder P to the spindle F, by means of the collar L, wings L^1, cap and nut Q Q^1, when arranged as described; also the recess S in the outer casing B^1, in combination therewith, the adjusting and securing the grinder R in place by means of the outer casing B and B^1, and the diaphragm M upon which the grinder is superimposed in the manner specified. Also dividing the surfaces of the two grinders into an unequal number of parts or sections for the purpose of bringing the several sections of the grinders successively into opposition, in the manner described and for the purposes specified; and also the diaphragm M, when arranged in relation to the support of the spindle F and grinder R, and the collecting and discharging of the meal at one point, as specified; these several devices I claim when arranged as described and applied to the purpose set forth.

No. 20,121.—Benjamin Winter, of Buckingham Court-House, Virginia.—*Improvement in Corn and Cob Mills.*—Patent dated April 27, 1858.—This improvement has reference to that class of mills in which an inner vertical cone is made to revolve within an outer cone, shell, or case, the feed being from above and the ground matter passing off below in its escape from between the cones which form the grinding surfaces.

Claim.—The combination of the adjustable bridge tree C, rollers *a*, inclined planes *b*, on the base of the revolving cone A, and horizontal stopped disks *c d*, for action together, substantially as and for the purposes set forth.

No. 19,016.—Edwin Clark, of Lancaster, Pennsylvania.—*Improvement in Flouring Mills.*—Patent dated January 5, 1858.—The claim and engravings show the nature of this invention.

Claim.—In combination with the bolt I and hopper formed by the sides L M, the separate conveyors Q W, and the slides *b d*, connected together and operating in the manner set forth, for the purpose of making such a separation of the ground material as will obviate the necessity of requiring the bolt to carry the material any further than is actually neccessary to bolt it, to avoid all danger of clogging, whilst conveying the separate qualities to their exit or elevators, and prevent any possibility, by the perfect separation, of returning that which is too light to be re-ground to the stones, as explained.

No. 20,329.—Edwin Clark, of Lancaster, Pennsylvania.—*Improvement in Flouring Mills.*—Patent dated May 25, 1858, ante-dated February 2, 1858.—The nature of this invention relates to the more perfect separation of the different qualities of the ground material, which may be afterwards mixed to suit the operator or consumer, or may be rebolted, or reground and rebolted, and again separated as may be required.

The inventor says: I am aware a series of valves and a circular division has been used in bolting machines; these I do not claim.

But I *claim* the valve or series of valves *b*, with their perforations *c*, in combination with the apertures *d e* in the bolting chamber, so as to make said valves common to the three different transits of the ground material, substantially as described.

I also claim, in combination with the circular division F, the inclined planes *i*, for properly conducting that portion of the material that falls upon the space between them into its proper channel, as set forth.

No. 20,370.—Christopher Rands, of Peoria, Illinois.—*Improvement in Flouring Mill.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention

The inventor says: I *claim*, first, the combined arrangement of the upper and lower stories C C, reduced from their centre outward to mere rim-grinding surfaces, comparatively, two annular non-grinding plates F F^1, one or both concave, placed over the enlarged eye of the stones, and the horizontally revolving fan or blower G, arranged intermediately between the stones, and crossing vertically the space existing between the same, so as to force the grain, with a direct action, out of the grinding surface, and to give a direct blast, substantially as and for the purposes set forth.

Second. I claim the fan when constructed with its blades radial and situated in the specified relation to the space existing between the stones, so as to give a direct blast, for the purposes set forth.

Third. In combination with the above, the arrangement for suspending the stones C C^1, consisting of rings D, each having four axes *c c d d* or *e e f f*, and one being arranged on the spindle of the stones, and the other between the standards of the frame, substantially as and for the purposes set forth.

Fourth. The combination of the spirally-flanched revolving and sliding cylinder, friction wheels M N, and spindle B, substantially as and for the purposes set forth.

No. 20,972.—Samson Wolff, of Vicksburgh, Mississippi.—*Improvement in Flouring Mills.*—Patent dated July 20, 1858.—By this invention any necessary additional weight can be given to, or any surplus weight removed from, the running stone in such a manner that said stone, although heavily weighted, will act with a pressure which can be counteracted by any peculiar resistance of the grain or other object between the stones, as in the event of clogging of the grain from too great moisture or ununiform distribution of feed, and in perfect delivery at the periphery of the stones, and consequently the flour will be kept

discharged in a cooled state, and the miller enabled to adjust his grinding surfaces to suit the amount steam power he has on hand.

Claim.—Increasing or decreasing the effective grinding action or friction of the stones B B, without the necessity of changing the distance between the grinding surfaces, by having the spindle C of the running stone B^1 arranged between an unyielding but adjustable step D and a pivoted weighted yielding lever J J, in the particular manner specified, for the purposes set forth.

No. 21,062.—Robert J. Brown, of Perry, Pennsylvania.—*Improvement in Flouring Mills.*—Patent dated August 3, 1858.—This invention relates principally to the bolting apparatus of flouring mills and the elevator and conveyors connected therewith.

The inventor says: I *claim*, first, the combination of cups without backs, with a perforated strap *d*, for the purpose of elevating and discharging meal in the manner set forth.

Second. The combination of a ribbed pulley *e*, with a conveyor on the bolting shaft, in the manner and for the purpose specified.

Third. The arrangement of two, three, or more bolts within and concentric with each other, and upon the same reel shaft *g*, in the manner and for the purpose set forth.

No. 22,384.—Ira Speight, of Woodville, Mississippi.—*Improvement in Hominy Mills* —Patent dated December 21, 1858.—The nature of this improvement consists in effecting the attachment of the upper stone A to the hollow spindle B by means of a left-hand screw C, and the lower stone D to the solid spindle E by means of a right-hand screw F; the left-hand screw attachment consisting of a metal female screw-tapped thimble G fitted in the eye *a* of the upper stone, and a left-hand screw thread C cut on the hollow spindle; and the right-hand screw attachment consisting of a metal female screw-tapped thimble H fitted in the eye *b* of the lower stone.

Claim —Hanging mill-stones by means of right and left screws, substantially as and for the purposes set forth.

No. 20,784.—John J. Farrington, of Pittsborough, North Carolina.—*Improvement in Mills for Cutting, Crushing, and Expressing the Juice from Sugar-Cane.*—Patent dated July 6, 1858.—This invention consists in the arrangement of the cutter C over the pressing rollers F G, which stand one over the other, and a conducting trunk H to direct the cut material from the cutter C to the presser roller F G, so that the expressed juice and the spent cane shall be separated from each other and each pass to its proper receptacle.

Claim.—In combination with the cutter C and the pressing rollers F G, the guiding trunk H and the dividing board I, the whole being arranged for cutting, conducting to the presses, pressing and separating the spent cane from the juices, as described and represented.

No. 20,102.—Chauncey Thomas, of West Newbury, Massachusetts.—*Improvement in Mill for Grinding Paint.*—Patent dated April 27, 1858.—In this invention, instead of using a hopper to receive the

semi-fluid material or paint to be ground, and to introduce it into the grinder, a force pump or its equivalent is used. The barrel of such force pump is shown at C, as affixed to and extended above, and made to open at its lower end into the rear part of the hollow grinding cone *a;* with this barrel C and piston D operates.

The inventor says: I *claim* the combination of the forcing pump (or its equivalent) with the grinder or mill for grinding paint, and so as to operate therewith, substantially as described.

I also claim the mode of combining the piston with the mechanism or means of elevating and depressing it; that is to say, by such a mechanical device or devices as will not only allow the piston to be elevated out of the pump, but swung laterally out of the way, or beyond the mouth of the pump, when receiving the material to be ground.

No. 19,541.—Thomas Blanchard, of Boston, Massachusetts.—*Improvement in Mills for Reducing Substances.*—Patent dated March 9, 1858.—The object of this invention is to reduce grain into meal or flour, and to effect this reduction of substances by a shearing action of two series of rotating disks *d*, and combining with the disks *d* one series of stationary eccentric plates *h h* for each series of disks, and interposed between the disks for the purpose of forcing the particles of the reduced substance from between any two of the disks and discharge it at the periphery.

The inventor says: I do not wish to be understood as claiming broadly the use of two series of circular disks on parallel rotating shafts, with the periphery of one series working in the spaces between the disks of the other series, except when arranged so as to have a mode of operation such as I have invented and described.

I *claim*, in the construction of mills for reducing substances, the employment of two series of rotating shears, constructed substantially as described, combined with each other, and with a suitable hopper for the supply of the material to be reduced, and having a mode of operation substantially such as described.

And I also claim, in combination with the two series of rotating shears for reducing substances, substantially as described, the two series of eccentric clearers, substantially such as described.

No. 21,340.—Jeremiah Howard, of New York, N. Y.—*Improvement in Mills for Sugar-Cane.*—Patent dated August 31, 1858.—This invention consists in applying, by suitable means, hydraulic pressure to the lower rollers of a crushing mill, so that the rollers will be allowed to yield or give, and the space between them and the upper roller regulated according to the work to be performed, thereby insuring the mill against fracture and causing it to work more efficiently than usual.

Claim.—The employment or use of a pump G, water reservoir F, and valve J, in connexion with necessary pipes H I and cylinders E, provided with pistons *d*, acting on the bearing of the roller or rollers, the whole being arranged as shown, or in any equivalent way, so as to operate as and for the purpose set forth.

No. 20,288.—Henry Meyer, of Bridgeton, New Jersey.—*Improvement in Mill for Treating Chinese Sugar-Cane.*—Patent dated May 18, 1858.—This invention is a combination of expanding strippers with a system of rollers, and in an arrangement of the latter with certain strips and a revolving knife, the whole being designed for the purpose of stripping the leaves from the stalks of the Chinese sugar-cane, prior to their being submitted to the rollers, and for the purpose of cutting the spent stalks into suitable lengths to be used as fodder for cattle.

The inventor says: I do not claim, separately, the expanding strippers, the system of rollers, or the revolving knife, as each of these devices have been used in other machines.

But I *claim*, first, the arrangement, substantially as described, of the rollers H I and J, the strips *a f* and *b*, and the revolving cutter *n*, for the purpose specified.

Second. The expanding strippers U in combination with the rollers H I and J, the same being arranged in relation to each other, as and for the purpose set forth.

No. 19,251.—James J. Johnston, of Alleghany, Pennsylvania.—*Improvement in Grain Mills.*—Patent dated February 2, 1858.—This invention consists in the arrangement for feeding grain in at the hub of the stationary bar, and also in the arrangement for gathering, bolting, and separating the flour.

Claim.—First. The use of the pin *c* on the revolving bar, for the purpose of operating the bolting sieve *f* and spring rod *e*, as described and set forth.

Second. The arrangement of the hopper *k*, spring rod *e*, hollow hub *l*, and feed screw *d*, as described and for the purpose set forth.

Third. The arrangement of the recess 5 in the bars and flange X on the stationary bar, for the purpose of forming the gathering chamber *o*, as described and for the purpose set forth.

Fourth. The arrangement, in the face of the bars, of the recess with the blank surface marked S, in connexion with the arrangement of the teeth or cutters and rubbing surface *p*, as described and for the purpose set forth.

Fifth. The arrangement of the spring *y*, the bolting sieve *f*, with the recess 1 and 4, and the chutes *s t* and *r*, as described and for the purpose set forth.

No. 19,441.—Philander Perry, of Troy, N. Y.—*Improvement in Grain Mills.*—Patent dated February 23, 1858.—In figure 1 A A^1 is the frame, B B^1 is the fly-wheel, C is the shaft that supports the eccentric plates, E is the gearing shaft, F is the feeder, G G^1 are eccentric plates or disks revolving in opposite directions, arranged on the shaft C. The eccentric plate G^1 makes two revolutions while the plate G makes one; D D^1 D^2 D^3 is the gearing arranged upon the fly-wheel B B^1, and shaft E, and the plate G^1. The cog-wheels D^1 and D^2 are one-fourth the size of the fly-wheel B B^1; the wheel D is twice the size of the small wheels D^1 D^2.

The inventor says: I *claim*, first, the arranging two eccentric plates

or disks upon one shaft, both plates revolving in opposite directions, for the purposes specified.

Second. The arranging an eccentric cone upon an eccentric and revolving plate, in connexion with crackers placed within the concave surface of the convex receiver, for the purposes specified.

Third. The manner of arranging the gearing upon the fly-wheel and eccentric plate, for the purposes specified.

Fourth. The arranging a stationary hopper on an eccentric and revolving plate, for the purpose specified.

No. 19,093.—Burton W. Leonard, of Bridgeport, Conn.—*Improvement in Grinding Mills.*—Patent dated January 12, 1858.—In the engravings figure 1 is the spindle, with bail and step connected, passing through the bed-stone O. Figure 2 is the bed-stone as hung in the frame. Figure 3, the bottom step or cup.

Claim.—The arrangement for connecting the bail or carrier to the spindle; also the manner of hanging the bed-stone in the frame by means of a universal joint or balance; also the manner of constructing the step and oil cups, as set forth and described.

No. 19,289.—Hendrick V. Duryea, of Fulton, N. Y.—*Improvement in Grinding Mills.*—Patent dated February 9, 1858.—The rollers B and C are constructed by casting of metal in two parts, D and E, each being hollow and having a bearing for the shaft F at both outer and inner ends of each part, making four in all; the two parts, D and E, are connected by the shaft F running through all four of the bearings, and by the rods H, lengthwise through the parts. Near the end of each cylinder there is a groove I to receive the end boards J of the hopper A. The sideboards K of the hopper are made to rest upon the upper surface of the cylinders; the ends being expanded at L, the hopper is firmly held in contact with the cylinder.

The inventor says: I *claim*, first, the method, substantially as described, of constructing metallic rollers for grinding mills, when the parts of each roller are connected by the contraction of metallic rods, as set forth.

Second. I also claim the method, substantially as described, of attaching the hopper A with the rollers B and C, for the purpose mentioned.

Third. I also claim the described method of attaching hoppers, in combination with rollers, constructed as set forth.

No. 19,521.—Hosea Southwick, of Little Cooley, Pa.—*Improvement in Grinding Mills.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the friction rollers on which the main shaft runs.

I *claim* the mode of grinding all kinds of grain into flour and meal with a perpendicular stone fitting into a stone concave, and a counter-stone or crusher on the top of the runner near the upper end of the concave; said counter-stone or crusher is to crush the grain before it drops between the runner and the concave, thereby grinding faster and with much less power than common mills.

No. 19,587.—Gelston Sanford, of Poughkeepsie, N. Y.—*Improvement in Grinding Mills.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: The particular improvement which constitutes my invention, and which I *claim*, is giving the edges of the plates D and E, having a longitudinal and lateral motion with reference to each other, the notch form described, or its equivalent, by which the breaking of the coarser particles and their introduction between the plates is insured, substantially as set forth.

No. 19,559.—Rensselaer D. Granger, of Philadelphia, Pa.—*Improvement in Grinding Mills.*—Patent dated March 9, 1858.—The burrs being set in motion by turning the shaft H, the grain will drop through the orifices *c c*, and being acted upon by the grinding surfaces of the shell B and burrs, will be reduced to the required consistency and be dropped into the box A. As the outer burr C moves over more space in the same time than the inner burr D, the orifices *c c* must be larger than those of the latter.

The inventor says: Without laying any exclusive claim to the employment of two or more grinding cones, and without confining myself to any particular number of such cones—

I *claim*, first, so constructing grinding mills having any convenient number of annular, concentric, grinding cones that each cone shall have its own hopper communicating with the general hopper and its own set of feed openings, substantially as set forth and for the purposes specified.

Second. The combination of the bridge-tree G as secured to the shell B, the burr shaft F with its pinion I, and the shaft H with its wheel J, when each is arranged in relation to the other, substantially as set forth and for the purpose specified.

No. 19,826.—David E. Breinig, of Philadelphia, Pa.—*Improvement in Grinding Mills.*—Patent dated April 6, 1858.—This invention relates to mills for grinding paint, printers' ink, drugs, grain, and other materials, and consists in constructing the shell and burr with their upper surfaces cone-shaped, with inclined sides terminating in a horizontal grinding surface, in combination with arms for directing the material towards said grinding surfaces, and also, in combination with the above mentioned form of grinding surface, a scraper, whereby the ground material is allowed full liberty to escape and is yet prevented from falling off.

The inventor says: I *claim*, first, the upper portion of the grinding surface of the shell and burr cone-shaped, with inclined sides terminating in a horizontal or curved grinding surface, in combination with the deflecting arms *n* and *p*, or their equivalents.

Second. The shell and burr, formed as above described, in combination with the scraper W, sliding segment N and pinion P, arranged and operating substantially as described.

No. 20,310.—Salvadore Vascow & Adolph Guirand, of Cincinnati, Ohio —*Improvement in Grinding Mills.*—Patent dated May 18, 1858.—The nature of this improvement consists in the combined arrangement of parts composing the mill. *a a* is the general frame-work of the mill. B is a French burr stone mounted on the shaft J and attached firmly to it, so that the stone can be revolved by a belt working over the pulley *h* on the end of the shaft J. C C is a concave piece made of French burr stone and attached to the frame-work *d d*.

Claim.—The combined arrangement of the breaking rollers c^1 c^1 with the cylindrical grinder B and concave C C, when the whole is constructed as described, for adjusting the cylinder and concave apart, as described, for grinding.

No. 20,692.—Backus A. Beardsley, of Waterville, N. Y.—*Improvement in Grinding Mills.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that conical or semi-spherical shells, toothed both on their upper and lower surface and encompassed by toothed cases, have been previously used.

And I am also aware that rotating toothed shells, perforated to allow the bark to pass through, have been used; for such device was previously patented by me, the letters patent bearing date February 4, 1843.

But I am not aware that conical or semi-spherical toothed shells have been used in connexion with stationary arms and toothed cases, and arranged as shown, so that any number of shells may be used and the mill made of any desired grinding capacity, and at the same time rendered capable of being operated with a comparatively moderate expenditure of power, and also rendered capable of being graduated to grind fine or coarse, as desired.

I do not claim, therefore, any of the described parts, separately considered.

But I *claim*, first, the alternate combination of grinding shells C G with shells F I, the shells C G having a smaller diameter or curve than the shells F I, so that, by merely duplicating the above parts and employing them in connexion with cases D H, as shown and described, the capacity of the mill is correspondently increased.

Second. I claim providing the shell G with a guard *a*, which fits into a rebate *b* in the upper part of the case D, so that shell G may be moved vertically at pleasure without the escape of the contents of the mill between the edges of said shell and case, substantially as described.

No. 20,734.—William Scarlett, of Kenosha, Wisconsin.—*Improvement in Grinding Mills.*—Patent dated June 29, 1858.—This invention consists, first, in a novel arrangement of certain parts whereby these parts are connected in the simplest possible way, and the construction of the mill rendered very simple, and the principal bearing of its working parts kept continually in a lubricated state. Second, the peculiar device with which ears of corn may be crushed with a moderate expenditure of power. Third, an adjustable feed plate is

used, placed within the hopper, so as to regulate the supply of small grain to the mill and prevent the choking and clogging of the same.

The inventor says: I do not claim broadly the screw rod with nut at the top for adjusting the grinding surfaces; nor do I claim broadly the employment of crushing knives or blades above the grinding surfaces.

But I *claim*, first, the combination of the screw rod B *f* J, thimble *c g*, and separated hubs E K *e m n o*, in the particular manner shown, and for the purposes described.

Second. The arrangement of the conical feed plate in the bottom of the hopper, loosely over the central box of the central screw, and so as to be adjusted vertically by means of set screws, independently of the crushing and grinding devices, in the manner and for the purposes set forth.

Third. The arrangement of the cutters *g* so that their vertical edge shall only nearly touch the horizontal edge of the cutter S, and thus insure the crushing of the corn, &c., between the same at a point near the centre of the mill, substantially as and for the purposes set forth.

No. 20,941.—GERRETT ERKSON, of New York, N. Y.—*Improvement in Grinding Mills.*—Patent dated July 20, 1858.—This invention consists in combining with and attaching to two eccentric rotating plates *j* and *m* having the same axis of rotation and turning in opposite directions, or in the same direction but with different velocities, and whose contiguous surfaces are formed or otherwise prepared for grinding and reducing substances, a male and female nut, one within the other and concentric with each other, for the purpose of breaking or crushing the substances which are passed between and finally ground or reduced between the surfaces of the eccentric plates.

Claim.—Combining with the two eccentric grinding plates having the said axis of rotation, substantially as described, a male and female nut, concentric with each other, and attached to and rotating with the eccentric plates, as set forth, and for the purpose specified.

No. 19,060.—EZRA FAHRNEY, of Deep River, Iowa, assignor to JOHN DONALDSON, of Mount Morris, Illinois.—*Improvement in Hominy Mills.*—Patent dated January 5, 1858.—The nature of this improvement is shown by the claim and engravings.

The inventor says: I wish it to be distinctly understood that I make no claim in this application to an intermittent feeding and discharging device for hominy machines having two slides, one arranged at the top and the other at the bottom of the cylinder, said slides being operated alternately by a cam-wheel driven by a worm-wheel and screw-shaft, as such an arrangement was patented by me in 1855.

But I *claim*, as an improvement on the mill patented to me on the 15th of May, 1855, the employment of two self-closing hinged flap valves *i m*, one at the top and the other at the bottom of the cylinder A, in combination with a ratchet C arranged loosely on the hub of the cylinder, and having two pins *g h* on its face, and being actuated

slowly by a pawl *f*, which is connected with a crank shaft E by means of a vertical rod G and jointed elbow lever *d e*, as and for the purposes set forth.

No. 19,297.—PHILIP HOMRIGHAUS, of Royalton, Ohio.—*Improvement in Hominy Mills.*—Patent dated February 9, 1858.—The operation of the mill is as follows: The sliding bottom M of the hopper L being first closed, the hopper is filled with corn, and water added to dampen it, any unabsorbed water passing off by means of the trough M K. The shafts A B are then set in motion, and corn admitted into the cylinder by withdrawing the gauge board M to any extent desired. The upper shaft A, rotating at greater speed than the lower one, causes greater friction upon the corn, and equalizes the labor performed by the two shafts. The swinging side D of the cylinder is then thrown back, when the hominy, falling into the conveyor trough, is by the conveyor J forwarded to the action of the fan I, by means of which the husks, eyes, &c., are impelled forward and deposited in the box S, while the clean hominy passes down the spout Q into the box T.

Claim.—The construction of the gauge plate M, when used in connexion with the hopper L and trough K, substantially as and for the purposes set forth.

No. 19,691.—FREDERICK E. DAKE and JOHN W. TEAL, of Indianapolis, Indiana.—*Improvement in Hominy Mills.*—Patent dated March 23, 1858.—A is a hopper, into which the corn is placed and is fed by the shoe B. C is an upright shaft, upon which are the disks D D D D, separated by the blocks E E E E. F is a pinion, gearing into the wheel G, which is upon the same shaft with the pulley H. I I I I are wings or beaters, designed to throw the corn from the centre. K K are fans, designed to draw a current of air down through the mill. L L L are openings through the disks D D D D. M is a spout for the hominy, and N a spout for the meal.

Claim.—The combination and arrangement of the perforated disks D D D D with the fan K K, when constructed and arranged substantially in the manner and for the purposes set forth.

No. 20,327.—JAMES M. CLARK, of Lancaster, Pennsylvania.—*Improvement in Hominy Mills.*—Patent dated May 25, 1858.—In the operation of this invention, the material, after being ground at the stones, passes down the spout K and into conveyor E, and is carried by conveyor E into the elevators G¹, and up the elevators into the short conveyor case B, and through the conveyor case by conveyor D into the superfine bolt A.

The inventor says: First. I *claim* the arrangement of the apertures T and *i* in the conveyor case M with the slide-valve O, constructed and operated as set forth.

Second. I claim the combination of the movable or stationary conveyor with and formed on the shaft of the bolting reel, for the purpose of conveying the material into the bolt to any required distance, to effect the object fully specified.

No. 21,184.—Jacob P. Brady, of Mount Joy, Pa.—*Improvement in Mill Pick Holders.*—Patent dated August 17, 1858.—Figure 1 is a perspective view of this invention; A is the double socket, with its handle C and two double-wedged picks B B in place.

Figure 2 shows the double socket, which may be hollowed out at, as shown at *b b*, or left full in a line with *e e*, the bit holders, and *c*, for the handle C at D.

Claim.—The double-socket pick holder, when constructed as described, and used in combination with the diamond-shaped picks, in the manner and for the purposes set forth.

No. 19,696.—David H. Gage, of Dover, N. H.—*Improved Grinding Attachment to Pug Mills.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The combination of the double series of rotating arms E E and F F with the stationary arms *d d* and the dish-shaped grinder C, when the said parts are so shaped and arranged as to operate in conjunction with each other substantially as set forth.

No. 20,012.—Loring W. Williams, of Nevada City, California.—*Improvement in Quartz Mills.*—Patent dated April 20, 1858.—The nature of this invention consists in constructing the inside bottom of a circular battery of a series of inclined planes or curves, commencing at a common base and produced to any required height, and over and in contact with which the stampers or wheels move, and by means of which they are alternately raised and let fall.

The inventor says: I do not claim the circular battery, that being by no means new.

But I *claim* constructing the inside bottom of circular batteries (in which quartz is to be crushed) of a series of inclined planes or curved surfaces, commencing at any desired base and produced to any required height, and over and in contact with which stampers or wheels are made to revolve, and by their revolution over such inclines are alternately raised and let fall, substantially in the manner and for the purpose described.

No. 20,161.—John C. Kelly and Amos Frost, of Edinburg, Ind.—*Improvement in Smut Mills.*—Patent dated May 4, 1858.—A represents the hopper; *c* the aperture through which the grain descends; *b b* and *d d* are partitions which form the air passage F; R is the beater encased within two drums *e e* and *f f*; C is an air chamber above the fans; P is the driving shaft, having secured to its upper extremity the beater R; B B are fans secured to shaft P; H H H are triangular blocks for the purpose of scattering the grain; *a* is a spout forming a connexion between the scourer and the air passage D^1.

The inventors say: We *claim*, first, the arrangement of the hopper as constructed with the air passage F, in the manner herein set forth and for the purpose described.

Second. We claim the peculiar arrangement of the scourer as constructed with the air passage D and C, connecting spout *a* and fan B, for the purpose of separating the smut from the wheat, as fully set forth.

No. 21,199.—Gideon Hotchkiss, of Windsor, N. Y.—*Improvement in the Mode of Securing and Adjusting the Steps of Mill Spindles.*—Patent dated August 17, 1858.—The nature of this improvement will be understood by an examination of the claim and engravings.

The inventor says: I *claim* the double fulcrum lever operating outside of the shell F, and over the base, resting on two raised fulcra *j* on the shell fitted to said levers *b;* and the suspending the sway bar and pot by means of sway bolts passing through said lever in the manner described; also the flanges *e e* on the bottom of the pot.

I also claim the manner of supporting the regulating screw on an adjustable base L or safety lightener, by which the stones can be quickly raised and returned again to the same position, substantially as described, in combination with the foregoing arrangement.

No. 20,083.—Gabriel Natcher, of Indianapolis, Ind.—*Improvement in Millstone Dress.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

I *claim*, 1st. The lines *a* upon the upper portion of the inclined plane of the furrow.

2d. The curved or retarding lines C upon the breast circle.

3d. The parallel or uniform lines upon the whole surface, running straight or at any desired curve.

4th. The combination and arrangement of the various parts above described, making up the complete dress of the millstone, when arranged and operated substantially as set forth.

No. 20,084.—Gabriel Natcher, of Indianapolis, Ind.—*Improvement in Millstone Dress.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application of the diamond in the production of the small lines in any required form upon the face of millstones for dressing the same.

No. 20,029 —Franklin Bellinger, of Lockport, N. Y.—*Improvement in Millstone Dress.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The furrows C cut into the stones tangentially with the eye B, and gradually diminishing, both in depth and width, from the eye to the periphery where they terminate in points, the space between the circle *a* and eye B of the runner A being inclined or made open, substantially as and for the purpose set forth.

No. 20,462.—Samson Wolff, of Vicksburg, Miss.—*Improvement in Millstone Dress.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Dressing millstones with elbow-shaped furrows A and B, which are partly concave in their transverse section or curved as shown at *a*, and partly bevelled in the same section as shown at *b*, and

so constructed that all the feather edges *c c* of the main furrows radiate from the centre of the eye B of the stone, and that the elbows *d d*, or commencement of the angles, are at a point nearer the circumference than the eye of the stone, substantially as and for the purposes set forth.

No. 20,950.—GEORGE W. LOY, of Jefferson, Texas.—*Improvement in Millstone Dress.*—Patent dated July 20, 1858.—This invention consists in having one stone provided with straight tangential furrows, and the other with curved furrows, whereby the millstones are rendered much more efficient in their operation than by the ordinary dress most generally employed.

Claim.—Having the two stones A B provided respectively with straight and curved furrows, disposed or arranged as shown and described, for the purpose set forth.

No. 22,356.—JOHN FAIRCLOUGH, of Louisville, Ky.—*Improvement in Balancing Millstones.*—Patent dated December 21, 1858.—This invention relates to an improved arrangement of adjustable weights, which are fitted in the upper stone, or runner, in such a manner that the stone may be perfectly balanced on its spindle, both as regards its gravity or weight, and the centrifugal force generated by its rotation.

The inventor says: I am aware that adjustable weights have been previously used on millstones, and I therefore do not claim broadly such feature.

But I *claim* the arrangement of the cylinders I within the boxes H, the former being provided with tubes *e* having screwthreads on their outer and inner surfaces, and provided with screws *g*, and the cylinders provided with projections *l* which fit in the grooves *m* of the boxes, as and for the purpose set forth.

I also claim the plates *h* and bottoms *j* of the cylinders I when screwed on the tubes *e*, and used in connexion with the nuts *k*, substantially as and for the purpose specified.

No. 19,273.—ISAAC WHISSEN, of Mount Jackson, Va.—*Improvement in Dressing Millstones.*—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

Claim.—The construction of a mill dress, having a central sloping draught circle *f f* with para-centric curves proceeding therefrom, and terminating in main and branch furrows I J 2, K K L, formed by the mathematical divisions, subdivisions, and especial angular calculations, substantially as shown and described.

No. 19,156.—WINSER SMITH, of Princeton, Iowa.—*Improvement in Feeding Millstones.*—Patent dated January 19, 1858.—As the stone A rotates, the cylinder D will be vibrated or moved up and down in consequence of the projection *c* passing over the inclined projection *d*, thus the eye will be prevented from choking or clogging as the grain is fed into it.

The inventor says: I do not claim the employment of a tube for conducting the grain through the eye of the rotating stone.

But I *claim* giving a jarring or shaking motion to the tube D, as described, for the purpose of preventing the clogging of the grain.

No. 21,330.—JOSEPH A. FORSMAN, of Cincinnati, Ohio.—*Improvement in Hanging Millstones.*—Patent dated August 31, 1858.—This invention relates to the manner of hanging and adjusting the bed-stone and runner to the frame and to each other.

A is the frame, the base of which is made to receive the bed-stone B. U is the runner. V is a ring, which is centrally hung in the eye of the runner by the drivers W, which drivers have a screw-thread cut on them that works in either a nut or bush in the eye of the stone, so that said drivers may be screwed out when it becomes necessary to dress the runner or bed-stone.

Claim.—The combination and arrangement of devices for hanging and adjusting the bed-stone and runner to the frame and to each other, substantially as represented, and for the purposes set forth.

No. 20,818.—L. RACINE, of Joliet, Illinois.—*Improvement in Ventilating Millstones.*—Patent dated July 6, 1858.—This invention consists in having the eye of the runner or upper stone so enclosed that while the grain is readily admitted into the eye a perfectly air-tight blast passage is formed through the eye of the stone, between the stones and through the curb.

The inventor says: I am aware that a blast of air has been forced through or between millstones, in order to keep them in a cool state and to absorb the moisture which the grain may contain, and I therefore do not claim broadly forcing a blast of air between the stones. But I *claim* the arrangement and combination of the blast pipe N, curb D, flanch K, rim L, flexible bottom M, tube G, and exhaust pipe O, as and for the purposes set forth.

No. 20,124.—FREDERICK E. DAKE, of Indianapolis, Ind., assignor to Himself and THOMAS E. HUNT, of said Indianapolis.—*Improvement in Sugar Mills.*—Patent dated April 27, 1858.—A is a bed-plate firmly bolted to the platform K. C C are rollers in the frame B, which work upon the journals L L. G is a weight sliding upon the rod H for the purpose of increasing or decreasing the pressure produced by the lever frame D between the rollers C C and bed-plate A. N is a hopper or spout where the cane is fed to the rollers. I is a scraper to clear the crushed cane from the surface of the plate A. M is a trough to conduct the juice to the spout J.

Claim.—The combination and arrangement of the lever frame D, sliding weight G, and rollers C C, with the bed-plate A, when constructed substantially in the manner and operated for the purpose set forth.

No. 21,601.—SAMUEL L. DENNEY, of Lancaster county, Pa.—*Improvement in Sugar Mills.*—Patent dated September 28, 1858.—The respective movements of this sorghum or improved Chinese sugar cane mill are combined with the eccentric bearings, being connected together in such a manner as to effect the instantaneous enlargement

or dimunition of the space between the rolls simultaneously with the movement of the lever F.

Claim.—The combination of the eccentric bearings R R, their arms *c c* connecting the rod D, lever F, sliding bolt *g*, hand-piece M, and arch H, or their equivalents, substantially in the manner and for the purposes set forth.

No. 19,545.—HAMILTON J. COX, Warren county, Ohio.—*Improvement in Sugar and Cider Mills.*—Patent dated March 9, 1858.—To operate this mill it must be fastened upon the top of a trough or box made for the purpose, and a lever attached to No. 2 for the horses. In grinding sugar cane, the cane is fed in between Nos. 2 and 3, and the bagasse escapes at No. 4. The cane is only to pass between the lower or smooth part of the rollers 2 and 3 and 2 and 7 to escape at 4, and the juice runs down into the box or trough below. In grinding apples, they are poured into the hopper 5, pass between the rollers 2 and 3, and fall down in front into the trough.

Claim.—The combination of the several parts of a grooved roller cider mill, and the several parts of a smooth roller sugar mill, in manner and form described in the specification, forming a new combination of machinery for the purpose of grinding sugar cane and apples, the same being perfectly adapted to both without alteration.

No 20,290.—CHARLES MOORE, of Trenton, N. J.—*Improvement in Chasing Mills.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* making a chasing mill self-feeding, automatically and continuously, by means of one or more circular troughs which receive the substances to be ground or acted upon, and deliver them through the spouts on to the bed of the mill under the chasing wheels, substantially as described.

I claim the scraper I, so constructed and operated as to separate that portion of the material on the bed of the mill which is ground most, automatically and continuously, from that which is ground less, and deliver it to the discharge opening in the bed of the mill, substantially as described.

And in combination with a continuous automatic self-feeding apparatus, or a continuous automatic self-delivering apparatus applied, to a chasing mill, I claim a heated bed, so as to heat, grind, mull, and mix the materials supplied to the mill automatically or without manual labor, at one and the same time, as described.

No. 20,540.—JOSEPH BARTHOLOMEW, of Dundee, N. Y.—*Improvement in Machine for Gathering the Toll in Grist Mills.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not confine myself to the precise arrangement of the parts as shown and described, for a modification of the same may be used and made to answer a good purpose—the valves, for instance, may be operated by a different arrangement of parts, &c.; the machine, however, would be substantially the same as regards its principle of operation.

What I *claim* is the employment or use of a rotating cylinder C provided with chambers D, and having valves or movable bottoms *a* so arranged and operated that as the cylinder rotates the grist will be conveyed to the hopper of the stones or any proper receptacle, and the toll gathered or taken from the grist, substantially as described.

No. 19,605.—DAVID COLLINS, of Jersey City, N. J., assignor to Himself and W. L. HANFORD, of said Jersey City.—*Improvement in Dress of Stones for Hulling-Mills.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim dressing hulling stones with radial or curved furrows.

But I *claim* the runner stone, dressed with the radial polygonal furrows 3 and 4 as specified, when combined with the bed-stone having radial furrows 1 1 and straight furrows 2 2, or their equivalents, substantially as and for the purposes specified.

No. 19,302.—THOMAS E. LITTLE, of Janesville, Wis.—*Improvement in Scrapers for Grinding-Mills.*—Patent dated February 9, 1858.—This invention consists in having a series of scrapers attached to a rotating head placed on the curb, the scrapers being fitted in the space between the curb and runner, and, as they pass around within the space, clearing or scraping the ground meal, as it escapes between the stones, into the discharge pipe.

Claim.—The employment of the rotating head *b*, having rods *e* and scrapers *f* attached, said parts being arranged to revolve slowly around the runner at whatever speed the latter may be driven, substantially as and for the purposes set forth.

No. 20,384.—S. LLOYD WIEGAND, of Philadelphia, Pa.—*Improvement in Changing Rotary into Reciprocating Motion.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the oblique wheel adjustable in an axis transverse to the revolving shaft C.

Second. Giving a permanent lead to the motion by a permanent inclination of the wheel A, in combination with a variable inclination.

Third. Conveying the vibratory motion to the rods by means of ball and socket or universal joints G, when said joints are used, in combination with the frame.

No. 19,848.—FOREST H. HARWOOD, of Rushville, N. Y.—*Improvement in Converting Reciprocating into Rotary Motion.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the arrangement, substantially as shown and described, of a revolving eccentric ring or band B, with edge clips *a b* of a reciprocating rod, or its equivalent, for operation together, to produce a revolving motion from a reciprocating one, and the reverse, as specified.

And I further claim the combination with the reciprocating clips *a b* of the rod D, having a radial action to the ring shaft A of the endless band B, arranged eccentrically to its shaft, when said band is made of diminishing thickness in opposite directions from its dead points or portions for operation with the clips, in the manner and for the purposes set forth.

And, lastly, I claim connecting the revolving eccentric ring or band B that reciprocates the clips *a b*, or is revolved by them, with its shaft by or through the fly wheel, which aids the ring in passing its dead points or centres, whereby the fly wheel is braced by the ring, and more immediate relief is given to and generally diffused over the latter.

No. 21,565.—ISAAC CHAPMAN, of New York, N. Y.—*Improvement in Converting Reciprocating into Rotary Motion.*—Patent dated August 3, 1858.—This invention is an improvement in the mode of operating shafts. A A are the standards; B B the frames that support the main shaft N; F F is the double ratchet wheel, which is formed of two plates which are separated by a number of anti-friction rollers *i i i i* sufficiently far to allow the bearing *m*, plate 1, of the frame C, to play freely back and forth between the ratchet plates or wheels and on the rollers.

The inventor says: I do not claim the separate or individual parts of the described apparatus.

But I *claim* the ratchet wheel or wheels F F, in combination with the pawls 1 2 3, &c., arranged and operated by means of a parallel motion, in the manner substantially as described and shown.

I also claim the manner of throwing the pawls 1 2 3, &c., in and out of gear with the ratchet, while the power is in motion, by means of the levers D *d* and the parallel spring slide *e* e^1, in the manner and for the purpose set forth and shown.

No. 20,980.—JOHN J. WEEKS, of Locust Valley, New York, assignor to SUSAN WEEKS, of Locust Valley aforesaid.—*Improvement in Converting Rotary into Reciprocating Motion.*—Patent dated July 20, 1858.—This invention consists in forming an arm E obliquely on a rotating shaft, and having a collar F fitted loosely on this arm, the collar having a rod H attached to it at right angles, and the lower end of the rod fitted loosely in an aperture in the slide I, to which a reciprocating movement is given from the shaft D, or a rotary motion given the shaft from the slide.

Claim.—Forming the oblique arm E on the rotating shaft D, and placing the collar or hub F with rod H attached on said arm, the lower end of the rod H being fitted in the slide I, substantially as and for the purpose set forth.

No. 19,726.—ISAAC VAN DOREN, of Somerville, New Jersey.—*Improvement in Reciprocating and Rotary Motion.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim, generally, changing reciprocating into rotary motion by means of the gearing B and rotating wheel A.

But I *claim* the arrangement of the wheel D and its projection *b*, as described, so that the wheel D shall be constantly rotated by the use of *d* and *b* alone, without springs, sliding cogs, or any other mechanism.

No. 19,586.—MATTHIAS STEIGERS, of St. Louis, Missouri.—*Improvement in Mode of Producing Vertical and Horizontal Reciprocating Motion.*—Patent dated March 9, 1858.—This invention consists in a new mode of imparting motion to machinery in a vertical and horizontal direction, and in a parallel line with a given plan, by means of a peculiar arrangement of double cranks or eccentrics, to which that part of the machine is attached to which such motion is intended to be communicated.

Claim.—So arranging and combining a series of eccentrics, or their equivalents, as to communicate to machinery a reciprocating motion in a vertical and horizontal direction at one and the same time, substantially as set forth.

No. 22,445.—HENRY MORRIS, of West Philadelphia, Pennsylvania.—*Improvement in Device for Transmitting Rotary Motion.*—Patent dated December 28, 1858.—The nature of this invention consists in the combination of two bevel gears, one of which has its teeth arranged in convolute form, and the other of which, gearing with the first one, has its teeth concentric to its axis; the latter being fitted to slide on its shaft, that it may, when geared with and driving or being driven by the first one, approach or recede from the axis of the same under the guidance of a convolute groove, which is formed between the convolute coils of teeth, and be thereby caused to receive from or impart to the first one a gradually diminishing or increasing velocity.

Claim.—The combination of the convolute gear A and convolute groove *b* with a sliding pinion or gear C, substantially as and for the purposes herein shown and described.

No. 21,934.—GERARD BANCKER and ANDREW CAMPBELL, of New York, N. Y.—*Improvement in Mechanism for Transmitting Rotary Motion.*—Patent dated November 2, 1858.—The nature of this invention consists in attaching to a frame of the crank-shaft an extension rod, having on its lower end a friction roller, over which, and another roller secured on the crank shaft, is arranged an endless belt or band. This is operated by means of a sliding clamping block on the extension rod, in combination with a double-acting clamping lever, the fulcrum of which is secured in the sides of the clamping block, so that as the outer end of the clamping lever is operated by a piston rod or other rectilinear motion, the clamping edges of the clamping lever alternately impinge one side of the belt against the clamping block, which, sliding up or down on the extension rod, causes the belt to rotate, and thus, by clamping alternately the opposite sides of the belt at each half-stroke of the piston-rod, keep up a continuous motion of the crank-shaft.

Claim.—The use of the combination of the sliding clamping block

G and extension rod C with the double-acting clamping lever, made and operated in the manner and for the purposes set forth.

No. 21,133.—WARREN HIDDEN and JOHN REEVES, of New York, N. Y.—*Improved Apparatus for Heating and Cooling Air, to be used as a Motive Power.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Heating air in one section of a rotating or reciprocating cylinder A, and at the same time condensing the exhausted air from the engine in another section of the same cylinder, and at intervals changing the condensing section into a heater, and the heating section to a condenser, by revolving or reciprocating the cylinder so as to alternately have the upper section occupy the place of the lower section in a tank C^1 of water, and the lower section to occupy the place of the upper one in proper relation to a furnace flue *b*, substantially as and for the purposes set forth.

No. 20,701.—JOHN F. DUNNINGTON, of Washington, D. C., administrator of PETER DANIEL, (deceased,) late of Frankfort county, Kentucky.—*Improvement in Mode of Obtaining Motive Power* —Patent dated June 29, 1858.—When the weight o^1 runs down, to set the other weight *o* at work, the wheel 4 is thrown in gear with wheel 3 by means of lever *i*, and then, by turning the wheel M in an opposite direction, the car E runs off to the other end of the track and relieves the weight of its power. While this weight is running down, the other weight is wound up in the same manner by means of the car on the other track.

Claim.—The arrangement of pulleys 1 2 6 7, wheels 3 4 5, lever *i*, belt or cord J, shafts S and S^1, and pulleys K K, with the cords F^1 F^1, weights o o^1, car E, railroad *e*, and the levers B B, pulleys P^1 and *f*, cord C, and wheel M, when all are operated in the manner set forth and for the purpose described.

No. 19,183.—ERASTUS T. BUSSELL, of Shelbyville, Indiana.—*Improvement in Machinery for Obtaining and Preserving Power from Trains while Passing Railway Stations* —Patent dated January 26, 1858.—When the weight is wound high enough to lift the short arm of crooked lever 14 slightly, it throws the foot of said lever above the ratchet hook J, so that until said weight runs down a little the said hook cannot be made to engage with the ratchet wheel *d*; *t* is a spiral spring, one end attached to the frame C and the other to lever *m*, so that when the pressure is removed from curved planes 6 6 its function is to restore all the parts to their proper places; this reaction is restrained within proper limits by the stop P on the lower side of the rod O, one end of which strikes against the rail nearest the machinery; *a a* is a wooded frame sustaining the pulley for elevating the weight.

The inventor says: As I am well aware that there is no novelty in running machinery by weight, no claim is laid on that score.

But I *claim* the catching or saving of power from a train of cars in its flight through the curved planes 6 6, and the appended mechanism or any other equivalent device, substantially as set forth.

No. 21,611 —ELISHA MATTESON, of Troy, N. Y.—*Improvement in Mechanical Powers.*—Patent dated September 28, 1858.—The operation of this invention is as follows: By rotating the wheel G in one direction, or in the other, the top of the shaft B is put in motion, and the plane of inclination changes. The weight F, which in consequence of its gravity is compelled to seek to place itself in that plane of inclination, will therefore follow up the top of the shaft in its rotation, and it will commence to rotate, and continue so long as the wheel G is kept in motion. In so moving, said weight will acquire a certain momentum, which is further increased by the centrifugal force developed by rotating the weight and the power gained by this momentum.

Claim.—The arrangement of the gearing L K J I M N H H, in combination with the shaft B, weight F, and wheel G, substantially as and for the purposes set forth.

No. 20,881.—CALEB S. HUNT, of Bridgewater, Massachusetts.—*Improvement in Machine Pulleys.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The construction and use of machine pulleys with the bearing or band surface made of cork, as described.

No. 21,156.—JOHN TALLON, of New Orleans, La.—*Improvement in Machines for Pounding Rice.*—Patent dated August 10, 1858.—C C are two posts; each of these posts is provided with two ribs S S, which form grooves on the insides of the posts for the ends of the cross-head C H to traverse in. This cross-head has an arm S A firmly fastened to it by being put through a hole in the cross-head. This arm is perforated perpendicularly at its outer end for the pounder P, which passes through it, and has a screwthread upon it, so as to be fastened to two nuts, one above and the other below the arm, so as to adjust and fasten it higher or lower as required. A wrist is formed at the bottom of the cross-head for the upper end of the connecting rod C R, the lower end of which rod is applied to the wrist of the crank C K, arranged to turn in boxes on the posts C C.

Claim.—The combination of the pounder P, arms S A, cross-head C H, connecting rod C R, and crank C K, constructed and arranged to operate in relation to each other as shown and described, and for the purposes set forth.

No. 21,913.—ROBERT P. WALKER, of New York, N. Y.—*Improvement in Machinery for Pearling, Polishing, and Finishing Rice.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the revolving cylinder *d* coated with emery and carrying the sectional rubbers of gum elastic or equivalent material, in combination with the hollow cylinder *f* revolving in the opposite direction to the cylinder *d*, for the purpose of pearling and polishing rice or grains in substantially the manner specified.

I also claim the cylinder *f* constructed substantially as specified, with alternate screens and emery surfaces, to act in connexion with

the interior revolving cylinder *d*, to remove and pass away the douse and chits, as set forth.

No. 22,337.—Wilson Ager, of Rohrsburg, Pa.—*Improvement in the Mode of Cleaning Rice.*—Patent dated December 21, 1858.—The inventor says: In the engravings I show the mode of introducing the current of air to the mortar at M. Under the bottom is a pipe *a* communicating by pipe *b* with a condensing pump, and having branches *c c c* leading into the mortar through its sides, the ends of these branches turning upward and terminating in flattened orifices too small for the admission of the rice. A pipe *d* is also run up the outside of the mortar, which is bent at the top so as to direct a current of air to the centre of the interior.

Claim.—An improvement in the mode of cleaning rice is the forcing of a current of air into or through the grain during the cleaning operation for the purpose set forth.

No. 19,637.—Simeon Howes, of Silver Creek, N. Y., and Gardner E. Throop of Chicago, Ill.—*Improvement in Grain Separators and Cleaners.*—Patent dated March 16, 1858.—The shaft E being put in motion, the fan produces a powerful current of air. The wheat or other grain passing from the hopper O, the spout N is subjected to the action of the upward current in K^2; this takes up smut balls, chess, chaff, &c., and carries them over the plate M. The heavy but uncleaned grain passes by its gravity to the top of the revolving cylinder D, which distributes it equally by centrifugal force as it falls into the mill, where it is subjected to the action of the beaters, which drives the smut and dust through into the space between the shell and its casing B; it is then taken up through the tubes I into the fan case, and discharged through H.

Claim.—The combination of the tubes I and the outer casing B, when so constructed and arranged in connexion with the fan case G, as to prevent the smut, &c., from coming in contact with the cleaned grain, as specified.

No. 19,629.—Daniel M. Donehoo, of Hookstown, N. J.—*Improved Separator and Smut Machine.*—Patent dated March 16, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the arrangement of a horizontal flaring blast spout F with a vertical spout G furnished with sliding adjustable screening gates formed of wire gauze and with separating partitions H I, said spout also being arranged at right angles, or nearly so, to the horizon on the outer end of the blast spout, substantially as and for the purposes set forth.

Second. The arrangement of a vibrating shoe J, when made with two reverse incline shutes, one of which is adjustable, and made of wire or perforated plate, with the shute K, and with the screening and separating spout G and the scouring cylinder, substantially as and for the purposes set forth.

Third. The employment of radially fluted scouring plates J, when

shaped on top in the form of truncated cones, in combination with radially fluted stationary concentrated prismatic rings *e f*, substantially as and for the purposes set forth.

Fourth. I claim the particular arrangement shown and described of the screening and separating spout G, blast spout F, fan with valves, double reverse incline cockle shute J, peculiar scouring apparatus B, and dust spout M, for the purposes set forth.

No. 20,566.—William Johnson, of Lambertville, N. J.—*Improvement in Adjustable Hanger for Shafting.*—Patent dated June 15, 1858.

The inventor says: What I claim is not the employment of a box with trunnions or pivots solidly attached thereto, nor a box movable by means of a ball and socket, nor the adjusting of the box in position, either vertically or laterally, by means of screws, or screws and nuts, with or without a vertical stem, carrying the box with it, nor in a particular proportion, size, or shape (except in the particulars mentioned) of any of the parts. But it is the cylindrical instead of the globular form of the curved surfaces of the box, the axes of each cylinder (of which the opposite surfaces are parts) being at right angles to the other, and the axis of both being at right angles to the axis of the box or tube itself, so as to allow either pair of opposite plugs or blocks to serve as trunnions, or pivots, or centres, upon which the box or tube may turn or revolve longitudinally, and so that the action or pressure or strain of or upon the box, in whatever direction or from whatsoever cause, shall always be perpendicular to the several surfaces of the box and of the plugs or blocks pressing against the same, and so that the plugs or blocks become so many perfect abutments, always acting perpendicularly and never obliquely against the point of resistance, thereby securing a greater degree of compactness, simplicity, and strength relatively to the weight of material and costs of construction than by other methods.

What I *claim* is the two pairs of cylindrical surfaces at right angles to each other and to the axis of the box, in connexion with the four plugs or blocks, each with a cylindrical curvature fitting to that of the box, and secured and adjusted by the four screws D D D D, the whole constructed and operating substantially as described and set forth.

No. 20,634.—William B. Dunning, of Geneva, N. Y.—*Improvement in Coupling-Box for Shafting.*—Patent dated June 22, 1858.—To use this invention the coupling F is put where a support is needed, and the coupling E where the shaft will more frequently require to be taken down to put on or take off wheels; and if a permanent coupling is required on one end of the shaft, use the part D; the part D will be convenient when the shaft is used in a vertical position.

The inventor says: I *claim*, first, the coupling-box, substantially as and for the purpose specified.

Second. The means used for securing the same together, as described and set forth.

No. 21,640.—Frederick W. Howe, of Newark, N. J., assignor to The Newark Machine Company.—*Improvement in Hangers and Boxes for Shafting.*—Patent dated September 28, 1858.—A is the hanger fastened to a beam or joist above by screws or bolts. It is open at the bottom, the arms being connected by the brace M. B B is the box for the shafting to turn in, resting on the oil box. E is the babbit metal which lines the box on the inside. F is the bolt supporting the oil box, by which the latter is suspended to the hanger.

The inventor says: I do not claim the self-oiling of the boxes, nor the adjustment of the boxes; nor do I claim by itself the device of a hanger open at the bottom, so as to receive the shaft and its box from below.

But I *claim*, in combination with such a hanger, the self-adjusting box in the manner set forth.

No 19,340.—William B. Bement, of Philadelphia, Pa.—*Improvement in Hangers for Shafting.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim supporting a box or bearing for a shaft upon trunnions cast on the box, nor suspending the same upon the pointed ends of screws.

Nor do I claim the more common arrangement for holding the box, so as to allow an universal motion of the same by means of the ball and socket.

Nor do I claim adjusting the same vertically by means of a screw and two nuts, the former sliding up and down in a cylindrical tube.

I *claim* the construction of the single stem *k* carrying the box C, and so arranging it relatively with, and connecting it to, the hanger or support by bushing E, that the box and shaft shall have a co-operative self and universal line adjustment with each other, and the shaft have a universal position adjustment, so as to be moved readily to find any and every point or location within the required limits, and be secured therein; and that the line of the shaft may be placed and run above the support or below the hanger, to constitute it a long or short one, and also receive any and every line and self-adjustment position within a complete horizon or circle, essentially in the manner and for the purposes set forth and described.

No. 20,800.—Simon Ingersoll, of Greenwich, Conn.—*Improvement in Rotating Shafts without using a Crank.*—Patent dated July 6, 1858. The nature of this invention consists in substituting in place of the crank a wheel with a groove in its side, in which is fitted a slide P, with its lever N, which is curved sufficiently to allow of its crossing the face of the wheel and not come in contact with its shaft. This rotary movement can be applied to any lathe, shaft, or any other thing where a crank is used.

Claim.—The lever N with its slide P or its equivalent, when arranged in the manner described and for the purpose set forth.

No. 20,104.—Jeremiah Tobin, of Newark, N. J.—*Improved Smut and Grain Cleaning Machine.*—Patent dated April 27, 1858.—This invention consists in the arrangement of a fan, blast passage, scouring device, and screws, whereby the cleaning of grain from smut and other impurities may be performed expeditiously.

The inventor says: I do not claim the scourer O, for that has been previously used.

Nor do I claim the screws C C, separately considered.

But I *claim*, first, the blast passage formed by the cylinder J and case K, arranged as shown in connexion with the rotating basin L or an equivalent device for the purpose of properly presenting the grain to the action of the blast in said passage, substantially as and for the purpose shown and described.

Second. The screws C C, fan I, scourer O, blast passage P, cylinder J, and case K, when combined and arranged to operate as and for the purpose set forth.

No. 19,860.—Samuel B. Manning, of Alleghany, Pa.—*Improvement in Smut Machines.*—Patent dated April 6, 1858.—In the engravings *a* is the shaft or axis, which is placed vertically in the centre of the machine. This shaft turns on two stationary pins *b b*^{1}, which are let into sockets, one at each end of the shaft. The smut machine or concave *c* is placed at the lower extremity of the apparatus. It consists of an upright cylindrical box, the sides of which are smooth externally but corrugated on the inner surface, excepting that there are inserted in the spaces left in the sides of concave, slats *d d*, &c., set obliquely so as to leave openings for the admission of air into the smut machine.

Claim.—The use of a cone *l* placed above the distributing cup to prevent any eddy or interruption of the draught of air which would cause the deposit of the screenings and dirt in the cup.

No. 20,420.—John German, jr., of Southfield, Mich., and S. R. Perkins, of Pontiac, Mich.—*Improvement in Smut Machines.*—Patent dated June 1, 1858.—The operation is as follows: Motion is given to the shaft B, and a draught or blast of air passes through the space c, and also through the cylinder C. The grain passes through the pipe G into the cylinder C, and is scoured by the rotation of cylinder F, the beaters *f*, and inner fluted surface of the cylinder C, which breaks the smut balls and scours off the dirt. The dirt and smut, as it is pulverized and loosened by the scouring device, is carried upward by the blast within the cylinder C into the fan box E, from which it is ejected by the action of the fan.

The inventors say: We are aware that smut mills have been devised so as to subject the grain while passing through them to two or more blasts; and we also are aware that rotating beaters and fluted cylinders have been used. But we are not aware that a fan has been used in connexion with rotating beaters and cylinders, so arranged as to form a simple, efficient, and economical device, as described.

We do not claim, therefore, separately and irrespective of their arrangement, the parts described.

But we *claim* the arrangement of an annular air space *c* between the cylinders C D, with openings *h j k*, as and for the purpose set forth.

No. 20,521.—Duncan M. Vance, of Urbana, Ohio.—*Improvement in Smut Machines.*—Patent dated June 8, 1858.—The nature of this invention consists in the use of two rubbers *g h* made of wire cloth, and placed one upon the other in an inclined position. They receive reciprocating motion by means of connexions with two opposite cranks. A seed screen *c* is also used, made of fine wire cloth, which is arranged in two inclined sheets which descend from the outside, and their approximate inner edges terminate in and form a slotted opening through which the screened grain is discharged and directed between the two rubbers at their upper end. It consists also in the use of a rotary fan which produces a blast of air.

The inventor says: I do not claim the air suction apparatus *e*, nor do I wish to be confined to its use in connexion with the other parts of my invention; for, though of advantage, it can be dispensed with, and external air be admitted directly into the ends of the fan case. Either one or both of the rubbers may have motion, though the best results are produced when both rubbers move in opposite directions.

What I *claim* is, first, the reciprocating wire cloth rubbers *g* and *h* in connexion with a rotary fan, constructed and operating substantially as described.

Second. The double inclined grain screen *c* combined with reciprocating rubbers, substantially as described and for the purposes set forth.

No. 21,202.—J. N. Lester, of Oswego, New York.—*Improvement in Smut Machines.*—Patent dated August 17, 1858.—This invention consists in the employment or use of a series of rotating and stationary conical scourers placed within a proper case, the rotating scourers being placed on a hollow shaft, and the whole constructed and arranged relatively with each other and with a fan, whereby the grain will be thoroughly cleansed from smut, dust, &c.

The inventor says: I do not claim separately the parts described, for they or their equivalents have all been used under different forms of arrangement, and in connexion with various devices, forming the majority of smut machines in use. I am not aware, however, that sinuous scouring passages arranged with a fan, hollow shaft, cylindrical case, and induction blast spout, as shown, have been used.

I *claim* the rotating conical plates F F^1 F^2 attached to the hollow shaft E, in combination with the stationary conical plates D D^1 D^2, rims C, cylinder case G, and fan I, the plates F F^1 F^2 and D D^1 D^2 being provided with scouring ledges *l n*, and the whole arranged relatively with the fan I, induction spout J, and blast spout K, substantially as and for the purpose set forth.

No. 21,563.—Hiram Hopkins, of Evansville, Indiana —*Improvement in Smut Machines.*—Patent dated September 21, 1858.—This invention consists in the use of a scourer peculiarly constructed, and used in connexion and arranged relatively with the blast spouts and a fan, whereby the effectual cleaning of the grain from smut and other impurities and foreign substances is expeditiously performed and by a simple arrangement of means.

Claim.—The scourer constructed of the vertical bars F provided with radial projections *h* at their inner sides, and the arms H provided with ledges K, and attached to the shaft B, when said scourer thus constructed is enclosed by a box M, and arranged relatively with the blast spouts J K L and fan D, to operate as and for the purpose set forth.

No. 22,128.—Hugh Marshman and Charles F. Foulke, of Carlisle, Iowa.—*Improvement in Smut Machines.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, the combination and arrangement of the casing D and funnel-mouth opening *d*, the parts being so arranged in relation to each other as to at the same time give a converging descent to the grain, and an inward partially downward blast through it at that point.

Second. The introduction of an auxiliary blast into the upper portion of the horizontal trunk J, as described, by which a more perfect separation of the light grain is secured, as set forth.

No. 22,395.—J. A. Woodward, of Burlington, Iowa.—*Improvement in Smut Machines.*—Patent dated December 21, 1858.—This invention relates to certain improvements on a smut mill and separator which was patented by the above named inventor October 20, 1857. The object of this invention is to effect a more thorough separation than formerly of the dust and other foreign substances from the grain before the latter is brought in contact with the scourers, and also to augment to a considerable degree the efficiency of the scouring device, as well as the part designed for the separation of the light or imperfect grain from the offal or foreign matter.

In operating this machine, power is applied to shaft F in any proper way, and a rotary motion is communicated therefrom to the shaft *a*, which, by means of the crank *v* and connecting rod *u*, gives a vibrating movement to the bar K and shoe J. The grain to be cleaned falls on the screen a^1 of the shoe J, and passes through said screen, the large foreign substances passing off through spout *c*. The grain cannot pass through screen b^1, but is conducted by it to the cylinder H, and it falls into scourer E, being divided in its descent by the bar I.

Claim.—The arrangement of the wire-cloth cylinder G, scourer E, deflecting or separating bar I, spout f^1, and shoe J, as and for the purpose set forth.

No. 20,683.—Henry F. Read, of Brooklyn, New York, assignor to Himself and Samuel J. Burr, of said Brooklyn.—*Improvement in Stuffing-Boxes.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: I *claim*, first, the metallic rings *r r r* placed upon the shaft A for the purpose of protecting from friction the shaft and flexible tube C, within which said wings are placed.

Second. The arrangement of the flexible tube on the outside of the

metallic rings, so as to allow said flexible tubing to give or twist equally its whole length, and also to carry with it each ring a proportionate distance according to the distance travelled by the shaft.

Third. In combination, as described, the thimble E as used for the purpose of packing the joint at the end "*g*" of the outside case D, and at the same time holding permanently one end of the flexible tube.

Fourth. The combination of the flexible tubing and the metallic rings working together on the shaft, together with the metallic casing D, substantially in the manner described and for the purposes set forth.

No. 21,139.—Jesse Lantz and John Russell, of Wheeling, Virginia.—*Improvement in Machines for Cleaning Wheat.*—Patent dated August 10, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

The inventors say: First. We *claim* the additional air tube or arch F, in connexion with the air tube or arch E, for the purpose of receiving the wheat through an aperture in pipe F, above the hopper V, and from the hopper G, as described.

Second. We claim the adjustable reeded rubber *o*, combined with the flange rubber *i*, constructed and operating as and for the purposes described.

No. 20,318.—George W. Barnett, of Springfield, Ohio.—*Improvement in Driving-Wheels for Portable Steam Engines and Agricultural Implements.*—Patent dated May 25, 1858.—This invention consists in providing the periphery or tread of the wheels with one or more series of radial feet *a* in such a manner that they will gradually yield by compression as the wheel advances, and again project as the resistance is removed.

Claim.—Providing a wheel with one or more series of radial elastic feet, in the manner and for the purposes substantially as set forth.

XIV.—LUMBER.

No. 22,195.—Martin Norris, of Broad Brook, Connecticut.—*Improved Auger for Wood.*—Patent dated November 30, 1858.—A represents an ordinary half-inch auger with a screw shank *a* formed on it, to enable the attachment to be applied.

The auger is generally shortened, so as to leave only the cutter and a turn or two of the "twist," or sufficient to discharge the chips properly.

The attachment-cutter C has a chisel edge *f* for paring up the bottom of the hole, and a "nicker" *d* for shaping the periphery thereof.

Claim.—The attachment applicable to the common auger, bit, or other boring tool, substantially as and for the purposes specified.

No. 22,394.—Norman S. White and Aaron Denio, of Shaftsbury, Vermont.—*Improved Method of Attaching Cutting Lips to Auger Shanks.*—Patent dated December 21, 1858.—The nature of this invention consists in preparing the body of the auger, independent of the head or cut, in the usual form, and of any suitable wrought or cast metal, having about one-third of its width in the centre at the bottom cut off horizontally, and the sides or spiral edges cut vertically, so that the sharp edges of the sides extend below the horizontal line, and have a hole in the centre to receive the centre tenon in the top of the head.

Claim.—The inventors say: We do not claim broadly attaching the cutting parts to the screw shaft or augers.

But we *claim* the specific manner set forth and shown in the specification.

No. 21,179.—Charles L. Barnes, of New York, N. Y.—*Improved Method of Securing the Cutters to the Spindles of Augers.*—Patent dated August 17, 1858.—The nature of this invention consists in the manner of securing the cutter to the spindle of the bit, so that it cannot be detached and left in the bored hole when the motion of the bit is reversed to take it out of the hole to clean out the chips and cuttings, so that it can be readily attached to and detached from the spindle when required; and in the peculiar conformation of the cutting edge or edges of the cutter, by which its efficiency is increased.

The inventor says: I do not claim a bit having detached cutters, nor a bit by which different sized holes may be bored by changing the size of its cutters.

But I *claim* the combination of the spindle A, cutter B, and check nut F, for the purpose of securing the cutter to the spindle, arranged in the manner and for the purpose as set forth.

No. 19,829.—Nicholas Clare and John Quigly, of Malden.—*Improved Method of Attaching Expansible Cutting Lips to Augers, &c.*—Patent dated April 6, 1858.—This invention consists in a reamer and plug-cutter formed of two pieces *a* and *b*, so constructed that it may be attached to or detached from the auger or other boring or drilling tool, and so adjusted upon the same as to commence reaming or cutting at the desired distance from the cutting end of the tool, and cut or ream the plug-hole or countersink of the desired diameter.

Claim.—The detachable and adjustable reamer or plug-borer, constructed and capable of being operated as set forth.

No. 20,261.—Benjamin Fitch, of Mooer's, N. Y.—*Improved Barrel-Head Machine.*—Patent dated May 18, 1858.—The heading is placed upon the platform, and secured by the disk D^1 pressing against it. Motion is given to the shaft C, to revolve the head; the circular saw is then carried against the heading, by moving the handle Q, to cut the head to a circular form and to proper size; the cutters U U^1 are, by the same movement of the handle, carried against the sides of the periphery of the head, to cut it to a proper thickness and level.

The inventor says: I *claim*, first, the combination of the frame P

and the plane stocks U U¹, operated by the movement of the handle Q, as and for the purposes set forth.

Second. The combination of the friction band K with the swinging platform V, operated at one and the same time through the handle L, in the manner and for the purposes set forth.

Third. Releasing the spring catch *a* from the arm *s*, to allow the frame P to return to its first position after the saw O has effected its purpose, by the lever *b* acting upon the stop *c*, as described.

No. 19,066.—William Bevard, of Muscatine, Iowa.—*Improved Method of Connecting the Bevelling-Knives in Circular-Cutting Barrel-Head Machinery.*—Patent dated January 12, 1858.—In operating the machine, the pieces to compose the head are dropped between the disks B and C, and rest upon the iron step J, which is held up against or near the disks by the foot pressing down the lever O; the right hand is then laid upon the end of the lever H, and by a slight pressure closes the disks and relieves the foot, which is then placed upon the treadle I, and applies the force necessary to hold the heading firmly between the disks.

Claim.—The described method of connecting the two bit-holders M and N, so as to cause them to act as set forth.

No. 19,509.—William Manning, of Rouse's Point, N. Y.—*Improved Machine for Cutting Barrel Heads.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim, separately or in itself considered, any of the parts described.

But I *claim* the arrangement, as shown and described, of the annular plate F, disk I, hub J, and cutters *l l*, whereby the stuff is held between the annular plate F and the disk I, and is simultaneously operated upon both sides without changing the position of any part of the machine.

No. 19,510.—James H. Mattison, of Scriba, N. Y.—*Improved Machine for Cutting Barrel Heads.*—Patent dated March 2, 1858.—E is a round stationary shaft, with a square end clamped by the cap E¹ to the bar C to prevent it from turning. The disk E² is fastened to the upper end of the shaft E, and may be provided with spars to hold the heading while it is being shaped. F is a hollow shaft turning on the shaft E, and supported by the bar F¹ fastened to the front posts. The shaft F is provided with a pulley F² to turn it and carry the planing disk G fastened to its upper end. The disk G has one or more bevelling cutters G¹, and one or more spare cutters G², to form the edge of the head H on the disk E², against which it is clamped by the disk H¹ on the stationary transversing shaft H², which transverses under the cap I on the top bar C¹, and is prevented from turning by the lever I¹ connected to it, and by which it is operated to clamp the heading and release the head H after it is formed or cut as desired.

Claim.—Automatically transversing the disk cutters in any manner substantially as described, for the purpose of operating upon the heading either at the same time or alternately.

No. 20,864.—A. H. Crozier, of Oswego, N. Y.—*Improved Machine for Cutting Barrel Heads.*—Patent dated July 13, 1858.—The nature of this invention consists in an improved arrangement of machinery for cutting and bevelling the heads of barrels, casks, &c., in which both the cutting and bevelling tools are controlled by a single winch or lever X worked by the operator, and in which it is not necessary to stop the motion in order to put in the material or take out the finished work.

The inventor says: I *claim*, first, the disk M, constructed and operated as described.

Second. The method described of connecting the saw G and cutter, so that both are controlled by the same winch or lever, substantially as specified.

Third. Attaching the saw to a sliding stock, as and for the purpose described.

No. 20,962.—Asa D. Stewart, of Bennington, Vermont.—*Improved Machine for Cutting both Bevels simultaneously on Barrel Heads.*—Patent dated July 20, 1858.—This invention consists in using, in connexion with a circular concave saw, and on the same mandrel, a cutter formed of two or more saws arranged in a novel way, whereby the heads are cut out from the stuff and a bevel cut on both sides of the heads at one and the same operation.

The inventor says: I do not claim broadly the use of a concave cutter, nor do I claim broadly the employment of more than one saw or cutter upon an arbor.

But I *claim* the arrangement and combination of saws *f g*, saw J, and mandrel H, as shown and described, whereby both bevels are simultaneously cut.

No. 21,117.—A H. Crozier and Cyrus Carrier, of Oswego, New York.—*Improved Machine for Chamfering and Crozing Barrels.*—Patent dated August 10, 1858.—In the engravings, A marks the frame of the machine; B the platform for the barrel; C the rack attached to the side of the platform; D the foot lever working the segments of pinions which gear into rack C to raise and lower platform B; E the guides upon which B rises and falls; F the hoop to receive the upper end of the barrel; G a section of barrel to be operated upon; H the cutter stock; I the crozing tool; J the chamfering tool; K the slide of the crozing tool; L an arm operating slide K; M a cam or eccentric; N an arm operated by M; O an arm of the chamfering tool; P a solid shaft of cam M; Q is a spur-wheel at the top of shaft P; R is a hollow shaft of the cutter stock H; S is a spur-wheel at the top of the hollow shaft R; T is a friction pinion gearing into the spur-wheels Q and S; U is a bevel-wheel by which shaft R is driven; V a bevel-wheel attached to the driving shaft and gearing into wheel U; W the main or driving wheel, and X a winch.

Claim.—The method described of moving the crozing and chamfer-

ing tools to and from their work by means of the differential movement of the wheels Q and S, produced in the manner described, when operating the cam or eccentric which controls the action of the tools, all substantially as specified.

No. 21,769.—James H. Mattison, of Scriba, New York.—*Improved Machine for Chamfering and Crozing Barrels.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a crozing tool provided with two spurs, one before the other, to cut the sides of the croze or score, and a hook or grooving tool to cut the bottom of the score, when the whole is made or formed of a single piece of metal, substantially as described.

I claim the use of the solid shaft P and hollow shaft Q in combination with the pulleys T U V and W, or their equivalents, which operate them with different velocities, when used for the purpose of giving motion to the chamfering and crozing tools, or their equivalents, and for moving or carrying them (the chamfering and crozing tools) forward to perform their work in chamfering and crozing barrels in the way and manner described.

No. 21,718.—William S. Arnall, of Sperryville, Va., assignor to Himself, O. P. Smith, and A. C. Jordan, of said Sperryville.—*Improved Machine for Crozing, Chamfering, and Bevelling Barrels.*—Patent dated October 5, 1858.—A represents the frame-work of the machine. C is a large cog wheel, which drives the machine; this wheel is secured to a shaft L; on one end of this shaft is a screw K, and on the other is a handle L^1. The cog wheel C works into the pinion D^1, on a shaft marked D^1. B is a balance wheel located on shaft D^1. J J represent two arms, which are secured to one end of the shaft D^1, and to these arms are secured the cutting blades, which are four in number—a blade *d* for the purpose of bevelling the end of the barrel, blade *e* for howelling, and the croze *c*; two of these blades are secured to each of the arms.

Claim.—Not the employment of several tools, but the arrangement of the adjustable croze and howel blade with the stationary bevelling blade and chamfering tool, when the same are constructed and operated in the manner and for the purpose specified.

No. 21,725.—Jacob Rees, of Elk Horn Grove, Ill., assignor to Jonah L. Rees, of Elk Horn Grove.—*Improvement in Machine for Forming Barrels, &c.*—Patent dated October 5, 1858.—The nature of this invention consists in constructing machinery, whereby the staves of barrels, casks, and kegs are put together, the bulge or swell formed, and the chamfering and crozing of each end are done simultaneously, and forming the barrel ready for receiving the hoops and headings.

Claim.—The construction of the cylinder S S S^2, with the radial arms U U U U, and segmental parts W W W W W, and disks X X X X, the circular clamps Z Z Z Z, and guide hands & & & &, the suspension devices I I J J Y Y, arranged and operated as described.

No. 19,595.—Edwin B. White, of Nashua, N. H.—*Improved Bench Hook.*—Patent dated March 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the shell or case, nor the hook C, provided with the shank D, which fits within the shell A; for these parts have been previously used.

But I *claim* securing the hook C at the desired height by means of the lever E attached to the shell in case A, and operated or adjusted by the screw F or its equivalent, so that the shank D of the hook will be pressed against both at its upper and lower end, and thereby firmly secured within the shell or case, as described.

No. 21,351.—John L. Mann, of Ravenna, Ohio.—*Improvement in Machine for Bending Fellies.*—Patent dated August 31, 1858.—A represents the frame-work of the machine; B the mounted forming block; this consists of a half cylinder, having a diameter equal to the size of the wheel which is to be made with the fellies. This half cylinder-forming block B is mounted upon each end upon a pair of truck wheels C, which rest upon the track D D E E, for the purpose of conveniently moving it under the bending apparatus.

Claim.—The arrangement of the mounted forming block, and the system of tracks D E F G, operating as described, when used in combination with the apparatus described, operating in the manner and for the purpose set forth.

No. 19,480.—Thomas Blanchard, of Boston, Mass.—*Improved Method of Bending Shovel Handles.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly bending wood so that its fibres are prevented from being distended longitudinally while being bent; for this has been previously done, and was formerly patented by me.

But I *claim* the method of confining the wood while being bent, to wit: by means of a key *i*, arranged to pass through straps E F, and also through the handle H, substantially as and for the purposes set forth.

No. 22,474.—Harley Stone, of Blackstone, Mass., assignor to Paul P. Todd, of said Blackstone.—*Improved Expanding Bit.*—Patent dated December 28, 1858.—The nature of this invention consists of a bit A, with one lip *a*, into which is dovetailed a slide cutter B, in which is a diagonal slit C opposite to this, and in the main bit is another slit D of equal length, running near to and parallel with the edge of the main bit. Through the two slits is passed a small sliding bolt E, having upon one end a nut *e*, and upon the other a round flat head, both of which project over the edges of the slits. Stamped upon the main bit and slide cutter is a graduated scale F *f*, by means of which the exact size can be determined.

Claim.—The mode and application of the slide cutter B, the slits C and D, the bolt E, and the graduated scale F *f*, constructed and operating as above set forth and described.

No. 21,597.—William A. Clark, of Bethany, Connecticut.—*Improved Expansive Bit.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the follower D, bevelled upon its under side in such a manner that driving it home against the cutter shall crowd it upward, with a lip or shoulder above it upon the shank, which lip or shoulder is so formed that this upward pressure above mentioned shall crowd the upper edge of the follower in against the seat back of it, when the upper edge of the follower is bevelled to correspond as set forth, for the purposes stated, the follower being brought home to its place by a screw or in any equivalent manner.

2d. So arranging the movable and stationary cutters in relation to each other and to the other parts, that all the chips made by the instrument shall be delivered upon one and the same side of the shank of the bit, thereby allowing the back side of the shank of the bit to be left entire, as set forth.

No. 19,028.—B. B. Hill and S. W. Adams, of Chicopee, Mass —*Improved Bit Holder.*—Patent dated January 5, 1858.—This bit holder is intended to be used for boring holes near to the walls of a room, or in a corner, and many places where holes cannot be made by the straight bit or auger when used in the common bit stock.

When in use, the bit is placed in the socket G, the stock is attached at E, and the casing is held in a fixed position with one hand, while the brace or bit stock is turned with the other.

Claim.—The combination of the two boxes or bearings, placed at any required angle with each other, with the intervening globular connexion which forms a casing for the bevelled gear.

No. 20,010.—David H. Whittemore, of Worcester, Massachusetts.—*Improved Bit Holder.*—Patent dated April 20, 1858.—A A is the body of the shank of the brace, it being cut off from the same at N. B B is a common boring tool inserted in the brace. C D is the holder having been turned about one-quarter of the way around upon its centre after the tool has been inserted, holding it firm in its socket. The part E of the holder is a thumb piece to turn the holder by; but a burr upon the edge of the same may be substituted.

Claim.—The holder C E, with its cam, when applied in the manner and for the purpose set forth.

No. 21,160 —William Tucker, of Gloucester, Rhode Island.—*Improved Variable Boring Bit.*—Patent dated August 10, 1858.—A exhibits the shank of the bit as constructed with two male screws *a* and *b*, one of which has its threads, pitch, or incline in opposite directions to those of the other, one being a right threaded and the other a left threaded screw. One screw *a* is arranged in advance of the other *b*, and carries at its outer end a cutter edge or cutter *c*, and a tapering centring point or screw centre *d*.

The inventor says: I am aware that it is not new to make a centre bit with a tapering or screw centre, made adjustable in such manner, with respect to the extreme outer edge of its cutter, as to enable the centre bit to be capable of boring holes of different dimensions; therefore I do not claim such in the abstract. But what I do *claim* is the combination of a tapering centre point or screw centre *d* and an auxiliary cutter *c* arranged on the shank A, as described, with a main cutter *f* applied to the shank so as to be capable of being revolved thereon, and fixed in position thereon, by means substantially explained.

No. 20,192.—William A. Clark, of Bethany, Connecticut.—*Improved Method of Seating the Movable Cutter in Expansive Bits.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the V-shaped projection or seat *a*, or its equivalent, with the corresponding groove in the movable cutter above the cutting edge, by which I am enabled to vary the distance of the edge of the cutter B, near the stock, above that of the central cutter, to any desirable extent, substantially as and for the purposes set forth.

No. 20,779.—L. A. Doyle, of Salem, Ohio.—*Improved Boring Machine.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the combination of two drill stocks F F, by means of an internally geared driving-wheel G and a small pinion H, so that a slow or fast speed drill or auger may be used at pleasure, as the necessity of the case may require, in the same machine, and by the turning of one and the same crank, substantially as and for the purposes set forth.

Second. Effecting the combination of both of said drill stocks F F with the feeding rack bar I and the two segment levers K, by means of a flange *g* on the rear end of the rack bar, and collars *h h* on the drill stocks F F^1, so that both shall be fed up together, substantially as and for the purposes set forth.

No. 22,379.—George F. Rice, of Worcester, Mass.—*Improved Machine for Boring Wood.*—Patent dated December 21, 1858.—This invention consists in arranging the uprights by means of semi-circles attached to the sides of the bed piece or bottom of the machine, with slots that allow the uprights to vibrate and stand at any angle required, by means of a double-headed bolt which passes through the cross-piece, and slides in the slots of the semi-circles, with a nut on the opposite end to make the uprights fast at any angle desired; thus enabling the operator to bore a hole on any angle required.

Claim.—The hollow cross-bar, together with the double head bolt, which enables the operator to fasten the uprights at any angle by simply turning one nut; the whole being constructed substantially in the manner as described, and for the purposes specified.

No. 20,495.—Samuel U. King, of Windsor, Vt —*Improved Device for Attaching the Bits to the Brace.*—Patent dated June 8, 1858.—The

nature of this invention will be understood by reference to the claim and engravings.

Claim.—The mode of fixing the tool or auger in its handle or bit stock, viz: by the projection *b* on the tool, in connexion with the wedge C and the spring D, applied to the handle or stock A and the socket *a* thereof, substantially as specified.

No. 22,101.—James Lyon and George H. Brady, of New York, N. Y., assignors to Themselves and Thomas J. Falls, jr., of said New York.—*Improved Machine for Cutting Bungs.*—Patent dated November 16, 1858.—The nature of this invention consists of a revolving face chuck, carrying adjustable stocks, through which cutters are slid and forced down upon the article to be cut, or withdrawn therefrom by means of a face plate acting on the ends of said cutters. A revolving cutter is also made use of to finish the outer end of the bung.

Claim.—The cutters *d d* and stocks *c c*, sliding in the adjustable blocks *b b*, that are revolved by the face plate E, and which cutters *d d* are projected by means of the disk F, and act to cut a tapering bung, substantially as specified.

No. 19,700.—John W. Kennedy, of Plainfield, Connecticut.—*Improvement in Holding Bolt for Carpenters' Brackets.*—Patent dated March 23, 1858.—This invention consists of an iron or steel bolt, with a groove on its side extending to the inner end. In this groove is a dog or pawl, with a spiral point or turn. The bolt is used by passing it through the bracket into a hole made to receive it in a timber in the side of the building.

Claim.—The spiral pointed dog or pawl, as used with the bolt, to hold and secure carpenters' brackets for fasteners to buildings, as set forth.

No. 21,247.—Justin Devoge, of Randolph, Pennsylvania.—*Improved Carpenters' Work-Bench.*—Patent dated August 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—First, in regulating the inclination of the cutting instrument to the angle required, to give to the edge of a board a given bevel, by raising or lowering one of the jaws B of the clamp between which the board is held, substantially as described, or in an equivalent manner.

Second. Combination of the bevel boards, arranged as described, with the jaws A B of the clamp between which the board is held, for the purposes set forth.

No. 20,918.—Samuel E. Foster, of Fitchburg, Mass., assignor to The Walter Heywood Chair Company.—*Improved Machine for Manufacturing Chair-Backs.*—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The described rest, consisting of two jaws F, which are moved an equal amount on each side of a vertical plane passing through the centre of the cutters as the thickness of the stuff varies, in the manner and for the purpose substantially as set forth.

No. 20,913.—Hiram C. Wight, of Worcester, Massachusetts.—*Improved Floor-Clamp.*—Patent dated July 13, 1858.—In this invention a toggle is employed in connexion with a power-screw B, claw-plate E, and jaw or pressure-plate, the whole being fitted or attached to a proper framing or support, so as to form a powerful, portable, and economical clamp, suitable for laying floors, or other work in which clamps are employed.

The inventor says: I do not claim broadly the employment or use of a toggle, for that is a well known mechanical device.

But I *claim* the toggle formed of the levers C D, connected with a screw B, which passes or works through a pivoted nut *c*, in combination with the claw-plate E and head or jaw G, attached respectively to the levers C D; the whole being arranged and connected with the frame A, substantially as and for the purpose set forth.

No. 19,982.—Edward Conroy, of Boston, Massachusetts.—*Improved Sharpening Device for Rotary Cutters.*—Patent dated April 20, 1858.—The bar H is attached at its lower end to a plate I, which is secured to the under side of the platform B by a screw c^1, which passes through an oblong slot *a* in the plate I into the platform. This plate I is consequently allowed to slide, and it is adjusted or operated upon by a screw J, which is fitted into the end of the framing, and has its inner end connected with the plate I, so that by turning the screw J the bar H may be adjusted near to or further from the cutter G.

The inventor says: I do not claim broadly the idea of rendering revolving cutters self-sharpening by bringing their edges into contact with a sharpening instrument.

But I *claim* the sharpening device H, when arranged and employed substantially in the manner shown and described.

No. 19,035.—G. H. Mallary, of New York, N. Y.—*Improved Method of Dovetailing Rotary Cutters in their Heads.*—Patent dated January 5, 1858.—This improvement consists in forming cutters c in the segment of a cylinder of the size of the cutting cylinder, and placed in a spiral direction around said cylinder; and in the mode of attaching the same for use.

The inventor says: I do not claim a spiral cutter, or a cutter made straight on the outer surface of the arm.

But I *claim* the mode described of attaching spiral cutters to the curve segmental surface of the arms by tongues and grooves for the determination of their proper position, and for forming recesses for the heads of the bolts by which they are affixed, all as fully set forth.

No. 19,406.—G. W. Billings, of Cleveland, Ohio.—*Improved Dovetailing Tool.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The dovetailing tool having semi-circular lips B B, for the purpose of cutting tenons to fit mortises made by simply boring with a common auger or bit, substantially as set forth.

No. 21,503.—T. E. KING, ALEXANDER KING, and EDWIN KING, of Cherry Valley, Ohio.—*Improved Machines for Cutting Dovetails.*—Patent dated September 24, 1858.—The nature of this invention consists in such a construction of parts and arrangement of devices that the work usually performed by the use of the saw and chisel in dovetailing cabinet work, such as drawers, &c., can be done with more accuracy and greater facility than it can be done by hand.

The process consists in the performance of two operations: first, of cutting mortises or gains in the drawer fronts; and second, of cutting the pegs in the drawer ends.

The inventors say: We *claim* the parts shown in figs. 4, 5, 7 and 8, arranged and operating as described, for the purpose of cutting the mortises or gains in the drawer fronts.

We also claim the instruments shown in figs. 9 and 10, arranged and operating as specified, for the purpose of cutting the end pieces of drawers, substantially as set forth; these several devices being arranged to operate conjointly in the manner and for the purpose set forth.

No. 22,369.—EDWIN A. JEFFERY, of Corning, N. Y.—*Improvement in Hoop Lock.*—Patent dated December 21, 1858.—This invention consists in having a metal socket or shell provided with a recess or indentation, and a conical pin or key which passes through the socket, whereby the ends of the hoop, by being looped or doubled, and fitted in the socket, may be firmly secured and connected together.

Claim.—As an improved article of manufacture, a hoop lock composed of a shell or socket A and a taper pin B, made as shown and described.

No. 21,507.—SANFORD LITTLEFIELD, of West Troy, N. Y.—*Improved Machine for Notching and Trimming Hoops.*—Patent dated September 14, 1858.—The nature of this invention consists in so constructing a machine with cutter-knives as to cut a notch with hoops for locking their respective ends, and at the same time and operation trim the said notch upon the back side of it. It also consists in arranging the cutter-knife to cut the notch with and upon the same movable frame containing the cutter-knife to trim the said notch. It also consists in so arranging the movable frame that, by the downward motion of the treadle, a downward and oblique motion is given to the said frame, whereby the said notch is cut ready for locking purposes without further work or trouble.

Claim.—The relative arrangement of the cutters D and E, moving in ways rectilinearly and obliquely, whereby the notch is cut and trimmed in one operation, as described and set forth.

No. 21,508.—HIRAM LITTLEJOHN, of Troy, N. Y.—*Improved Machine for Cutting and Finishing the Locks of Wooden Hoops.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the two separate knives A B, when arranged together with a suitable bed C, substantially as described, for use in cutting the locks of wooden hoops.

I also claim the knife D, when arranged in combination with the knives A B, or their substitute, and the bed C, substantially as described, for "barking" the lock, while the hoop remains in the same place on the bed that it occupies during the cutting of the lock.

I also claim the knife E, when arranged in combination with the knives A B, or their substitute, and the bed C, substantially as set forth, for trimming the lock, while the hoop is in the same place that it occupied during the cutting of the lock.

No. 20,345.—JONATHAN P. GROSVENOR, of Lowell, Mass.—*Improved Cutter-head and Table-rest for Cutting Irregular Forms.*—Patent dated May 25, 1858.—This invention consists in dispensing with the table, and in the employment in the place thereof of a rest H, in combination with the cutter-head shown in fig. 2, by which means mouldings may be cut upon articles curved in any possible variety of directions, or upon the face as well as the edges of irregular curved forms.

The inventor says: I *claim*, first, the rest H in combination with a cutter-head, operating in the manner set forth for the purpose specified.

Second. I claim securing the cutters to the head by means of grooves in the collars, as set forth, when the cutters are set in planes forming angles with each other, as described.

No. 20,505.—WILLIAM N. OAKES, of Dana, Massachusetts.—*Improved Machine for Cutting Irregular Forms.*—Patent dated June 8, 1858.—This invention consists in the employment of two carriages B C, both of which have a rectilinear motion, but which are so connected by gearing as to run at different speeds; the one having the pattern upon it having the most rapid motion, and the pattern being elongated so as to reduce the abruptness of the ascent.

Claim.—The combination of the two carriages B C, having a rectilinear motion at different speeds, with the elongated pattern, tracers, and cutter, for the purposes set forth; not intending to claim an elongated pattern as such, or combined with other machinery to cut irregular forms, but only its combination with two carriages having a rectilinear motion at different speeds, in the manner described.

No. 21,379.—HENRY D. STOVER, of Boston, Massachusetts.—*Improved Machine for Cutting Irregular Forms.*—Patent dated August 31, 1858.—The nature of the improvements in this machine will be understood by examining the claim and engravings.

The inventor says: I *claim*, first, the guards 3 and bar 1 carrying them, combined with the revolving cutters and table, in the manner described and for the purposes fully set forth.

2d. I claim the guide J, so constructed and fitted to the outer surface of the bearing or tube B as to be vertically adjustable thereon to guide the pattern without wearing it, while the piece secured to the pattern relieves the shape from the cutting knives immediately above, essentially as set forth.

3d. I claim the combination of the adjustable elastic sleeve L with the tube or bearing B and guide J, in the manner described and for the purposes fully set forth.

4th. I claim the slabbed spindle 4, collars 6, and the cutters, con-

structed and relatively arranged and operated, in connexion with each other, essentially in the manner and for the purposes fully set forth and described.

No. 22,302.—Z. F. NANCE, of Richmond, Virginia.—*Improved Machine for Turning Irregular Forms.*—Patent dated December 14, 1858.—A is the main frame; C is a secondary frame swinging from frame A upon pins *i* and supporting the pattern carriage C^1. The cutter B is hollow, and rotates upon shaft B^1 driven by pulley B^2. Around its mouth are arranged the cutters R. Upon the carriage C^1 is the pattern P journalled at *m n* and rotated by a cog-wheel connexion *f f*—the former upon the pattern and the latter upon screw shaft *g*—meshing with the long pinion *a* on the main frame, said long pinion being rotated from the driving pulley B^2 by reason of the band *w*, pulley *x*, shaft *y*, and wheels *z z*.

Claim.—Passing the piece to be turned through the pattern, and the combination of the same with the swinging frame C and parts connected therewith, as and for the purposes set forth.

No. 21,861.—LINUS YALE, jr., of Philadelphia, Pennsylvania.—*Improved Device for Adjusting at a Right Angle the Joiner's Square.*—Patent dated October 19, 1858.—This invention consists in providing the blade of the square with a lateral projection or arm proportioned to its length to serve as a lever, by which, through two screws at its extreme end, the blade may be made readily to assume a position exactly at right angles to the handle.

Claim.—Extending an arm a^1, or its equivalent, to act as a lever, along the handle or stock far enough to insure the proper effect of the adjusting screws, or their equivalents, for the purpose and substantially as described.

No. 22,058.—JOSIAH BLACK, of Memphis, Tennessee.—*Improved Lath Machine.*—Patent dated November 16, 1858.—This machine is designed to act automatically from the reception of the bolt until it is cut into laths. F is the main frame; C is the carriage in which the bolt is secured between dogs *a* a^1, and which is made to traverse the upper portion of the frame F by connexion of cords *b* b^1 with drum D on shaft *c*, the opposite rotation of the drum giving the opposite movements of the carriage.

Claim.—The vibrating table and lever B, together with mechanism connected therewith for giving change of motion to carriage, in combination with the lever B^1 and the mechanism for opening and closing the dogs, the whole being arranged for joint operation substantially as and for the purpose set forth.

No. 22,449.—JACOB PEFLEY, of Bainbridge, Ind.—*Improved Lath Machine.*—Patent dated December 28, 1858.—This invention consists in a novel arrangement of a reciprocating cutter or knife with a stationary bed and reciprocating supports for sustaining the bolt, and also in a registering device applied to the machine, and used in connexion with a bell; the whole being arranged as described, whereby a self-feeding or automatic machine is obtained, and one that performs its work very expeditiously.

The inventor says: I *claim* the combination of the reciprocating knife K, the bolt supports or bars *k*, and the stationary bar or bed Y, arranged to operate substantially as and for the purpose set forth.

I also claim the shaft H provided with the bent rods *h*, and connected or arranged with the rock shaft V of the bars *k k*, through the medium of the lever Q R, bars S R^1, and the arm U, substantially as and for the purpose set forth.

I further claim, in connexion with the knife K, bars *k k*, and bed Y, the registering device operated from the rock shaft V through the medium of the pall i^1, connected with the lever C^1, rod k^1, and bent lever l^1, so as to be thrown in contact with the ratchet A^1 by the bolt *a*, as set forth.

No. 21,675.—REUBEN HAYNES, of Oberlin, Ohio.—*Improved Machine for Cutting Laths.*—Patent dated October 5, 1858.—Upon the driving shaft is keyed the bevel gear G, which meshes into the intermediate gear G^1, and by which the bevel gear H is operated. In the wheel H is secured a wrist, which works in the slot I in the arm or lever I^1. The opposite end of this arm is hung loosely upon the shaft J, to which the ratchet wheel K is keyed. The pall L rotates the ratchet wheel by the action of the arm I^1 as the wheel H is rotated, which gives a vibratory motion to the arm.

Claim.—The arrangement of the curved slot I and lever I^1, in combination with the revolving sliding shafts *c m*, and gears *t o p* and *n*, when arranged as described, for the purpose of raising and giving a throw to the log conjointly and acting with the immediate gearing in the manner described.

No. 20,292.—JAMES NEVISON, of Morgan, Ohio.—*Improved method of Feeding the Bolt in Lath Machines.*—Patent dated May 18, 1858.—This improvement relates to a lath machine with a wedge-rack for elevating the log. The claim and engravings will give the reader an idea of its nature.

Claim.—The wedge-rack D riding on an inclined plane D^1, in combination with the arms G, provided with the spur-wheel F, ratchet-wheel I, and ratchet J, for the purpose of elevating the log and giving it a throw, and also for holding it in place during the stroke of the knives, when arranged and operated substantially as set forth.

No. 20,323.—JARED T. BUNCE, of East Haddam, Conn.—*Improvement in Lathes.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the screw F and a nut E, nor the pinion *g* and rack *i*, for moving or feeding the slide-rest; for these are well known devices, and in common use for such purpose.

But I *claim* constructing the side-rest of two parts C D, arranged as shown, so that the part C may have a movement independent of the other in combination with the nut E, formed of the parts *j k*, operated as shown and used in connexion with the worm-wheel *s*, which is

actuated simultaneously with the parts *j k* of the nut, substantially as described.

No. 20,166.—JOHN MCNARY, of Brooklyn, N. Y.—*Improved Automatic Lathe.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the sliding or travelling lathe heads K L, between which the stick to be turned is centred, in combination with the rotary cutters *c*, when the above parts are arranged to operate as shown, viz., so that the stick will be gradually fed to the cutters until the desired form is given it, and then its feed motion stopped and the stick rotated, so that a perfect symetrical form may be given it.

I further claim giving the feed and return motion to the stick to be turned, and also rotating the same from the cutter-shaft B by means of the screw *g* on said shaft, worm-wheel *h* on shaft F, in connexion with the gearing *w* a^1 b^1, screw d^1, worm-wheel e^1, and the screw *p* on shaft G, together with the gearing through the medium of which the screw-shaft I is rotated; the above parts being used in connexion with the lever H and the catch *n*, rod *a*, and with the pawls l^1 n^1, actuated by lever O and pinion u^1, the whole being arranged to operate as and for the purpose set forth.

No. 21,232.—SIMEON GOODFELLOW, of Troy, N. Y., assignor to Himself and JOHN FISH, of said Troy.—*Improved Chuck for Lathes.*—Patent dated August 17, 1858.—This invention consists in a peculiar arrangement of sliding jaws, frame, and screws, and also in the use of a button or stop.

The inventor says: I *claim* the button or stop H attached to the slide I, and arranged relatively with the jaw C^1, for the purpose specified.

I further claim adjusting the frame B by means of the screw G, when said frame is arranged with the jaws C C^1 and screws D E, whereby the chuck may be used either as an eccentric or concentric one, and manipulated with equal facility in either capacity.

No. 20,298.—NATHAN M. PHILLIPS, of New York, N. Y.—*Improved Lathe Dog.*—Patent dated May 18, 1858.—To be used, the dog is placed on and over the end of the article to be turned, the follower being moved toward the upper end of the aperture E, and the set screw is turned down upon the follower G until the article is firmly secured between the lower part of the circular hole H in the body and the upper part of the hole in the follower. It is released from the article by turning back the set screw and allowing the follower to move toward the top of the aperture named.

The inventor says: I do not claim broadly making the hole in a lathe dog in which the article to be turned is placed, adjustable to fit, receive, and hold different sized articles.

But I *claim* the lathe dog described, having its body formed of one piece, and having an aperture E, in which the follower G operates, in the manner and for the purposes set forth.

No. 21,240.—FREDERICK BALDWIN, of South Wardsboro', Vt.—*Improved Lathe for Turning Beaded Work.*—Patent dated August 24, 1858.—This invention consists in the use of a rotating pattern in connexion with rotating cutter disks, hollow stationary mandrel and feeding device, whereby the several parts are made to work automatically and a simple machine obtained. The invention is designed for turning beaded work on cylindrical sticks, such as broom handles, tool handles, chair rounds, &c.

The inventor says: I *claim*, first, the stationary mandrel H, provided with the movable or adjustable dies *d* and spurs *e*, rotating cutter disks F G, provided respectively with the cutters I C*, the feeding nut *f*, and the rotating pattern Q actuating the cutter C* through the medium of rod X, collars Y *h*, and plate B^1; the whole being combined and arranged to operate as and for the purpose set forth.

Second. The guide *i* and wheel K, provided with the stop pin *l*, pin *o*, and bar *n*, in connexion with the slides R S connected by the spring *t*, the lever W, clutch V, and collars U U^1 provided with the pins *v*; the whole being combined and arranged substantially as and for the purposes set forth.

Third. The feeding nut *f*, placed in the cutter disk F, in combination with the stationary mandrel H and cutter disk G, substantially as described.

No. 22,447.—PETER H. NILES, of Boston, Mass.—*Improved Lathe for Turning Masts, &c.*—Patent dated December 28, 1858.—The operating parts of the machine are carried by a strong frame-work A of iron and of timber, upon which slides the cutter carriage B; upon the top of this carriage revolves a hollow shaft C, that carries the cutters, and through which the mast or spar passes.

Claim.—The inventor says: I claim the revolving traversing cutters in combination with the dogs S, or their equivalents, for supporting the stick of timber, operating in the manner described, for the purpose set forth.

Second. I claim raising the dogs automatically as the cutters approach them, for the purpose set forth.

Third. I claim the method of controlling the position of the cutters by means of the combination of the slotted wheels D and L, the gears P Q and R, and the pattern W, and their connexions M M^1 N O T V, operating in the manner substantially as set forth.

No. 20,705.—JOHN GARDNER, WILLIAM GARDNER, and GEORGE GARDNER, of New York, N. Y.—*Improved Lathe for Turning Oval Frames.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We neither claim the device for obtaining the eccentric motion of the frame, nor causing the cutters as well as the frame to revolve.

But we *claim* constructing oval picture frames by the application of the revolving cutters N and P to the frame O, when the latter is caused to revolve in an oval path, and when the cutters are so arranged

as to act simultaneously, one cutter to form the inside, and the other cutter the outside moulding of the frame, as set forth.

No. 19,056.—Amander N. Wilcox, of Watervliet, N. Y.—*Improved Lathe for Turning Wood.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the employment or use of slides carrying cutters, and operated by patterns or guides acting in combination with springs.

But I *claim* the use of cutter slides M and N, moving vertically, and acting by their own weight, in combination with the levers *a b*, rods *d e*, and pattern guides L, constructed and arranged to operate the cutters E and G, as described.

I further claim the combination of the cutter slides and cutters, arranged and operated as described, with the slides H and J and their operating mechanism, so as to support the article being turned close to the cutters, excepting when the square parts of the article need passage through the said slides, substantially as described.

No. 22,043.—Albin Warth, of Stapleton, N. Y.—*Improved Lathe for Turning Wood.*—Patent dated November 9, 1858.—This invention relates to improvements in that class of turning lathes which are designed for turning, by automatic mechanism, beaded or ornamental work, chiefly in wood, such as stair and other balusters, newels, bedstead posts, and the like. It is an improvement on a turning lathe patented by the above named inventor October 10, 1854.

The inventor says: I do not claim a slide rest provided with cutting tools set in vibrating or sliding heads and actuated through the medium of certain mechanism by fixed patterns, for such device was formerly patented by me. Neither do I claim, broadly and irrespective of arrangement, the employment or use of eccentrics for operating the stuff or pattern.

But I *claim*, first, the eccentric A^1 connected with the tool *v*, and rotated through the medium of the gearing q^1 r^1 s^1 or q^1 t^1 r^2 s^2, or their equivalents, from the mandrel *a*, so as to turn or cut the work in oval or polygonal form, as described.

Second. I claim the combination of the patterns S T, the eccentric A^1, and cutting tools *p u v*, attached to the slide rest G, and the feeding device formed of the screw E and nut *i*, when the whole are arranged to operate automatically as and for the purpose set forth.

No. 19,395.—Daniel White, Jr., of Lowell, Mass.—*Improved Rest Attachment for Lathes.*—Patent dated February 16, 1858.—The back rest *c* is first confined at a sufficient height to free it from contact with the piece to be turned; the piece is then confined firmly in the lathe, after which it is roughed, turned and sized down. The back rest *c* is then lowered and brought firmly to bear upon the sized portion of the wood now turned, the upper portion of the index rest is then turned back.

Claim.—The hinged index rest, as seen at M, for the purpose of roughing the material to be turned, in connexion with its subsequent use, as shown at H G and *n n*, arranged as shown and for the purpose set forth.

No. 19,051.—William D. Sloan, of New York, N. Y.—*Improvement in Turning Lathes.*—Patent dated January 5, 1858.—This invention consists in combining with a series of rotating mandrels *d*, arranged about a common centre, and so arranged that the blocks *f*, which they carry and turn, can be shifted in succession from one position to another, to undergo a succession of operations, a series of radial rests *o* so arranged that they are forced outward to give support to the said blocks when rotated and acted upon by suitable cutters, and drawn inward to relieve the said blocks preparatory to the shifting operation.

Claim.—The combination of the series of radially sliding rests, as described, in combination with the series of shifting mandrels, as and for the purpose specified.

No. 20,956.—Adam Rennie, of Binghampton, N. Y.—*Improved method of Feeding the Tool Carriage in Turning Lathes.*—Patent dated July 20, 1858.—The rest which carries the tools or cutters, &c., moves lengthwise on ways in the usual manner; A is the operating lever by which the work is done by raising and lowering, and by which movement the rest is carried forward by operating on the jointed arm or propeller B, which works on the rack C. The arm D, attached to the lever A, meshes into the rack E and holds the rest in proper place till the tool F has done its work; the lever is again raised and lowered until the work is completed; the lever is then raised upright for the purpose of drawing the rest back to the place of beginning.

Claim.—The combination of the lever A with the arms D, and the jointed propeller B B with the racks E C, respectively, for the purpose of feeding the tool carrier as described. Also the back rest L, for the purpose described.

No. 20,745.—E. H. Titus, of Wilksbarre, Pa., and John Sharp, of Phillipsburg, Pa.—*Improved Machine for Sawing Lumber.*—Patent dated June 29, 1858.—This invention consists in having the feed and pressure rollers *f n*, rotary planers *j*, and jointing cutters *t t* fitted within an adjustable frame D, in such a manner that the rollers are rendered susceptible of an independent adjustment to conform to the varying thickness of boards or other "stuff" to be resawed, and the frame, at the same time, allowed to be tilted or inclined, so that the "stuff" may be presented obliquely to the saw when required; the whole being so arranged that the "stuff" may be resawed into strips or pieces with parallel or taper sides, and planed and jointed at the same time.

The inventors say: We are aware that boards or "stuff" have been presented and fed obliquely to saws for the purpose of sawing in taper form, and we therefore do not claim broadly such operation.

But we *claim* the tilting frame D, provided with feed and pressure rollers *f n*, and also with the planer *j* and jointing cutters *t t*, if de-

sired, the frame being applied to the machine and arranged to operate substatially as and for the purpose set forth.

No. 22,386.—Asa F. Tarr, of Rockport, Mass.—*Improved Mitre-Box.*—Patent dated December 21, 1858.—The stick E to be operated upon is placed in the box A as usual, and the saw D is fitted in the proper slots d^1 of the plates C. The saw rests upon the stick and passes into the corresponding slots e^1 retaining the saw in the slots d, and the plates C descend as the saw cuts; and as the slots d d^1 d^1 are not acted upon by the saw teeth, they will constantly be kept true; and when the slots c c^1 c^1 are cut by the saw teeth, it will not affect the accuracy of the implement, for the slots in plate C serve as guides.

Claim.—As an improved article of manufacture, a mitre-box having a sliding frame F attached to pivoted standards g and otherwise made as shown and described.

No. 21,194.—Stephen W. Hall, of Williamsport, Pa.—*Improved Machine for Cutting Mitres.*—Patent dated August 17, 1858.—The knives A A are ground to an edge on the inner sides, so that when they are in the act of cutting the moulding M, the tendency is to crowd or spring the knives outward, which tendency, if permitted, would interfere seriously with the proper working of the machine; but the said crowding out or springing is prevented by the groove at x and by the flanges G G, since both the outer and inner edges of said knives when at work are guided and supported and prevented from springing outward or laterally by resting and sliding against the groove x and the flanges G G.

The inventor says: I do not claim as my invention the use of knives A A, adjusted at right angles and attached to the sliding rest B, since the same arrangement substantially is shown in the combination patented by George Le Bow, June 27, 1854.

But I *claim*, first, the use in mitre machines of the flanges G G, and the groove X in the frame E E, for the purpose of guiding and sustaining the outer and inner edges of the knives A A and preventing them from springing, substantially as set forth.

Second. I claim the combination together of the flanges G G, the frame E E with the groove X and the sliding rest B, substantially in the manner and for the purpose set forth.

No. 22,222.—Solander Withington, of St. Louis, Mo.—*Improved Machine for Cutting Dove-Tailed Mouldings.*—Patent dated November 30, 1858.—This invention consists in a certain combination of saws, and in so arranging and adjusting these saws into a machine as to cause them to cut off the stile the proper length and cut a dove-tailed mortise in both ends at one and the same time and in one operation.

The inventor says: I *claim* the combination of the saws I^1 I and J^1 J with each other and with the saws K^1 K, in the manner described, the two saws J^1 J being set in a diagonal plane in the manner and for the purpose set forth.

And I also claim the adapting and arranging of the carriage C with the described combination of saws for the purpose specified.

And I further claim the arranging of the three saws K^1 I^1 and J^1 in the carriage B, by which the machine is adapted to cut the different lengths of stile.

No. 21,783.—Frederick Stamm, of Lancaster, Pa.—*Improved mode of Revolving the Chisel in Mortising Machines.*—Patent dated October 12, 1858.—The nature of this invention consists in a device attached to the machine for the purpose of reversing the chisel and expediting the mortising operation.

Claim.—The arrangement and combination of the devices E F 2 S T u V W and X, substantially as described, for the purpose of reversing the chisel whilst in operation.

No. 19,492.—O. K. Collins, of Murfreesboro', Tenn.—*Improved Machine for Cutting the Moulding for Sash.*—Patent dated March 2, 1858.—The bits or knives a a are set in such manner that each one cuts a shaving at the same time. A piece of wood is placed upon the way C with one end resting against the stop s. Then, by turning the crank E so as to drive the piece upon which the moulding is to be cut past the planes, a complete moulding will be cut at a single stroke of the machine.

The inventor says: I do not claim the separate devices employed by me, but I believe that my machine, as a whole, is new, and on account of its functions, as well as its simplicity, cheapness, efficiency, and durability, it is a substantial improvement over all other planing machines heretofore invented.

I *claim* the two-fold and adjustable planes in combination with the removable posts M and a reciprocating way C, for the purpose of cutting mouldings of window sashes, substantially as set forth.

No. 20,824.—Hezekiah B. Smith, of Lowell, Massachusetts.—*Improved Arrangement of Devices for Planing Mouldings.*—Patent dated July 6, 1858.—The nature of this invention consists in the arrangement of an adjustable balance to the revolving cutter-heads F for cutting mouldings, and in so constructing the table or platen L with gibs, or their equivalents, that it may be moved up and down and caused to remain in any desired position by one single screw J, and in an adjustable spur-wheel so arranged as to be adjusted laterally as desired.

Claim.—The relative arrangement and combination of the spire feed-wheel M with the cutter-head F and table L; they being adjusted with each other in the manner described and for the purposes set forth.

No. 20,493.—Henry Lee Kendall, of Baltimore, Md.—*Improved Bench Plane.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that wedges have been inserted in

plane mouths for compensating for wear on the under surface of the plane; such therefore I do not claim.

But I *claim* the compensating piece C, formed as described, so as to be tightened by the gripe and have its face *f* move parallel to itself, as specified, whereby the opening in front of the bit is not diminished by adjustment of the compensator.

No. 19,130.—S. G. Crane, of Rochester, New York.—*Improved Crozing Plane.*—Patent dated January 19, 1858.—The nature of this invention consists in constructing crozing planes with two adjustable plates P so arranged as that their radius may be changed to suit barrels, half-barrels, &c.; and in attaching the knife V to one of said plates P. The "board" M is constructed in the usual way; also the block K. The plates P are attached to said block by screws J. There are slots in the plates for the screws J to pass through. The slots are covered by the washers C. The knife V is attached to the rear plate P by the screw Y and the nut D.

Claim.—The construction and arrangement of the adjustable plates P and the arrangement of the knife V, as and for the purposes specified.

No. 19,539.—Charles E. Barlow, of Philadelphia, Pa.—*Improved Floor Plane.*—Patent dated March 9, 1858.—A is a carpenter's plane, having a pivot B firmly fixed to each side, said pivots working freely in the bearings formed on the lower part of an iron frame C. The upper part of the frame C passes through the lower stay of the wood frame D, and is secured thereto by a key E.

The inventor says: I do not claim broadly the manner of connecting the handle with the stock.

But I *claim* the construction of a self-adjusting floor plane, with its handle or handles hinged to the stock, substantially as described, for the purposes set forth.

No. 19,359.—P. A. Gladwin, of Boston, Mass.—*Improved method of Securing the Plane-Iron to its Stock.*—Patent dated February 16, 1858.—This invention consists in a new way of securing the iron in the plane, so that the iron may be readily adjusted in the plane, and at the same time firmly secured therein.

Claim.—The two plates D F constructed as shown, viz.: the plate D being provided with the foot pieces or projections $f f^1$, and the oval opening *e* and the plate F provided with the bit *g* and pivoted to the part *c* of the throat C, so that the bit may work within the oval opening *e* of plate D, substantially as and for the purpose set forth.

No. 20,615.—Leonard Bailey, of Winchester, Mass.—*Improved device for Adjusting Plane-irons.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the movable friction plate I (separate from the plane iron C) and its adjuster, or the equivalent of the latter, with the throat of the plane stock, and to operate the plane-iron, substantially as specified.

No. 19,620.—Thomas A. Chandler, of Rockport, Ill.—*Improved Joiners' Bevelling Plane.*—Patent dated March 16, 1858.—The two planes are connected together by the jointed slides H and H^1. In the slides are elongated slots I, which receive the shank of the bolts J, which shank passes through the plane, and has a thumb screw K on the opposite side. The slides being thus formed, and provided with a hinge joint at H^2, allow the planes to be moved to any position or angle upon the slides and be secured in place by the bolts and thumb screws J and K. From the slide H^1 extend two arms L L, in the outer ends of which are slots to receive the sector M. The set screws N N enter the slots for the purpose of holding the sector in place.

Claim.—Making one or both plane stocks adjustable on the arms or shanks of the hinges, so as to plane bevels of the same angle on boards of various thicknesses, substantially as described.

No. 21,311.—Leonard Bailey, of Winchester, Mass.—*Improved method of Screwing Plane-irons to the Stocks of Bench Planes.*—Patent dated August 31, 1858.—The object of this invention is to provide the plane with a ready means of fixing the plane-iron or cutter in the stock, or of removing the same therefrom, as well as of adjusting the plane-iron in the stock, as circumstances may require.

Claim.—The application and arrangement of one or more bearers F, the clamp lever G, and the thumb cam H, together and with respect to the top surface of the plane-iron and the bearing surface or cutter-seat *d d* of the throat, substantially as represented and described.

No. 19,619.—Charles Carlisle and Leonard Worcester, of Woodstock, Vermont.—*Improved Machine for Planing Blind Slats.*—Patent dated March 16, 1858.—The shafts of the two feed rollers K K^1 and the elastic roll L^1 extend back to the plate Q of the frame work; between the plate Q, fig. 1, which supports the rear ends of the shafts, and the matrice H I^1, the above shafts are supplied with the necessary pulleys; from a small pulley R on the rear end of the main shaft B B motion is communicated to a counter or diminishing shaft and pulleys S T U by belt *q*, thence to the feed roll K by the belt *r* and pulley V, thence to the feed roll K^1 by the cross belt *t* and pulley W, thence to the elastic roll L by the belt *v* and pulley X.

The inventors say: We disclaim all old devices and combinations described in the foregoing specification.

But we *claim* the arrangement of the several separate devices as shown and described, and for the purposes set forth.

No. 21,782.—John Sperry, of New York, N. Y.—*Improved Rotary Planing Cutter.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a plane formed of a series of thin plates, said plates being in form of a cima-reversa, or other form approximating thereto, and placed side by side one another on a revolving axis or shaft, and confined in place by means of a screw nut, substantially as and for the purposes set forth.

Second. Having the central portion of the several sections of the

plane at back and front run at right angles to the axis of the plane, substantially as and for the purposes set forth.

No. 21,618.—James H. Nelson, of Oskaloosa, Iowa.—*Improved Machine for Planing Irregular Surfaces.*—Patent dated September 28, 1858.—This invention consists in having rotary planers placed within yielding or elastic frames, and using in connexion therewith feed rollers also placed in a yielding frame, the parts being arranged so that the planers and feed rollers may conform to the curvatures of the stuff and perform their respective functions equally as well as if they were stationary and operating on straight stuff or stuff with parallel sides.

Claim.—The combination of the elastic or yielding frames B B I, provided respectively with planers G G and feed rollers K, and arranged relatively with each other so as to operate as and for the purpose set forth.

No. 20,527.—James A. Woodbury, of Winchester, Massachusetts.—*Improved Planing Machine.*--Patent dated June 8, 1858.--The tonguing and grooving cutters *m n* are placed upon horizontal plates *o p*, and applied to the top of the vertical shafts *q r*. These shafts turn in boxes or bearings *s t s t*, said boxes projecting from two sliding frames or bars *u v*, which slide freely in transverse directions on two horizontal fixed shafts *w x*. The movable guide L is made to turn or swivel on the shafts *r* of the cutter stock. The under cutter stock C is placed at or near one end of the frame, so that the cutters may be readily got at for the purpose of changing, arranging, or sharpening them.

The inventor says: I *claim*, first, protecting the face of the board in tonguing and grooving by pressure surfaces, constructed and operating with rotary cutters as described.

Second. The swivel guide L, when made to operate substantially as described.

Third. Placing the under cutter at or near the end of the frame for the purpose specified, substantially as described.

No. 19,702.—Joseph W. Killam, of East Wilton, New Hampshire.—*Improved Method of Clamping Polygonal Pieces in Planing Machines.*—Patent dated March 23, 1858.—The stick to be planed is put upon the carriage in the corner groove formed by the triangular piece I and the sliding piece L, and made fast by means of the dogs J and K, and in the hub or head H is adjusted to the proper height by turning the screw *d*, and also adjusted laterally by turning the screw *h*, so as to have the cutters *f* operate on either or both of the upper sides of the stick as required.

Claim.—The triangular piece I and the sliding piece L and the dog K, in combination with each other, for the purpose described.

No. 20,762.—Sands F. Forman, of New York, N. Y., assignor to Henry Z. Drew, of said New York.—*Improved Device for Securing Cutters in Rotary Planing Machines.*—Patent dated June 29, 1858.—The cutter *d* is inserted into a mortise planed across the stock *b* immediately below the cutter or knife *c*, and the cutter *d* is of such a

size that when inserted while the screws 1 1 are slackened, the said cutter *c* will bind on to and firmly clamp the cutter *d* when the screws 1 1 are screwed in tightly; and to prevent any sidewise motion, the screw 2 is inserted and takes against the said cutter *a* and clamps it in the direction of the axis of the cylinder.

The inventor says: I do not claim a beading or rebating cutter attached to the cylinder of a planing machine in itself.

But I *claim* securing a beading or rebating cutter into a slot in the stock of a planing machine cylinder by pressure from the straight cutter or knife, and from a screw running nearly parallel with the axis of the rotary cutter, substantially as and for the purposes specified.

No. 20,999.—Ivers Gibbs, of Worcester, Massachusetts.—*Improved Stock for Holding the Cutters in Rotary Planing Machines.*—Patent dated July 27, 1858.—This invention consists in an oval hollow planer arm for wood planers.

A is an oval bar with a vertical hole or eye, E through its centre to receive the spindle or shaft of the planer upon which it is fastened. At each end of this bar there is an opening C C, in which the knives or cutters are made fast. This bar or arm is hollow, the cavity H running into each of the openings and also into the eye.

The inventor says: I am fully aware that many things have been wrought and cast hollow, for the sake of strength and lightness. This I do not claim.

But I *claim* a planer arm of the external form described, and having both longitudinal and vertical openings through it, for the purpose and in the manner set forth.

No. 21,720.—C. B. Cottrell, of Westerly, Rhode Island, assignor to Himself and Nathan Babcock, of said Westerly.—*Improved Machine for Planing Wood.*—Patent dated October 5, 1858.—This invention consists in the use of rotating cutters and central stationary gauge used in connexion with an adjustable gauge, whereby the designed work, to wit, the planing of wood, may be performed in a smooth and perfect manner.

Claim.—The rotating cutters *b b* and central stationary gauge D, in connexion with an adjustable gauge F, or its equivalent, arranged to operate as and for the purpose set forth.

No. 19,110.—George S. Colburn, of South Reading, Massachusetts, assignor to Cyrus Wakefield, of South Reading, Massachusetts.—*Improved Device for Retaining in proper position the Splitting Knife in Rattan Machines.*—Patent dated January 12, 1858.—That the knife B may move horizontally a distance equal to one-half the distance moved by the roll I, a pin *h*, rising from the centre of the lever K, enters a hole in the block D, and thus this block, with the knife, is moved laterally a distance equal to one-half of that passed through the roll I. It will be perceived that by this arrangement the roll I is preserved in the plane of rotation of the stationary roll, whenever it is moved by the varying size of the rattan, while the splitting knife

is held intermediate between the two, whatever may be the size operated upon.

The inventor says: I do not claim connecting a yielding feed roll to the splitting knife, so as to maintain the knife midway between the feed rolls, as in the patent of Joseph Sawyer of April 7, 1857.

But I *claim* so connecting the roll with the knife that it shall always remain parallel with the stationary roll, as set forth.

No. 19,454.—CHARLES STRONG, of Hartford, Connecticut.—*Improvement in Saw Mills.*—Patent dated February 23, 1858.—Motion is communicated to the saw from beneath by the crank and pitman I J. The pitman J is attached to the stirrup F. In attaching the pendents D D^2, fig. 2, to the frameworks, the main levers A A^1 are brought to a horizontal position; the upper pendents D are then set with their lower ends inclining from a vertical position to the right, at an angle equal to the angle of oscillation; and then the lower pendents D^2 are set in an exact vertical position, so that when the levers A A^1 are elevated the upper pendents D will be vertical, and the lower ones D^2 will have their upper ends inclining to the left, at an angle equal to the angle of oscillation, as shown in the engraving.

Claim.—The arrangement shown and described of the working levers A A, axis B, oscillating pendents D D^1, bracket lever E, hinged at *b* b^1 to levers A A, and at *g* g^1 to braces G G^1 and stirrups F F^1, counter levers *k* k^1, straining rods *o o*, and rockers *p* p^1, the above parts being combined and operating substantially as and for the purposes set forth.

No. 21,588.—JOHN PEMBERTON, (deceased,) late of Jonesborough, Indiana.—*Improved Saw Mill.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim as new the devices enumerated, but simply their relative arrangement as specified, for the purposes set forth, to wit: First. The roller T, ropes *t* and *u*, to raise the bars M and M^1, in combination with the pin *b*, slide X, lever w^1, bar N^1, and rock shaft P, with its arms, rod *q*, and lever q^1, the whole being so constructed and arranged as to throw the feeding out and the backing devices into gear, by operating the lever e^1, and move the gate or valve to reduce the speed of the mill at the proper time, or after the saw cuts through the log.

Second. The arms J, rock shaft S^1, and bar S, in combination with the projection or stop *e*, connected to the lever E, or its equivalent, to turn the ratchet-wheel shaft and traverse the rack to set the log, as described.

Third. The ratchet wheel F^1, bent lever, and pawl G, in combination with the pin *f*, or its equivalent, in the lever F, to stop the ratchet wheels when they have moved far enough, so as to prevent the log from being moved too far when it is set for a new cut.

Fourth. The pin *n* in the head block, and slide X, in combination with the lever W, which releases the hook V^1, to let M^1 M descend to increase the speed of the mill, as described.

Fifth. The rod *a* and stop L, in combination with the slide Y and lever U, so constructed and operated as to hold up the bar M, after the log is sawed, and prevent it from descending and increasing the speed of the mill, and at the same time stop the apparatus which sets the log.

No. 22,268.—SAMUEL R. SMITH and PHILANDER P. LANE, of Cincinnati, Ohio, assignors to LANE & BODLEY, of said Cincinnati.—*Improved Saw Mill.*—Patent dated December 7, 1858.—This improvement consists, first, in an arrangement of "setting" mechanism which admits of the head blocks being placed in an effective communication with the setting lever, at any distance asunder, without disconnecting the parts.

Second. In an improved arrangement of devices for restraining and regulating the lateral play of a circular saw.

Third. In means of preventing the clogging of certain parts of the machinery with saw dust.

The inventors say: We *claim*, first, the longitudinal rack bar *l*, combined, as described, with the segment wheel K, pinion *j*, and accessory rack *i*, so as to admit of the head blocks being placed in gear at any required distance asunder, without disconnexion or adjustment of parts.

Second. The described arrangement of the collar G, box H, cushions L, and temper screws J, whereby the saw may be fixed rigidly in any position, or allowed lateral play to any desired extent, and return automatically to its normal plane when released, and by means of which the position of the said normal plane may be varied at pleasure.

Third. The perforations 5, applied to the transverse racks *p*, in the manner and for the purpose explained.

No. 20,910.—HIRAM WELLS, of Florence, Massachusetts.—*Improved Saw Mill Block.*—Patent dated July 13, 1858.—This is an improvement on a former patent granted to this inventor, June 9, 1857. In that invention the dogs of both the head and tail blocks were operated simultaneously, by means of a rack bar connected to the dog bars by means of levers, pawls, &c., arranged so as to form a comparatively complicated device. The object of the present invention is to attain the same ends by a simpler arrangement of parts, less liable to get out of repair, and of cheaper construction.

Claim.—Operating the dog bar I of the block C by means of the lever K fitted in the underside of said bar, the ribbed plate D, connected with the bar F by the obliquely slotted plate E, and pin *b*, the whole being arranged and applied to the carriage, substantially as and for the purpose set forth.

No. 20,660.—J. COMLY PAST, of Wilmington, Delaware.—*Improved method for Clamping and laterally Feeding the Log in Saw Mills.*—Patent dated June 22,1858.—The nature of this invention consists in providing and applying certain movable dogs or jaws E H, adjusted to the movable upright piece of the head block, which jaws are operated and controlled by a screw X, for the purpose of holding the log securely in place during the operation of sawing it. It also con-

sists in a movable guard or trigger V applied to the ratchet wheel R, which is operated by the tumbler S in the self-acting attachment, and which gives motion, through the gear wheels and shafts L P, to the upright piece to which the log is secured.

Claim.—The method described of clamping and holding the log, and also the device by which the lateral feed of the log is regulated, substantially as described.

No. 20,147.—JEREMIAH DARLING, of Cincinnati, Ohio.—*Improved Feeding Device for Cross-cut Sawing.*—Patent dated May 4, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The reciprocating table F, suspended at one end, and supported by rollers at the other, to facilitate the operation of cross-cut sawing, substantially as set forth.

No. 19,099.—EZRA PERIN and JOHN Z. PERIN, of Connorsville, Indiana.—*Improved Horse-Power Machine for Cross-cut Sawing.*—Patent dated January 12, 1858.—In the engravings H is the horse-power. At the foot of the horse-power is erected an upright frame E, from which extend two timbers *a* a^1, constituting the ways of a slide piece C. This slide is reciprocated from the rotation of the foot shaft *b* of the horse-power, through the wheels *w* w^1, crank shaft *c*, pitman *d*, rock shaft *r*, and pitman *e*,—pitman *d* connecting crank *f* with arm *g* of the rock shaft, and pitman *e* connecting arm *i* of the rock shaft with stud *j* of the carriage or slide piece C.

The object of this machine is to saw logs short lengths.

The inventors say: We *claim* the combination of the saw frame and slide piece C, with the combination of devices communicating the motion of the horse-power, arranged and operating as described.

We also claim making the head shaft of the power movable vertically, and combining the same with roller *m*, rim *n*, lever, and lifting piece, for the purpose set forth.

No. 19,128.—EDWIN P. CAVETT, of St. Louis, Missouri.—*Improved Device for Adjusting two Circular Saws to the same Plane in Sawing Lumber.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I lay no claim to the "end play." But one of my improvements is for the government of the end play automatically.

Neither do I lay any claim to the springs or their arrangement.

Neither do I claim the compound lever D, as such.

But I *claim* the application of the compound lever D to the two saw arbors, substantially in the manner described, whereby the lateral motion of one saw will automatically govern the lateral motion of the other, as set forth.

I also claim the combination of the saw arbor with the hollow mandrel and the air funnel G, whereby a current of air is made to pass through the arbor against the sides of the saw, substantially in the manner set forth.

No. 19,145.—JOHN MAYS, of Yazoo City, Mississippi.—*Improved Sawing Machine.*—Patent dated January 19, 1858.—The frame C is arranged diagonally to a vertical plane, so that when the saw swings horizontally it serves for cutting the logs into blocks for firewood, and when it swings vertically it serves to cut the logs into boards and planks.

Claim.—The arrangement of the angular frame C, diagonally to the vertical plane, so that when the saw swings horizontally it shall serve to cut the logs into blocks for firewood, and when it swings vertically it shall serve to cut the logs into boards or planks, without any other alteration of the mechanism of mill but a change of the saw and frame from a horizontal to a vertical position, all substantially as shown and described.

No. 19,536.—THOMAS J. ALEXANDER, of Westerville, Ohio.—*Improved Sawing Machine.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the combination, with the endless chain E and driving pin *f* to the reciprocating feed carriage, of the carriage slide G, set in independent motion at intervals as described, lever H, and pawl I J of the feeding ratchet, or their equivalents, for actuation of both the longitudinal and cross feeds essentially as specified.

Secondly, I also claim the gear of the cross feeding ratchet wheel K with the feeding roller L, by frictional contact and support or gear of said roller, through centre points or end pins with lever appliances, or their equivalents at its end or ends, to admit of the free run of the roller independent of its frictional contact with the feeding ratchet wheel, also admitting of the frictional bite of said wheel and roller being established or broken with facility, without interfering with the motion of the ratchet and gear therewith of the actuating pawl or pawls, substantially as and for the purposes set forth.

No. 19,644.—H. H. LOW, of Galena, Illinois.—*Improved Sawing Machine.*—Patent dated March 16, 1858.—The bolt O is secured to the bar K by the dogs N N, and the weights H H are sufficiently heavy to keep the frame G elevated and the bolt O above the saw. By depressing the treadle G^1, it forces down the gate F and frame G, and the bolt O is thereby fed down to the saw D, which is rotated by means of a band passing around pulley C; when the saw has made its cut, the pressure is removed from the treadle, and the weights H H raise the frame G, the bolt O being raised above the saw; when the frame reaches its highest point, the bolt O is adjusted by operating the levers L L.

The inventor says: I do not claim separately any of the parts described.

But I *claim* the vertically sliding and balanced bolt gate G and saw D, in combination with the feeding device formed of the bar K, levers L, pawls M, and racks J, the whole being arranged to operate conjointly as and for the purpose set forth.

No. 19,906.—JOHN L. BEADLE, of Marengo, N. Y.—*Improvement in Sawing Machines.*—Patent dated April 13, 1858.—This invention consists in arranging on a strong and substantial frame work a three foot circular saw and a table, which can be raised, in the act of sawing, and lowered at will. And upon the table a cross head so arranged upon ways that, by means of a screw at each end of the cross head, it can be moved to or from the saw or held to its position when set, or to alternate the moving of one end of the cross head forward of the other, in order to obtain the taper of the shingle required and cut the butt of the shingle from opposite ends of the block alternately.

Claim.—The combination embraced in the manner of raising the table with the manner of adjusting the cross head and dogs, as described and for the purposes set forth.

No. 20,184.—HENRY S. VROOMAN, of New York, N. Y., assignor to HENRY ALBRO, of Covington, Kentucky.—*Improved Sawing Machine.* Patent dated May 4, 1858.—This invention consists in a peculiar arrangement of means for operating a reciprocating knife or saw, and also in giving the log a gradually progressive rotating speed so as to compensate for its gradually diminishing diameter while being sawed, and thereby allow the saw to cut the log in spiral or volute form from periphery to centre in a single or continuous piece.

The inventor says: I do not claim broadly the sawing of logs or bolts in volute form, for this has been previously done.

But I *claim*, first, the travelling or sliding collar M, on lever E, as connected with the knife or saw frame B, the pawl arms N N, in combination with the reciprocating connecting rod G, the vibrating lever E, the pawls *w* w^1, and the ratchet wheel O, whereby an increasing rotary speed of the log or bolt U is obtained from the travelling collar M, passing down to a wider sweep of lever E, as set forth, the power being transmitted from the ratchet shaft P to the bolt U, as shown, or by any other equivalent device for the purpose described.

Second. The cutters *p*, attached to the carriage L, operated automatically by and in combination with the vertical screws for the purpose set forth.

Third. The lateral moving knife plate or stock *c*, crank D, operated by and in combination with the vibrating lever E, for the purpose shown.

Fourth. The combination of the knife C, cutters *p*, and the feed movement of the bolt or log U, when the whole are arranged to operate as and for the purpose set forth.

No. 20,870.—HENRY FEATHERSTONE and PETER ENGMANN, of New Orleans, Louisiana.—*Improved Sawing Machine.*—Patent dated July 13, 1858.—The nature of this invention consists in the lateral movement of the saw, which enables the operator to saw with a backward and forward motion. All the movements of the machine are under the control of the sawyer; it occupies a small space on account of doing away with the cumbrous carriage.

The inventors say: We *claim*, 1st. The lateral movement of the saw, as represented.

2d. The suspension guides, with their cups and balls, as applied here, to guide the saw and its connexions with the saw shaft.

3d. The back-bone rack connecting the truck.

4th. The truck and dog, with their movement, by means of the sector and rack, all as shown.

No. 20,995.—WILLIAM H. DOANE and CARLISLE MASON, of Chicago, Illinois.—*Improved Sawing Machine.*—Patent dated July 27, 1858.—The object of this invention is to obtain a self-adjusting feed device, or to so arrange the feed rollers that they will always present the stuff centrally to the saw without any manipulation on the part of the attendant, so far as the rollers are concerned. The invention has also for its object the ready adjustment of the feed rollers, so that the same may present the stuff vertically or obliquely to the saw, as occasion may require.

The inventors say: We *claim* the arrangement of the gearing *k l b b c c*, in connexion with the levers Q and feed rollers R, so that the rollers may be expanded and contracted without at all interfering with their rotation.

We further claim placing the rollers R on the shafts O, as shown, to wit: having the rollers hollow, provided with bearings *f*, which are fitted on the upper ends of the shafts O, and also provided with pendant pins *g g*, which are fitted over the drivers *e* of the shafts O, the upper journals of the rollers being fitted in adjustable bearings S, substantially as and for the purposes set forth.

No. 20,886.—A. C. MILLER, of Morgantown, Va.—*Improved Carriage for Sawing Machines.*—Patent dated July 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging the head-blocks in long mortises in the side-pieces F F, and connecting the outer ends of said head-blocks by overlapping arms or levers H H furnished with adjusting holes or an adjusting screw, so that any length of bolt within the capacity of the saw may be held and operated therein, as set forth and described.

No. 19,801.—GEORGE TELFORD, of Pike, N. Y.—*Improved Cross-Cut Sawing Machine.*—Patent dated March 30, 1858.—Motion is given to the shaft C, and as the wheel D rotates a reciprocating motion is given the bar H through the medium of the rod E and arm F. When the saw M has made its cut, it is elevated by drawing down the outer end of the lever L, and the log is moved forward by rotating the cylinder P.

The inventor says: I do not claim attaching a saw to a reciprocating bar, which is fitted in or allowed to work through an adjustable frame for the purpose of allowing the saw to be elevated so that the log may be fed to the saw, for this device has been previously used Nor do I claim the swinging guide-bar N.

But I *claim* the bar H with saw M attached to the arm F, connecting rod E, and wheel D, when arranged relatively with each other as shown and for the purpose set forth.

I also claim the bar H and saw M, operated as shown, in combina-

tion with the log carriage O and cylinder P grooved and armed with spikes; the whole being arranged to operate substantially as and for the purpose set forth.

No. 19,870.—H. Potter, of Carthage, New York.—*Improvement in Saw Mills.*—Patent dated April 6, 1858.—In operating this machine, the front end of the beam A is placed on the log I to be sawed, the log being on the ground, and the opposite end of the beam also resting on the ground. The operator stands on a platform *q* on the bar or beam, and with his right hand operates the lever C, oscillating the same, and thereby communicating a reciprocating movement to the saw E, which works transversely on the log I. The saw is fed to its work by the operator, who presses his foot on treadle H, and thereby, through the medium of levers F G, forces the roller *g* down on the bar D, the rack *l* preventing the lever G from casually rising. When one cut is made the operator raises the front end of the bar or beam, places it again on the log at the proper point for a succeeding cut, and the operation is repeated.

Claim.—Operating the saw E by means of the bent lever C, arranged substantially as shown, in connexion with the feeding device formed of the levers F G and guide *f;* the whole being combined and arranged to operate conjointly as and for the purposes set forth.

No. 19,983.—Richard M. Cosby, of Indianapolis, Ind.—*Improved Cross-Cut Sawing Machine.*—Patent dated April 20, 1858.—B is a guide frame; C a spring; D a stick of wood; E a frame or buck; F a bar; G a lever pawl designed to catch the notched H and hold the bar F down upon the wood; I is a weight, and J¹ a rule or measure upon the buck or frame E.

The inventor says: I claim no gain of power by leverage, nor any of the parts described, when taken separately, as new.

But I *claim* the combination of the rocking lever K, spring *c*, and weight J, with the saw-frame, as described and shown.

No. 21,177.—John T. Armstrong, of Jacksontown, Ohio.—*Improved Cross-Cut Sawing Machine.*—Patent dated August 17, 1858.—The nature of this invention is certain new improvements in the parts of a cross-cut sawing machine for sawing logs into lengths for shingle bolts, fence posts, fire-wood, and other purposes, made portable, to be used in the woods, and to be shifted from place to place to the vicinity of the timber to be cut, if required.

Claim.—The combination of the frame A, wheel E, and guide-rod F, with the frame C and carriage L and saw I, when arranged in relation to each other, and operated in the manner and for the purposes set forth.

No. 21,256.—Albert Heth and Gaylon Hall, of Adams Centre, N. Y.—*Improved Cross-Cut Sawing Machine.*—Patent dated August 24, 1858.—This invention is more especially designed for cutting or sawing logs into cord wood for fuel, and consists in a novel means for operating or applying power to the saw whereby the weight of the operator is made to assist muscular strength, and the latter applied in the most advantageous manner to the saw.

Claim.—The lever G and oscillating platform D connected by the rods F F, and attached to the saw bar or beam J by the pendant I, the above parts being used in connexion with the beam A and cross bar B for the purpose set forth.

No. 21,482.—Harvey Brown, of New York, N. Y.—*Improved Endless Sectional Sawing Machine.*—Patent dated September 14 1858 —A is the endless sectional saw; B B the wheels or pulleys upon which the saw is mounted; C C the plummer blocks having set screws D D D D, by which the saw is strained or tightened; E the guide plates; F F F F the saw guides; G the saw teeth; I the wedge to hold the teeth; and H the frame of the machine

The inventor says: I *claim*, 1st, the form and manner of constructing the sections of my saw, substantially as set forth.

2d. I claim the mode of inserting the teeth in the saw in the manner set forth.

3d. I claim the guide plate E, constructed and arranged as described, when used in connexion with the saw, as set forth.

No. 21,200.—William C. Huntington, of Newark, N. J.—*Improved Reciprocating Sawing Machine for Sawing Plank.*—Patent dated August 17, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not claim making the saw guides F G adjustable to different angles with the line of the cutting edge of the saw, to give to the saw a greater or less amount of cut; nor do I claim making the feed adjustable to increase or lessen the amount of feed to be given to the lumber being sawed; nor do I claim a cam-shaped dog for the purpose of alternately taking and releasing its hold to transmit an intermittent motion; nor do I claim straining and tightening the saw by attaching to it a tightening belt.

But I *claim*, 1st, connecting the saw wheels *a b* to the cross-heads *c d* by pivots when the saw is worked without a saw gate, and is strained and tightened by being attached to a tightening belt, as and for the purposes set forth.

2d. The combination of the cam-shaped feeding and retaining dogs *p* and *r*, operating in opposite directions to each other, with the flanged disk *o*, for the purpose of communicating a feed motion to the lumber being sawed, and retaining the lumber firmly in place while the saw is cutting it, as described.

No. 20,696.—Harvey Brown, of New York, N. Y.—*Improved Rotary Sawing Machine.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim this device for setting the block, as I have it already in a patent granted to me for a sawing machine, dated November 10, 1857. In arranging the carriage in reference to the saw it should be so placed that the plane of the saw shall be at the centre of the block to be sawed.

tion with the log carriage O and cylinder P grooved and armed with spikes; the whole being arranged to operate substantially as and for the purpose set forth.

No. 19,870.—H. Potter, of Carthage, New York.—*Improvement in Saw Mills.*—Patent dated April 6, 1858.—In operating this machine, the front end of the beam A is placed on the log I to be sawed, the log being on the ground, and the opposite end of the beam also resting on the ground. The operator stands on a platform *q* on the bar or beam, and with his right hand operates the lever C, oscillating the same, and thereby communicating a reciprocating movement to the saw E, which works transversely on the log I. The saw is fed to its work by the operator, who presses his foot on treadle H, and thereby, through the medium of levers F G, forces the roller *g* down on the bar D, the rack *l* preventing the lever G from casually rising. When one cut is made the operator raises the front end of the bar or beam, places it again on the log at the proper point for a succeeding cut, and the operation is repeated.

Claim.—Operating the saw E by means of the bent lever C, arranged substantially as shown, in connexion with the feeding device formed of the levers F G and guide *f;* the whole being combined and arranged to operate conjointly as and for the purposes set forth.

No. 19,983.—Richard M. Cosby, of Indianapolis, Ind.—*Improved Cross-Cut Sawing Machine.*—Patent dated April 20, 1858.—B is a guide frame; C a spring; D a stick of wood; E a frame or buck; F a bar; G a lever pawl designed to catch the notched H and hold the bar F down upon the wood; I is a weight, and J^1 a rule or measure upon the buck or frame E.

The inventor says: I claim no gain of power by leverage, nor any of the parts described, when taken separately, as new.

But I *claim* the combination of the rocking lever K, spring *c*, and weight J, with the saw-frame, as described and shown.

No. 21,177.—John T. Armstrong, of Jacksontown, Ohio.—*Improved Cross-Cut Sawing Machine.*—Patent dated August 17, 1858.—The nature of this invention is certain new improvements in the parts of a cross-cut sawing machine for sawing logs into lengths for shingle bolts, fence posts, fire-wood, and other purposes, made portable, to be used in the woods, and to be shifted from place to place to the vicinity of the timber to be cut, if required.

Claim.—The combination of the frame A, wheel E, and guide-rod F, with the frame C and carriage L and saw I, when arranged in relation to each other, and operated in the manner and for the purposes set forth.

No. 21,256.—Albert Heth and Gaylon Hall, of Adams Centre, N. Y.—*Improved Cross-Cut Sawing Machine.*—Patent dated August 24, 1858.—This invention is more especially designed for cutting or sawing logs into cord wood for fuel, and consists in a novel means for operating or applying power to the saw whereby the weight of the

operator is made to assist muscular strength, and the latter applied in the most advantageous manner to the saw.

Claim.—The lever G and oscillating platform D connected by the rods F F, and attached to the saw bar or beam J by the pendant I, the above parts being used in connexion with the beam A and cross bar B for the purpose set forth.

No. 21,482.—Harvey Brown, of New York, N. Y.—*Improved Endless Sectional Sawing Machine.*—Patent dated September 14 1858.—A is the endless sectional saw; B B the wheels or pulleys upon which the saw is mounted; C C the plummer blocks having set screws D D D D, by which the saw is strained or tightened; E the guide plates; F F F F the saw guides; G the saw teeth; I the wedge to hold the teeth; and H the frame of the machine

The inventor says: I *claim*, 1st, the form and manner of constructing the sections of my saw, substantially as set forth.

2d. I claim the mode of inserting the teeth in the saw in the manner set forth.

3d. I claim the guide plate E, constructed and arranged as described, when used in connexion with the saw, as set forth.

No. 21,200.—William C. Huntington, of Newark, N. J.—*Improved Reciprocating Sawing Machine for Sawing Plank.*—Patent dated August 17, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not claim making the saw guides F G adjustable to different angles with the line of the cutting edge of the saw, to give to the saw a greater or less amount of cut; nor do I claim making the feed adjustable to increase or lessen the amount of feed to be given to the lumber being sawed; nor do I claim a cam-shaped dog for the purpose of alternately taking and releasing its hold to transmit an intermittent motion; nor do I claim straining and tightening the saw by attaching to it a tightening belt.

But I *claim*, 1st, connecting the saw wheels *a b* to the cross-heads *c d* by pivots when the saw is worked without a saw gate, and is strained and tightened by being attached to a tightening belt, as and for the purposes set forth.

2d. The combination of the cam-shaped feeding and retaining dogs *p* and *r*, operating in opposite directions to each other, with the flanged disk *o*, for the purpose of communicating a feed motion to the lumber being sawed, and retaining the lumber firmly in place while the saw is cutting it, as described.

No. 20,696.—Harvey Brown, of New York, N. Y.—*Improved Rotary Sawing Machine.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim this device for setting the block, as I have it already in a patent granted to me for a sawing machine, dated November 10, 1857. In arranging the carriage in reference to the saw it should be so placed that the plane of the saw shall be at the centre of the block to be sawed.

What I *claim* is the arrangement of the hoop or band-saw F, operating vertically within a circular horizontal carriage G with adjustable feed motion, by which there is a continuous motion of both saw and carriage, all operating in unison with reference to the desired end when in motion, substantially in the manner and for the purpose set forth.

No. 19,168.—Ulysses B. Vidal, of Philadelphia, Pa —*Improved Scroll Sawing Machine.*—Patent dated January 19, 1858.—This invention consists in attaching the upper and lower ends of the saw *a* reciprocating motion by means of a cam F, the parts being so arranged that the saw is properly strained without a sash, and the saw being operated smoothly, all "back lash" being prevented.

In this invention means are used for clearing the platform and work of saw dust, so that the tracing on the work may not be obscured thereby.

The inventor says: I am aware that a cam similar to the one F described has been previously used for operating reciprocating saws, but I am not aware that said cam has ever been used in connexion with springs applied to the saw so as to strain the saw, and at the same time prevent re-action or "back lash," which would otherwise attend the operation of the same by means of the cam.

But I *claim* the arrangement of the slotted slide H with a cam F, embraced by the friction rollers *g*, and operated in connexion with the springs *f f c c*, all as set forth.

No. 20,900.—E. Sirret, jr., of Buffalo, N. Y.—*Improved Scroll Sawing Machine.*—Patent dated July 13, 1858.—This invention relates to an improvement in that class of sawing machines in which no saw frame or sash is employed, and which are generally known as mulley saws. The invention consists in the peculiar manner of hanging and driving the saw, so that it may be readily strained and kept while in operation at a proper degree of tension, and readily removed from the machine when necessary.

The inventor says: I am aware that revolving cranks have been directly connected to the upper and lower ends of reciprocating saws for the purpose of driving the saws without a frame or sash; but I am not aware that reciprocating bent levers or bell cranks have been employed, and arranged as shown and described, for the purpose of operating the saw, and also allowing it to be kept perfectly strained while at work, and readily relaxed when it is to be removed from the machine.

I *claim*, 1st, the bent levers or bell cranks H I, attached to the cross-heads *e m* of the saw K, and operated by the eccentrics E F, or their equivalents.

2d. Having the upper lever or bell crank I attached to an adjustable plate *c* operated by a screw *h* or its equivalent, for the purpose of readily and properly straining the saw and allowing the same to be relaxed and removed with facility from the machine.

No. 19,166.—Hiram Wells, of Florence, Mass.—*Improved Arrangement of Devices to Feed and Gig Back the Carriage in Circular Sawing Machines.*—Patent dated January 19, 1858.—This is an improved arrangement of means for feeding the "stuff" to the saw, and also gigging back the same by friction.

The inventor says: I am aware that various devices have been employed for feeding the carriage to the saw, and gigging back the same by means of friction, and friction and gearing combined; and I therefore do not claim broadly such device, irrespective of the arrangement and particular means employed for the purpose as shown.

I *claim* the arrangement of the rack V, pinion S, rack-bar P, lever Q, roller I, slot *e*, pin D, and roller D^1, as set forth, whereby the shaft K will be rotated in either direction at pleasure, according as the lever X is moved.

No. 20,150.—William M. Ferry, jr., of Ferrysburg, Michigan.—*Improved Device for Governing Lateral Motion of Carriage in Gigging Back in Circular Sawing Machines.*—Patent dated May 4, 1858.—The nature of this invention will be explained by examining the claim and engravings.

Claim.—Providing a short auxiliary rail I alongside the inner rail of the log carriage C, and opposite the oblique inclined gauge-bar G, and furnishing the carriage with an auxiliary wheel J, which has a vertical axis *a*, and having said wheel come in contact with and run against the side of the auxiliary rail, and thereby prevent any lateral movement of the carriage other than that necessary to prevent the log rubbing against the face of the saw and heating the same, and also avoid the scratching of the face of the board by the teeth of the saw, substantially as and for the purposes set forth.

No. 21,345.—William D. Leavitt, of Cincinnati, Ohio.—*Improved Method of Attaching the Spreader to Saws of Circular Sawing Machines.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not wish to be understood as claiming the spreading flange, when taken separately.

But I *claim* furnishing the side of the saw plate with the groove or recess 4, when the spreading flange *y y* is arranged therewith in the manner represented for the purpose of preventing the end of the lumber when being sawed from butting against or catching to the end of the said flange, as mentioned in the specification.

No. 22,107.—Derwin E. Butler, of Chesterfield, Ohio.—*Improved Devices for Clamping and Feeding the Bolt in Felloe Sawing Machines.*—Patent dated November 23, 1858.—G is a bed on which the bolt from which the fellies are sawed is placed. This bed rests on two rods or bars d^1 d^1, the ends of which are fitted on arms *e e* e^1 e^1 at each side of the bed piece A, said arms being secured to the ends of shafts *f*, which pass through the bed piece. I is a jaw or clamp, which is fitted in the bed G, near the wheel D. This jaw is formed on the upper end of a bent bar *k*, which is secured in the bed by a pivot *i*, and the inner end of the bar *k* is attached by a link *m* to a spring J, which is fitted in the under side of the bed piece.

The inventor says: I *claim*, 1st, the bed piece G, arranged with the rods d^1 d^1, arms e e e^1 e^1, connected by the bar h and spring H, for the purpose of readily operating the "bolt" L, or feeding and removing the same from the saws, as described.

2d. The jaw I formed on the bent bar k, attached to the bed G and spring J, so that the jaw may be operated to grasp the "bolt," and the "bolt" relieved therefrom by the movement of the bed G, substantially as set forth.

No. 19,774.—William Hawkins and William C. Clary, of Milwaukie, Wisconsin.—*Improved Sawing Mill.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim* the manner described of automatically changing the saws after each cut alternately from an oblique position in one direction to an oblique position in a contrary direction to the line of the log carriage by means of the studs p, slide K, double lever D, connecting rods d, in combination with the frame F and the guides n and n^1, for the purpose set forth.

We also claim the use of the two-wedge rollers or wedges P^1 P^{11}, to keep the board clear of the saw while cutting in either direction, substantially in the manner described.

We also claim the combination of pinions i and their pins o, entering into the recesses of plates b, the ratchet wheels g, the ratchets r, the adjustable segments J, the wheels G^1, the screws G, and the rods k, with their clutches z and v, for the purpose of automatically setting the log to the saw, and stopping the setting when the log frame advances too close to the saw.

We also claim the notched plate t, in combination with the latch g, lever u, and link l^1, for the purpose of operating the belt shifter l without turning the lever u, substantially in the manner set forth.

No. 21,838.—William D. Leavitt, of Cincinnati, Ohio—*Improved Re-Sawing Machine.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the combination of the yoked feed-rollers and clamps extending up to or near the perimeter of the saw, for the purpose of feeding through and pressing out all the warps or bends in the board or plank, and holding them so pressed out until the same acts substantially as described.

I also claim the combination with the yoked feed-rolls and clamps operating together as described, the auxiliary feed-rolls I I^1, to receive and feed in the next succeeding board or plank without affecting the action of the other rolls on the plank or board being sawed, substantially as described.

No. 19,692.—Harry H. Evarts, of Chicago, Illinois.—*Improved Machine for Sawing Staves.*—Patent dated March 23, 1858.—The nature of this invention consists in so forming and arranging the saw and machinery as to enable any one to saw the stave in the direction of the fibre of the wood, so that the stave, after the stave is cut, will need no further dressing.

Claim.—The arrangement of the machinery as described and shown in the specification, and for the purposes set forth.

No. 20,135.—James Balla, of Richmond, Indiana.—*Improved Device for Sheltering from Dust the Lower Carrying Pulley of Band Saws.*—Patent dated May 4, 1858.—This invention relates to an improvement in that class of sawing machines in which the saws are attached to straps or bands which pass over pulleys having a reciprocating rotating motion. The object of the invention is to obviate the difficulty attending the accumulation of saw dust between the lower pulley and saw band. This is done by having shields or guards placed over the lower pulley, properly arranged, to protect it.

The inventor says: I do not claim hanging saws by attaching the same to straps which pass over reciprocating pulleys, for this has been previously done.

But I *claim* the shields or guards J J placed over the lower pulley D, when constructed and arranged relatively with the straps H of said pulley, substantially as and for the purpose set forth.

No. 21,651.—J. D. C. Carpenter, of Cincinnati, Ohio.—*Improvement in Deflecting Plates for Circular Saws.*—Patent dated October 5, 1858.—This saw is made of a central flange B of cast iron, to which the segments D are fastened by screws in the usual manner. The flange B is very thick, and has curved ribs cast upon its convex side, in order to stiffen the flange without straining the metal in cooling. Near the centre of this flange is an annular groove or bearing, into which a ring S of Babbett's metal is inserted. This ring is made adjustable by means of the screws e. The deflecting plate A may be cast with ribs on its concave side, and it is to have an annular bearing to meet the ring S.

The inventor says: I *claim*, first, the rotary deflecting plate or spreader A, provided with an adjustable friction bearing S, substantially as set forth.

Second. I claim the cutters i placed near the margin of the deflecting plate A, substantially as set forth.

No. 22,252.—Reuben S. James, of Bethel, Vt.—*Improved Guard for Circular Saws.*—Patent dated December 7, 1858.—The nature of this invention consists in so placing an adjustable shield over the edge of a circular saw, with the exception of the space occupied by the log in feeding the saw, shall be completely covered and prevented not only from receiving, but from doing injury to any person who, through accident or inadvertence, might be exposed to contact therewith.

Claim.—The shield G with blade H arranged with or without tongue I for circular saws, operating substantially as described and for the purposes set forth.

No. 19,978.—Job Batchelor, of Camden, N. Y.—*Improvement in Dressing Saws.*—Patent dated April 20, 1858.—The file a, which is

the principal agent in this mode of sharpening or gumming saw teeth, is made of good steel, and is about three and a half inches in diameter and one-fourth of an inch thick. It is cut into a file surface on the under side on the edge, and for a short space back from the edge on the upper side. It is capable of being hardened in the same manner as other files, and presenting a large surface of any desired diameter, may be re-cut when desired, and made to last a long time. Both the carriage *f* and base C are made of cast iron.

Claim.—The horizontal disk file *a* for the purposes described, and its connexion and combination with the movable parts of the machine by wh ch the same is operated as described; the whole being combined, arranged, and operating substantially in the manner set forth.

No. 20,313.—Hiram Smith, of Camden, N. J., assignor to Henry Disston, of Philadelphia, Pa.—*Improved Devices Attached to Hand Saws for Squaring and Marking.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not desire to claim the graduating of a saw blade, so that it may serve the purpose of a rule.

Neither do I claim broadly so constructing a saw as to answer the purposes of both a hand saw and square in one and the same instrument.

But I *claim* an improvement on the combined hand saw and square for which a patent was granted to Jackson Gorham on the 12th of May, 1856.

First. Riveting the shoulder strips C C directly to the blade, and independent of the handle, for the purpose specified.

Second. The combination of the sharpened projection *e* with the graduated saw blade, as and for the purpose set forth.

No. 20,337.—Henry Disston and Thomas L. Morss, of Philadelphia, Pa.—*Improved Levelling Device Attached to Hand Saws.*—Patent dated May 25, 1858.—On one side of the handle of the saw two spirit levels *a b* are placed at right angles to each other, in such a position that they may be used as a plum and level as well as a saw; placing the two spirit tubes, or levels *a b*, in the handle B of the saw, relatively with each other, and the back edge *c* of the saw, substantially as and for the purpose set forth.

No. 19,300.—G. P. Ketcham, jr., of Bloomington, Ind.—*Improved Method of Straining Reciprocating Saws.*—Patent dated February 9, 1858.—The nature of this improvement will be understood from the claim and illustrations.

The inventor says: I do not claim, broadly and separately, connecting a saw at both ends to crank pulleys.

But I *claim* connecting the slides *c c* at both ends of the saw to crank pulleys *a a* on the shafts B C by means of pitman *b*, the opposite ends of the shafts B C being connected by the crank or cranks E and pitman or pitmen F, whereby the shafts are made to move simultaneously, and the same relative positions of their cranks and working parts connected therewith retained at all points of their movement, and the saw D operated or driven, and kept equally strained, or at the same degree of tension, at all points of its stroke, substantially as described.

No. 19,893.—John C. Cline, of Philadelphia, Pa., assignor to Himself and Samuel Rhodes, of said Philadelphia.—*Improved Method of Guiding Reciprocating Scroll Saws.*—Patent dated April 6, 1858.—In this invention an ordinary mandrel 6, pivoted at 7 and 8, having a cast steel pinion 9 directly over and gearing into the driving wheel F. When it is desired to adapt the machine to the circular saw, the whole operation is performed by an expert workman within the space of five minutes, and consists in relaxing the swivel L, removing the jig saw X, and the top *b* of the table, then removing the connecting rod 2 by loosening the bolt 10, removing or turning out of the way the cross-head B, and unscrewing the pivot bearing the mandrel, and slipping the circular saw into place between the washer 11 and the mandrel head 12.

Claim.—The employment of a cap 3, in combination with a tubular guide *z*, in the manner and for the purpose substantially as set forth

No. 19,534.—Henry F. Shaw, of Boston, Mass., assignor to Himself and Moses H. Gragg, of said Boston.—*Improved Method of Operating Scroll Saws.*—Patent dated March 2, 1858.—This invention consists in the use of sets of double arms, and attaching the two ends of the saws to the centres of the strips which unite the extremities of said arms; by means of which arrangement the saw is carried up and down in a nearly vertical position.

Claim.—The use of the two sets of double arms, constructed substantially as described, and attaching the two ends of the saw to the centres of the strips E and H, which unite the extremities of said arms, substantially as set forth and for the objects specified.

No. 19,033.—Robert Law, of Portage City, Wisconsin.—*Improved Shingle Machine.*—Patent dated January 5, 1858.—This invention consists in the employment of a pendulous frame B, provided with a proper clamp to hold the bolt I^1, and arranged relatively with a circular saw D, and setting device for adjusting the bolt within the frame; the whole being so arranged that the shingles are cut from the bolt and adjusted so as to be cut in proper taper form.

Claim.—First. The combination of the pendulous frame B which receives the bolt I^1 and the saw D, arranged substantially as and for the purpose set forth.

Second. The peculiar means employed for securing and adjusting the bolt I in the pendulous frame E, viz: the adjustable plate I, loaded cord K, connected with spring L, the corrugated bottom plate F, and lever G, with bar b^1, arranged substantially as shown and described.

No. 19,136.—George Derby and James E. Young, of Augusta, Me.—*Improved Shingle Machine.*—Patent dated January 19, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventors say: We *claim*, first, effecting a continuous recipro-

cation of the shingle carriage by means of a pinion wheel H and the tooth bar F, which has only a single line of teeth *c c*, and is arranged loosely in grooves on the under side of the carriage, so as to be compelled to move with it longitudinally, and yet to be capable of moving laterally to the right and left, independently of it, and at the completion of each stroke of the carriage, of alternately assuming positions which are opposed to one another, and which are oblique or diagonal to the path in which the carriage is moving, and which will allow the pinion to take hold of the opposite side of the teeth, substantially as and for the purposes set forth.

Second. The head-block N, when furnished with a yoke O, which has ears *h h*, and a set screw *g*, in combination with the grooved shingle carriage B, substantially as and for the purposes set forth.

No. 19,199.—ELIJAH MORGAN, of Morgantown, Va.—*Improved Shingle Machine.*—Patent dated January 26, 1858.—This invention relates to the particular device for receiving and holding the bolt *b*, to give it the proper inclination for defining the taper of the shingle, and also to the auxiliary adjustable carriage G, which regulates the angle at which the bolt is brought up to the saw.

The inventor says: I *claim*, in combination with the traversing carriage G, the horizontally semi-rotating piece I, with its flanges *m n* and m^1 n^1, operated in the manner and for the purpose set forth.

I also claim, in combination with the carriage G, the auxiliary carriage H, when made susceptible of adjustment as set forth, for the purpose of changing the line or angle at which the bolt is brought against the saw, as described.

No. 19,233 —DAVID M. BOYD, of Indianapolis, Indiana.—*Improved Shingle Machine.*—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

Claim.—The arrangement and combination of the reciprocating sliding frame D, with the wheels C A and C, when the parts or their equivalents are all arranged as a whole, substantially in the manner and for the purposes set forth.

No. 19,293.—WILLIAM GREGOR, of New York, N. Y.—*Improved Shingle Machine.*—Patent dated February 9, 1858.—The double-edged knife K is attached to the bed-plate A near the centre by means of the pins *p p*, but in such a manner as to allow the knife an up and down as well as an inclined motion forward or backward as may be desired. H H are two rods provided with inclined surfaces *n* n^1 at each end, by which the ends of the slides D D are alternately raised up and kept in an inclined position with the surface of the bed-plate.

Claim.—The arrangement of two slides turning upon centres and acted upon by inclined surfaces, which latter are operated by the motion of the bed-plate, as described.

I further claim the attachment of a double-edged knife to the bed-plate in the manner described, moving back and forth with said bed-plate, and at the same time being acted upon by the above-mentioned slides, in the manner as and for the purpose set forth.

No. 19,349.—GEORGE CRAINE, of Fairfield, Iowa.—*Improved Shingle Machine.*—Patent dated February 16, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I *claim*, first, in combination with the pivoted reciprocating cradle L, the pawl lever *w*, ratchet *v*, and its shaft *u*, for tilting said cradle alternately from one side to the other to form the butts and points of the shingle, substantially as described.

I also claim, in combination with the reciprocating carriage, the device for giving to it a slow forward motion and a quick backward motion, viz: the elliptical spur gears E F, with their shafts, cranks and connecting rods, as set forth and represented.

I also claim so arranging the two carriages and two saws as that one shall serve as a check balance or governor to the other, and *vice versa*, by making the sum of the forces of the two saws when sawing to conform to that of one of them when it alone is sawing, the compensation being effected by the comparative length of the kerfs that each or the single saw may be cutting, as set forth.

No. 20,638.—JERRIE R. HALL, of Brunswick, Maine.—*Improved Shingle Machine.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim standing the bolt on the end to be sawn sidewise, as the same thing in principle is accomplished by other machines.

Neither do I claim the wheel with alternate long and short teeth.

But I *claim*, first, the combination of rods *q* q^1 with their pins 7^1 7, thimbles 5^1 5^2 with their slots 6 8, slaves 2 2^1, and the pawls 1 1^2, in combination with notched wheels 4 4^1 and feed rollers T T^1, for feeding the bolt to the saw.

Second. The arrangement of frame U in relation to the other parts for fastening and holding the bolt while being sawn.

Third. The hinged fender E with its cord and spring Z.

Fourth. The combination of springs m^1 and n^1, clutch lever j^1, lever R, car *n*, with its catch S^1, cams Q and P^1, in combination with pulleys l^1 l^2 and *h* h^1 for giving motion to the carriage Y, all of which operate substantially as and for the purpose set forth.

No. 20,876.—ERASTUS HALL and JOEL F. STEWART, of East Randolph, New York.—*Improved Shingle Machine.*—Patent dated July 13, 1858.—This invention consists in the peculiar means employed for feeding and setting the bolt to the saw, whereby the machine is rendered automatic in its operation, or the bolt when applied or adjusted to the carriage, and the machine put in operation, is, by a continuous operation, without attendance, sawed into shingles of proper taper form.

The inventors say: We *claim* the rack J pivoted to the carriage I, in combination with the rod L, plate F, pinion *u*, and lever G, with weight H attached, the parts being arranged as shown, for the purpose of feeding the bolt to the saw and gigging back the same automatically, as shown.

We also claim setting the bolt of the saw by means of the bar M,

provided with the rack *k k*, operated by the backward movement of the carriage through the medium of the wipers *m m* and boss or hub O on shaft N, provided with spiral ledges *n* and the spring catch *p*, the parts being arranged to operate conjointly and automatically with the carriage I, as described.

No. 21,490.—Augustus Day, of Detroit, Michigan.—*Improved Shingle Machine.*—Patent dated September 14, 1858.—This invention consists in the use of a riving or splitting knife E, jointing cutters H H, planers M, and a squaring knife V, arranged, operated, and used in connexion with retaining dogs and other concomitant parts, whereby the several operations of riving or splitting, jointing, planing, and squaring may be done by one and the same machine at one operation, and the work performed in a perfect manner.

The inventor says: I *claim*, first, the butting or squaring knife V, operated by the curved arms T, and used in connexion with the stationary knife V¹ and adjusting clamps W.

Second. The combination of the riving knife E, jointing cutters H H, planers M M and Z Z, and butting or squaring knives V V¹; the whole being arranged to operate as and for the purpose set forth.

No. 21,744.—Jonathan Creager, of Cincinnati, Ohio.—*Improved Circular Sawing Shingle Machines.*—Patent dated October 12, 1858.—This invention consists in a construction of feed rest by which the bolt or block is forwarded with a specific diagonal presentation to the saw, so that the entire cut is in the direction of the grain; in a device by which the power is made available for advancing the bolt to the action of the saw at the option of the operator, and in devices for insuring the proper discharge of the shingles.

The inventor says: I *claim*, first, the feed rest D *d* E tangential to the saw, at the end toward which the saw cuts, and having a motion parallel to the plane of the saw, as set forth.

Second. In this connexion the feed rolls G G and their accessories, constructed to elevate the feed rest by power under control of the operator, as set forth.

Third. The use in this connexion of the elastic fingers M¹ M, as set forth.

No. 20,704.—K. Freeman, of Fond du Lac, Wisconsin.—*Improved Rotary Shingle Machine.*—Patent dated June 29, 1858.—This invention consists in the employment of a horizontal rotating carriage E, circular saw C, setting plate or bed F G, and dogs, so that it will saw shingles with the proper taper from a series of bolts very quickly.

Claim.—The horizontal rotating plate or carriage E, circular saw C, stationary and setting beds F G, and jaws *c d*, in connexion with the roller K and arm *o;* the whole being arranged to operate substantially as and for the purpose set forth.

No. 20,174.—A. C. Sawyer, of Canton, N. Y.—*Improved Device by which the Width of the Bolt Checks the Feed in Shingle Machines.*—

Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim the use of a race bar N, nor do I claim or limit myself to the use of a rack and pinion feed, as a screw or chain could easily be substituted; nor do I limit myself to the particular place in which the lever L hangs, whether before or after the saw.

But I *claim* the use of a lever L hanging by the side of the saw in such a manner that the bolt, in running under it, will raise or lower it and adjust the travel of the carriage, for the purpose and in the manner substantially as set forth.

No. 20,501.—Elijah Morgan, of Morgantown, Virginia.—*Improved Device for Operating the Bolt to Obtain Taper in Shingle Machines.*—Patent dated June 8, 1858.—When sawing shingles, and the swings H H are properly set on the roller F, the lever c is changed at every through from the notch 1 to the notch 3, and *vice versa*. When sawing staves or heading, the lever is set at the notch 2. When the notches 1 3 are being used, the switch L is let down so as to allow it to slip past the notch 2 without catching.

Claim.—The combination of the eccentric roller F, the swings H H, and the lever stop and switch, substantially in the manner and for the purpose set forth and described.

No. 19,193.—W. D. Guseman, of Morgantown, Virginia.—*Improved Device for Shifting the Bolt to Effect the Taper in Shingle Machines.*—Patent dated January 26, 1858.—This invention consists in a device for receiving the bolt every time it is dropped from its carriage, so as not only to change the ends thereof from which the butts and points of the shingles are cut, but also to regulate the taper and thickness of the shingle as may be required.

Claim.—The rocking pieces N N, with their adjustable tongues *u u* and boxes *m m*, for forming a bed to receive the bolt and reverse its inclination, so as to cut off the shingles' butt and point and adjust their taper and thickness, as set forth.

No. 20,553.—Elbridge Drake, of Gardiner, Maine.—*Improved Device in Feed Motion of Shingle Machines.*—Patent dated June 15, 1858.—When the machine is in motion the carriage will move up until the dog D strikes the lever E, when the slide C will commence moving in the reverse direction, drawing the knee H up until the catch T of the knee I drops under the end of the knee H. The pin M is then at the point N of the slot N, and the projection O of the knee G is resting upon the catch of the knee F.

Claim.—The application to shingle machines of the knee G, combined with the slide C, in such manner as will produce the desired effect, as described.

No. 19,275—Twentyman Wood, of Greenwich, Conn.—*Improved Method of Feeding the Bolt in Shingle Machines.*—Patent dated February 2, 1858.—This invention consists in the arrangements of parts

for securing the proper vibrations of the blocks from which the shingles are cut. This vibration is controlled to produce the desired result by the pins *f* working into and out of the notches *g* on the outer edge of the plate *k*, said notches being so constructed and arranged in relation to the other parts that the stock E will be vibrated as it is moved to bring the timber under the knife to give the proper shape to the shingle, and bring the point of it at either end alternately, the arms M being kept up to the plate *k* by the spring *h*, which is so attached to both arms as to have a tendency to draw them together.

The inventor says: I *claim* the combination of the notched or corrugated guides with the arms M, or their equivalents, and an apparatus for setting the block forward to the knife, as set forth.

No. 22,350.—HENRY T. CLAY, of Gardiner, Me.—*Improvement in Shingles.*—Patent dated December 21, 1858.—The nature of this invention consists in the peculiar shape of the shingle, it being so constructed that a portion of the shingle at the butt is made of an uniform thickness, as from *a a* to *b b*, and from the point *b* on the upper side of the shingle it is tapered to the point *c;* thus giving it all the taper on the upper side, as *b* to *c*, and a perfect straight surface on the under side, as from *b* to *c*, and a perfect straight surface on the under side, as from *a* to *c*.

The inventor says: I *claim*, first, a shingle of uniform thickness at the butt, so far as it is to be laid to the weather.

Second. A shingle that commences to taper at the point on the upper side, where the next layer above covers it, and tapers all on that side.

No. 21,453.—C. L. STORY, of Owensboro', Ky.—*Improved Method of Manufacturing Shingles from the Log.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that circular saws, rotary cutters, and travelling carriages have been used and arranged in many ways for sawing various articles, and I do not claim broadly the use of such parts, irrespective of their arrangement, as shown.

I *claim* the circular saw C, rotary and laterally moving cutters *h h i*, the rotary cutters *a a*, and travelling carriage I, arranged and combined, as shown, whereby the shingles are cut from the bolt, tapered and jointed at one operation.

I also claim the particular means described for rotating the bolt M at each termination of the movement of carriage I, and thereby setting the bolt to the saw, to wit: the screw n^1, worm wheel m^1, actuated through the medium of the arm o^1, rod p^1, bar q^1, rod r^1, and guide ledge P.

No. 22,083.—GEORGE H. MALLORY, of New York, N. Y.—*Improved Machine for Sawing and Planing Shingles.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The particular means employed for adjusting the bolt J to the saw, in order to give the taper-form to the shingle, in combination with the means employed for adjusting or moving the planer C to its work, to wit, the bars *p q*, connected as shown by the pendant q^1 and set screws *t t*, operated by the wiper *u* and pins *c c*, and attached, respectively, to the bar I, containing the jaws *n n*, which hold the bolt J and the bar *v*, connected with the planer head D; the whole being arranged to operate as and for the purpose set forth.

No. 19,167.—MOSES D. and ALPHEUS WELLS, of Morgantown, Va.—*Improved Method of Butting and Pointing the Bolt to be Sawed into Shingles.*—Patent dated January 19, 1858.—The nature of this invention consists in resting the bolt upon two sharp-edged vertical slides B B, alternately elevated and depressed by the movement of a horizontal piece D, upon which they rest.

The inventors say: We make no claim to regulating the position of the bolt by an oscillating table.

But we *claim* the vertical knife-edge slides B B^1 and horizontal double inclined slide D, in combination with each other, and the carriage and saw, substantially as and for the purposes set forth.

No. 21,886.—LUKE L. KNIGHT and D. H. RICE, of Barre, Mass.—*Improved Spoke Machine.*—Patent dated October 26, 1858.—This invention consists in the employment or use of two carriages, in connexion with a proper cutting tool or tools, arranged and operated so that when the machine is in full operation two spokes are in course of construction at the same time, the desired work produced in a rapid and perfect manner.

The inventors say: We *claim* the employment of two carriages L^1 L^1, in combination with expanding cutter heads O O, or any proper cutting tool, arranged to operate substantially as and for the purposes set forth.

We also claim the circular saw U, in combination with the expanding cutter heads O O, when the parts are connected so as to operate conjointly as shown, to wit: as regards their lateral and rotating movements, and used in connexion with the carriages L^1 L^1, for the purpose specified.

We further claim the loaded arms *e*, attached to the swivels *d*, the arms forked at their outer ends and used in connexion with the curved bars *j;* the whole being arranged substantially as and for the purposes set forth.

No. 20,459—CHARLES H. WESTON, of Nashua, N. H.—*Improved Spoke Shave.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the plate B, provided with arms *b b*, so as to operate substantially as set forth, in combination with the fulcrum arms *a a*, and thumbscrew G, and projections *d d*, both as a cap and holder to the cutter *c*.

Second. Making the cap or holder B adjustable by means of knobs *e e* and holes 1 2, or their equivalents, that it may operate either as a simple cap and holder to the cutter C, or in combination with it as the upper iron of a double iron plane, substantially as described.

No. 20,855.—Leonard Bailey, of Winchester, Mass.—*Improved Spoke Shave.*—Patent dated July 13, 1858.—This invention consists in an improved spoke shave, constructed with its bearing surface in front of its cutter B¹, applied to the stock by means of a lever C, having an adjusting screw *c* or its equivalent, or an adjusting and a retracting spring I, so applied to it as to enable the bearing surface to be moved either toward or away from the cutting edge of the cutter, in order to diminish or enlarge the chip passage as well as to vary the angular position of the bearing surface with respect to that in rear of the cutter; also in an application and arrangement of a protecting cavity or chamber with respect to the lever and its retracing spring.

The inventor says: I *claim* the improved spoke shave, as constructed with its bearing surface in front of its cutter, applied to the stock by means of a lever having an adjusting screw, or its equivalent, or a screw and a spring applied to it, so as to enable the said bearing surface to be moved, with respect to the cutter and the bearing surface in rear thereof, substantially in manner as described.

I also claim the arrangement and application of a protecting cavity or chamber within the lever, and to the spring thereo', in manner and for the purposes set forth.

No. 20,642.—Andrew Hofer and George Wilkinson, of Colon, Michigan.—*Improved Machine for Setting Spokes in Hubs.*—Patent dated June 22, 1858.—In order to attach the sweep to the hub the plate B is placed over its front end, the operator grasps the handle A, and then shoves the plate B around by means of the handle E. As the plate B is turned the curved grooves *a* actuate the jaws C and force them toward the centre of the plate B. The jaws are pressed against the edge of the hub and secure the disk A firmly to it and concentric with it. The pawl *h* prevents the casual movement of the plate B.

Claim.—The disk A, having teeth *i* formed on a portion of its periphery, and curved grooves *a* made in its inner face, the plate B, provided with slotted arms, in which jaws C are placed, the plate being provided with a pawl *h* and handle E, and fitted to the disk by means of the pin *f* and nut G, the pin forming the axis of the sweep D; the whole being combined and arranged as and for the purpose set forth.

No. 21,830.—William Halderman, of Freeport, Illinois.—*Improved Stave Jointer.*—Patent dated October 19, 1858.—This invention consists in the employment of a rotating polygonal feed wheel, in connexion with conical cutter-heads, arranged so that staves may be jointed in a perfect manner, and also dressed or cut in proper taper form for the bilge.

Claim.—The combination of the rotating conical cutter-heads I I and the polygonal feed-wheel E, arranged for joint action, substantially as and for the purpose set forth.

No. 19,064.—Leonard B. Averill, of Barre, Vermont.—*Improved Stave Machine.*—Patent dated January 12, 1858.—Fig. 2 represents the top of the main frame, with the shave's pinion wheel, cog wheel, and crank, attached to the frame in their proper places.

At one end of the carriage (fig. 3) there is a steel spring, one end of which is bolted to the carriage, the other end is raised from one to two inches above it, and is marked *g;* near the other end of the carriage, and extending to within about twelve or fifteen inches of the end of the spring, a piece of plank is bolted to the carriage, being about two inches thick and of a width sufficient to fill the space between the side-pieces, one end of which is cut down half the thickness for about three inches from the end; near the end of which is a dog to hold one end of the stave to be shaved, and near the edge of the dog there are screws which may be raised or lowered to govern the thickness of the stave to be shaved; near the centre of the last mentioned plank there is another dog to hold one end of the stave to be shaved; one end of the stave is placed on the end of the spring, and the other is made fast by the dog, and in such a manner that the shave will cut a little across the grain; the shave begins to cut over the spring, cuts one side, when the stave is passed to the other end of the carriage and made fast in a similar manner, when the other side is shaved.

Claim.—The arrangement and combination of the different parts of the machine in the manner and for the purpose specified.

No. 19,308.—Elias Moore, William Clark, and James Lindsey, of Shelbyville, Indiana.—*Improved Stave Machine.*—Patent dated February 9, 1858.—The machine operates as follows: The timber, after a thorough preparatory steaming, is placed upon the table E in front of the knife B and between the knives C C; gauge F having been adjusted to the thickness that the stave is desired to be cut, and the knife frame being set in motion from connecting rod H, after the adjustment of cropping-knives C C to the length that the stave is required to be; then the operator moves said stick of timber up to the gauge F as the knives move up, and in their downward motion the stave is cut, both in thickness and length, as it is desired.

Claim.—The combination of parts, acting as a whole, substantially as specified, and for the purposes set forth.

No. 19,444.—William Robinson, of Augusta, Georgia.—*Improved Stave Machine.*—Patent dated February 23, 1858.—The knives *k k*¹ are loosely connected with the carriage C and bar E, and vary an inclination with the thickness of the bolt. In front of these knives are the cutters *m m*¹, one secured to the carriage and the other to the bar E. As soon as the stave is separated it falls into the space behind the guide-plate F, and is caught by a spring dog *g* passing through the longitudinal piece G. The motion of the carriage is then reversed, and the stave forced by this dog under the spring roller *r* to the double-bitted stationary cutter *s*, which is convex, and dresses the interior of the stave.

Opposite to the plate H, and connected with bars *p p*¹, is a plate H¹, and at the upper extremities of these bars are attached two plates I I¹. These plates have curved slots *t* which constitute the guide of shafts *u u*¹ of two systems of rotary cutters *v v*. The cutter shafts *u u*¹ rest in boxes *x* capable of vertical movement on rods *z*.

The inventor says: I *claim* the self-adjusting bar E and cap-piece D, in combination with the knives *k k*^{1}, substantially as and for the purposes set forth.

I also claim the combination of the expanding guide-plates with the rotary cutters *v v*, arranged and operating as set forth.

I further claim the longitudinal piece G, spring dog *q*, pressure roller *r*, and stationary cutter S, in combination with each other and the rotary cutters.

No. 20,737.—WILLIAM M. SLOANE, of Buffalo, New York.—*Improved Stave Machine.*—Patent dated June 29, 1858.—This invention relates to operating two rotary adjustable cutters R R in a vertically moving frame F; in the arrangement and combination of the said cutters in relation to a revolving bed, feed rollers or frame; and in the construction of a cam K of a peculiar form for the purpose of communicating the required movement, the frame supporting the cutters.

The inventor says: I *claim* operating the two rotary cutters R R in a vertically moving frame F, substantially as set forth.

Second. I claim the arrangement of the cutters R R and P relatively to the revolving bed A, former L, and feed rollers, for the purposes and substantially as set forth.

Third. I claim the cam K, when constructed according to the formula and used for the purpose as set forth.

No. 19,853.—ABRAHAM HUPP, of Lancaster, Ohio.—*Improved Method of Holding and Feeding the Bolt in Stave Machines.*—Patent dated April 6, 1858.—The nature of this invention consists in the means employed for the purpose of adjusting and holding that portion of the machinery for cutting different thicknesses of staves, and the combined arrangement of machinery for moving and holding the piece of timber to the cutter from which the staves are cut.

Claim.—The combined arrangement of the levers 14 and 15, catch-rod 21, and slides 5 5, arranged with levers *n n* and *m*, pawl 12, ratchet wheel 8, cord 7 7, and plate 6 6, all for holding and feeding the timber R to the cutter, as represented, and for the purpose mentioned in the specification.

No. 21,856.—WILLIAM STEELE, of Wheeling, Va.—*Improved Machine for Cutting Staves from the Bolt.*—Patent dated October 19, 1858.—This invention consists in the combination and arrangement of the machinery in such a manner that an apron can be so attached that it can be held under or back of the knife to support the piece whilst it is being separated from the block, and then swung down or fall back so as to allow the piece to drop from the knife during the return motion of the machine.

The inventor says: I do not confine myself to cutting wood in any particular form or shape.

But I *claim*, first, the use of an apron M hinged to the bed plate K, as described, or otherwise attached to the machine in such a manner that it can be held under or back of the knife to support the piece during the process of cutting, and then swing down or fall back to allow the piece to drop from the knife.

Second. I claim the combination of the levers L L and stops B and D, as described, or their equivalents.

Third. I claim my improvement to be applicable to machinery for cutting steamed wood for any or all of the purposes for which it is now (or may be) cut.

No. 22,231.—ISAAC W. FORBES, of Jefferson, Wis.—*Improved Machine for Cutting Staves from the Bolt.*—Patent dated December 7, 1858.—Before placing the bolt of wood which is to be converted into staves upon the platform *d*, the operator connects the vibrating edge of said platform with the ribbed segment *m* by throwing the latch bolt *f*, forward into the aperture *s* in said segment, which keeps the edge of the knife in contact with the platform *d* and prevents accidents whilst the operator is placing a block of wood in its proper position upon the platform.

Claim.—The arrangement of the hinged platform *d* and its latch bolt *f* in such a manner, with relation to the concaves *a* and *m* and the knife *b* of the cutter head, that the said parts can be operated substantially in the manner and for the purpose set forth.

No. 19,760.—WILLIAM B. DUNNING, of Geneva, N. Y.—*Improved Rotary Reciprocating Knives for Smoothing Staves.*—Patent dated March 30, 1858.—On the arms D D are attached the circular rims H H H H, and to these rims are attached the smoothing cutters I I I I. These cutters are located at such a distance from the main rock shaft B as to correspond in that respect with the position of the cutting saws G G, and allow the staves to pass directly from the saws through the smoothing cutters, the stave being carried along by the feed rollers K K K K.

The inventor says: I do not claim the vibrating saws, as they have been used before.

But I *claim* the construction, arrangement, and employment of the oscillating cutting tools for smoothing the stave, &c., substantially in the manner set forth.

No. 21,512.—JOHN MCCREARY, of Delaware, Ohio.—*Improved Tenoning Machine.*—Patent dated September 14, 1858.—The nature of this invention consists in the construction of a machine for forming round tenons on wood in such a manner that tenons may be formed either lengthwise or crosswise of the grain of the wood, and of any desired size, the machine being perfectly adjustable. Also in so arranging set screws for increasing the cut of the cutting bits that the edges may be elevated while the backs rest firmly, thus avoiding the trembling of the bits occasioned by elevating the entire end of the bit, as is done in some of the tenoning machines now in use.

The inventor says: Having fully described the nature of my invention, and being aware that many kinds of machines have been invented and used by others for forming round tenons, I therefore do not claim forming such tenons.

But I *claim* the construction and arrangement of the bit-holders, as set forth.

I also claim the manner of applying the set-screw, as described.

No. 19,292.—Mahlon Gregg, of Philadelphia, Pennsylvania.—*Improved Machine for Cutting Tenons on Spokes.*—Patent dated February 9, 1858.—This improvement refers to the construction of the cutter head and relates to the manner of securing and adjusting the cutters. The cutter head consists of a tubular piece G passing over the end of the spoke S and made to revolve in guide C. Secured by bolts *l m n* to a flange *p* of this tube, are the cutter carrier P and bearer Q, the former double branched and embracing the latter. One branch of the cutter bearer runs in a lever L for turning the cutter head in its guide. It is adjusted to the size of tenon required by moving the cutter carrier P and bearer Q in opposite direction.

The inventor says: I *claim* securing the cutters at an angle, substantially as and for the purpose set forth.

I further claim the combination of cutter carrier P, bearer Q, and tubular piece G, substantially as and for the purpose specified.

No. 19,806.—James A. Woodbury, of Winchester, Massachusetts.—*Improved Rotary Cutter for Tonguing and Grooving.*—Patent dated March 30, 1858.—In the engravings, *a a* represent the cutter head for the tonguing tools, and *b b* the cutter head for the grooving tools. The tongue cutters consist of two lip cutters *c c*, having their sides formed by cutting lips *d d* projecting beyond a chisel cutter *e;* the three cutters are fastened in the cutter head *a a* by screws and bolts *f f*. The groove cutters consist of a lip cutter *g*, projecting beyond and held between the two chisel cutters *h h*.

Claim.—The combination of the chisel cutter or cutters with the lip cutter or cutters, substantially as described.

No. 20,866.—George Davies, of Duquesne, Pennsylvania.—*Improved Tool for Cutting Cylindrical or Tapering Sticks.*—Patent dated July 13, 1858.—This improved implement is designed to cut pieces of wood round and smooth, and either tapered or of uniform diameter for handles of tools and other purposes.

Claim.—The combination of the cylindrical stock *a*, adjustable block K, and bit F, constructed and arranged as described, forming an improved tool for cutting round or tapered sticks for handles, &c.

No. 22,430.—John Humphrey, of Keene, New Hampshire.—*Improved Tool for Slotting Clothes Pins.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Arranging knives or cutters to widen or flare the outer ends of the slots in clothes pins simultaneously with the sawing thereof, by having portions of the plate of the saw removed and the cutters secured to the disks or flanches on the arbor, and held thereby independent of the saw, as shown and described; by which arrangement a perfect and complete slot may be cut at a single operation, and the cutters may be quickly and accurately adjusted to any required

position and securely kept therein, or be readily removed when desired, as set forth.

No. 20,693.—William Bennett, of New York, N. Y.—*Improved Socket for Tool Handles.*—Patent dated June 29, 1858.—The nature of this invention consists in rendering the socket, fig. 1, self-fastening, so that when the handle is driven home it becomes permanently fixed and immovable, and not liable to come out, as in the ordinary method of fastening.

The inventor says: I do not claim broadly the socket having the form described, when used independently of the wedge.

Neither do I claim the wedge when inserted into the end of a handle, and both handle and wedge driven into a socket or space having sides parrallel with each other, whether such space or socket be closed or open at the bottom.

But I *claim* a tapering socket made widest at the bottom or closed end, in combination with the wedge *b*, constructed as described and for the purpose specified.

No. 22,167.—George Cooper, of Berlin, Wisconsin—*Improved Arrangement of Cutters for Turning Hubs.*—Patent dated November 30, 1858.—The nature of this invention consists in the arrangement of a preparatory cutter-stock set with a series of edge cutters, and a main cutter-stock set with a finishing cutter made in one piece, or in sections, in the same machine, in such a manner and in such relation to each other that when the cutters of the preparatory cutting-stock are brought into action the cutters of the main cutter-stock are thrown out of operative position, and *vice versa*.

Claim.—The arrangement in the same machine of the adjustable preparatory and main cutter-stocks D E, furnished with suitable cutters, in combination with any ordinary turning lathe or revolving centring shaft, substantially as and for the purpose set forth.

No. 21,443.—Alexander Rickart, of Schoharie, N. Y.—*Improved Machine for Turning Hubs.*—Patent dated September 7, 1858.—This invention relates to a hub-turning machine for which letters patent were granted to the inventor July 1, 1857. The object of the improvement is to obtain by far simpler means the same result that is obtained by the patented machine above alluded to. The claim and engravings will give the reader an idea of the present improvement.

The inventor says: I *claim* rotating the mandrel R of the carriage D from the cutter-shaft B, through the medium of the worm wheel and screw gearing *f h i n*, as described, it being understood that I do not claim broadly and in the abstract the well known mechanical device of a worm wheel and screw gearing, but the parts above named, when arranged with the cutter-shaft B and mandrel K of the carriage D, so that the mandrel K will be connected with the shaft B, and disconnected therefrom at the proper time by the movement of the carriage D, for the purpose described.

No. 20,344.—Newton J. Glover, of Waveland, Indiana.—*Improved Machine for Turning Irregular Forms.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* two traversing and vibrating cutters L L, arranged to work on the opposite sides of the piece of wood turned in the way and manner described.

I claim arranging the nuts or racks of teeth (upon which the screw E acts to traverse the cutters) upon the cutter-bars in such a way and manner that when the cutters are brought into action, the racks R and V will be brought to the screw so as to traverse the cutters, and when the cutters are thrown out of action the racks which traverse them are released from the screw, as described.

No. 22,400.—Reuben K. Huntoon, of Concord, N. H., assignor to Himself and Jacob B. Rand, of said Concord.—*Improved Machine for Turning Tapering Twists on Wood.*—Patent dated December 21, 1858.—The inventor says: I so apply the rests or supports P P of the guides E to the frame A as to enable each of them, or each two of them, to be adjusted or changed in height and afterward fixed in position. This is accomplished by having each guide move freely up and down in the frame, and to be fixed therein by a screw. The driving-gear D which is placed on the mandrel of the twist-block A is applied thereto so as to be capable of being freely turned thereon.

Claim.—The arrangement of the several separate devices described, when operated as set forth, for turning irregular tapering forms of wood.

No. 19,711.—Hiram Plumb, of Honesdale, Pennsylvania.—*Improved Machine for Turning Tool Handles, &c.*—Patent dated March 23, 1858.—This invention consists in the employment or use of a series of cutters combined and arranged with a pattern and stops, whereby a series of the desired articles may be turned and cut successively from a bolt or stick in a perfect manner.

The inventor says: I do not claim broadly and irrespective of the arrangement shown, the employment or use of a pattern in connexion with cutters to a carriage, for such device has been previously used for the purpose of turning various articles.

But I *claim* the employment of roughening-off cutter K, socket J, forming cutter M, pattern O, finishing cutter Q, and stops *k*, combined and arranged to operate as and for the purpose set forth.

No. 21,590.—Gilbert Bishop, of Fairfield, Connecticut, assignor to Edward White, of New York, N. Y.—*Improved Machine for Cutting Veneers.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the cutting of veneers from opposite sides of the log by knives arranged and operating in opposite directions, so as to cut with the grain of the wood.

Second. The construction and arrangement of the diagonally-faced side pieces D^1 D^2 D^3, and the sliding frames g^1 *g g*, in connexion with the knives, so as to give the thrust of the knives into the centre of the log, and thus cut the veneer clear from the log.

Third. The arrangement of the wheels H H in combination and connexion with the sliding frames and knives, so as to produce the drawing cut at the same time that the knives are being thrust in upon the log.

Fourth. The combination and arrangement of cam 19, the pair of bars 13 14, the connecting rod 12, and vibrating arm 11, and pawl and ratchet, so as to operate in the manner described, to raise or lower the feed screws.

No. 19,243.—Nathaniel T. Edson, of New Orleans, Louisiana.—*Improved Wheelwrights' Machine.*—Patent dated February 2, 1858.—The form is represented by fig. 3; the centre of the form is provided with a shallow orifice; the outer rim is divided into as many sections as the wheel is intended to contain spokes; there are formed four divisions D near the junction of the spokes and hub. Fig. 2 represents a press frame with a screw B.

Claim.—The form or its equivalent, in combination with the press, substantially as represented and described.

No. 19,928.—Samuel Holl, of Reading, Pennsylvania—*Improved Wheelwrights' Machine.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the advantage of cutting the whole length of the tenons from the circumference of the spokes toward the centre, thereby economizing time and labor to what all other tenoning machines require, as they commence cutting at the end of the spokes against the grain of the wood; consequently their cutters or bits cannot compete with mine for economy and durability.

Second. The advantage of my machine answering the double purpose of tenoning and hub-boring on the same frame or table work without removing the wheel. I am aware that gearing of different kinds has been heretofore used, but I am not aware that this device or motion of gearing has been heretofore used for the purpose specified; I therefore do not broadly claim the gearing separately.

But I claim the sliding feed rest *c*, or anything essentially the same, in combination with the devices of the open ended shaft R, bevel gearing V and 6, check-screw *d*, and nuts *e* and *j f*, also feed-screw *a*, shaft 7, spur gear 8 and 9, and guide *b*, when arranged as described, and used for the purpose set forth.

I also claim the combination and arrangement of the device for cutting tenons and boring hubs without removing the wheel from the machine, substantially as and for the purpose set forth.

No. 21,002.—William Hinds, of Otsego, New York.—*Improved Wheelwrights' Machine.*—Patent dated July 27, 1858.—The claims and engravings will explain the nature of this invention.

The inventor says: My claims to the improvements embodied and combined in this machine over others for the same uses are, that it is constructed in a stronger, more compact, and in a more durable manner, and is less liable to get out of repair. That the machine in all its parts is in a form to render its construction simple and cheap, and can

be more speedily shifted and adapted to the different kinds of work to be performed. That it is more simple, easy, and expeditious to use, and works with a precision as exact as man can think or desire.

I *claim*, first, combining regular perpendicular ways, both in the mandrel carriage and in the head-blocks C C, to operate conjointly in adjusting the augers to different positions for boring.

Second. I claim the method of adjusting the hubs for boring by suspending and revolving them on gudgeons in a carriage that vibrates the other way on a pin, and is set and controlled by thumb-screws at *d d*, the revolving motion of the hub being set and controlled by index-wheels and the latch at *f*.

Third. I claim the entire construction of the spoke-holder H and carriage, embodied therewith, together with the catch or hook for controlling its motion.

Fourth. I claim the wheel-carriage and plates to be used on the ends of the hub to confine the motion of the wheel to the axis of the hub and axle.

No. 22,193.—George Muller, of Sacramento, California.—*Improved Machine for Cutting Curvilinear Surfaces on Angular Pieces of Wood.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A concave plane-bit, with edges bevelling inward toward the centre, for cutting smooth chamfers of any shape on the edges of railing for express wagons, or on other pieces of wood, and the stand or rest connected therewith in the same machine by means of jaws movable in the frame. The rest or stand may be secured in any desired angle toward the plane, to obtain a chamfer of any desired depth and bevel, and also of different shapes.

No. 19,307.—Henry Miller, of Grafton, Virginia.—*Improved Clamp for Holding Rectangular Pieces of Wood while being Bored, Tapped, &c.*—Patent dated February 9, 1858.—This invention consists in combining with a rectangular box A, which holds the cutting tool or tools, an adjustable support for regulating the height of the same, and for sustaining the post G in its vertical position, and a screw clamp I which takes against one of the corners of the post and forces it against the diagonal corner of the frame, to fix the horizontal position of the said post, and to firmly hold the bed-post against the action of the cutting tools.

Claim.—The described apparatus for adjusting, holding, and clamping bed-posts, whilst their previously bored holes are having the screw-threads cut therein, as explained and set forth.

No. 20,137.—Thomas Blanchard, of Boston, Mass.—*Improved Machine for Bending Wood.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim broadly what is termed "compound bending," or preventing the fibres of the wood from being distended longitudinally while being bent in the required form, for this process was formerly patented by me.

But I *claim* the particular means employed for thus bending the wood in the required form, for the special purpose mentioned, that is to say, the employment or use of the rotating mould E, with the strap G attached, in combination with the sliding pressure bar K, provided with the adjustable slide or stop H, the outer end of the strap G being attached to the bar K or box L, and the parts arranged as shown, whereby the strips N may be bent in regular or irregular curved form, with the ends adjoining each other, for the manufacture of picture and slate frames, chair bottom hoops, and similar articles.

No. 19,867.—Franz Noette, of Brooklyn, New York.—*Improved Machine for Splitting Wood.*—Patent dated April 6, 1858.—This invention consists in the employment of an intermittingly rotating table and plunger provided with cutters arranged in a peculiar way, the above parts being combined and arranged, whereby wood that is sawed into proper lengths may be split into kindling wood with great facility.

Claim.—The intermittingly rotating table or bed D, in combination with the vertical reciprocating cutter shaft F, arranged to operate substantially as and for the purpose set forth.

No. 19,538.—Heman A. Barnard, of Moline, Illinois.—*Improved Method of Bending Several Pieces of Wood of Unequal Lengths at Once.*—Patent dated March 9, 1858.—This improvement will be understood by reference to the claim and engravings.

Claim.—Combining the clamp J, or its equivalent, by which the timber is grasped and held with the strip of metal I and the bending form H, substantially as and for the purpose set forth.

No. 20,016.—Amos H. Boyd, of Saco, Maine, assignor to Samuel F. Chase, of said Saco.—*Improved Machine for Making Dowel Pins.*—Patent dated April 20, 1858.—The nature of this invention consists in the arrangement of gangs of two or more circular saws, in combination with a clamp carriage, or bed piece, for the purpose of holding and splitting a board or flat piece of wood into strips, and cross cutting the strips into shorter pieces, the wood or board pieces being held firmly and safely in the clamp carriage after as well as before it is divided.

The inventor says: I *claim*, first, the slotted clamp carriage or bed piece, in combination with a gang of two or more circular saws for splitting or cutting off wood, substantially as specified.

Second. The arrangement and adaptation of said circular cutters, in combination with said clamp carriages and circular saws, substantially as specified for the purpose specified.

No. 21,961.—W. O. Hickok, of Harrisburg, Pennsylvania.—*Improved Die for Cutting Wooden Screws.*—Patent dated November 2, 1858.—This invention consists in making a sectional follower-thread immediately in rear of the first cutter, which shall have the same pitch as the thread of the die, and fill the groove as it is made by the

first cutter and so compel the cylinder of wood upon which the screw is to be cut, as it is being rotated, to advance to the second cutter within the die at the regular speed required to produce a perfectly uniform screw thereon.

The inventor says: I do not claim the arrangement of two cutters, in combination with the lower die, so as to cause the one to commence and the other to finish the groove which produces the thread upon the cylinder of wood operated upon, as this arrangement and combination is well known.

But I *claim* the reduced sectional thread K, in combination with the first cutter C, when the same is made to operate in the manner and for the purpose set forth and described.

No. 21,960.—W. O. Hickok, of Harrisburg, Pennsylvania.—*Improved Tap for Cutting Wooden Screws.*—Patent dated November 2, 1858.—This invention consists in constructing the cylindrical projection, at its cutting end, of a diameter slightly larger than the diameter of the required hole in the wood in which the screw is to be cut, and making spirally around on its outer side or periphery a series of minute threads, each of the same pitch as that of the regular, usual screw-threads of the tap.

Claim.—Making screw-threads *d d* around the outer surface or periphery of the cylindrical projection *b*, so that they shall operate in the manner and for the purpose described, the said projection *b* being made slightly larger than the hole in the wood in which the required screw is to be cut, for the purpose described.

XV.—STONE AND CLAY.

No. 22,129.—John L. Mason, of New York, N. Y.—*Improvement in Moulds for Making Bottles.*—Patent dated November 23, 1858.—By this improvement in moulds for blowing bottles, jars, &c., a screwthread is produced on the neck of the jar or bottle of a peculiar character, and which disposes the refuse portion of glass adhering to the top of the bottle-neck on leaving the mould, so that it will preserve the neck of the bottle or jar in perfect form when handling.

The inventor says: I *claim* the combination of the screw-thread with the rim *f*, and also its combination with the rim *r*, for the purposes set forth.

I also claim the combination of the grooves in the female screw of the mould with the air passages through the mould, for the purposes set forth.

I also claim the "blow-over," as described, for the purposes set forth.

No. 21,831.—Thomas R. Hartell, of Philadelphia, Pennsylvania.—*Improved Apparatus for Making Glass Stoppers for Bottles, &c.*—Patent dated October 19, 1858.—This invention consists in a certain combination of a hollow block or die with vertical recesses, a spindle and disk with a groove for operating a system of radial punches; the whole being arranged for joint action so as to form glass stoppers.

Claim.—The block or die C, with its vertical recesses, in combination with the spindle D, its grooved disk *d*, and the radial punches *a a*, when the whole are arranged for joint operation substantially as and for the purpose set forth.

No. 21,774.—James Ostrander and Jonas S. Heartt, of Troy, New York.—*Improvement in Manufacture of Fire-Bricks.*—Patent dated October 12, 1858.—The claim will give the reader an idea of the nature of this invention.

Claim.—The manufacturing of fire-bricks, tiles, or blocks of a composition consisting essentially of pulverized steatite or soapstone, raw fire-clay, (with or without kaolin,) and fire-sand or ground "biscuit," or both, the ingredients being mixed in the ratio specified, or in any other available proportions, as set forth.

No. 20,146.—John W. Crary, of New Orleans, Louisiana.—*Improved Brick Kilns.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the peculiar arrangement and manner described of constructing the furnaces so that, by means of the arches B B placed as specified, and constructed of brick or other argillaceous substance, intermediate supports of grates or otherwise for the fuel are rendered unnecessary.

Second. The peculiar arrangement of auxiliary ash-pits or air chambers C^1 with main air chambers or ash-pits C and arches D^1 D^1, formed by setting the brick zigzag and alternately diagonal, as specified, for the purpose set forth.

Third. The specified manner of constructing the brick arches D^1 D^1, when the bricks are "set" as specified, so that the horizontal area of their interior chamber shall be greater than that of the throat of the furnaces, for the purposes set forth.

Fourth. The specified zigzag and alternately diagonal setting of the brick throughout the kiln, for the purpose set forth.

Fifth. The specified arrangement and construction of auxiliary end arches and furnaces, in combination with the main side arches, for the purposes set forth.

Sixth. The specified arrangement of vertical flues and horizontal passages in the wall, in combination with the partly open top and the furnaces, for the purpose set forth.

No. 19,236.—Charles Carnell, of Philadelphia, Pa.—*Improvement in Brick Machines.*—Patent dated February 2, 1858.—The nature of this improvement will be understood from the claim and engravings.

The inventor says: I *claim*, first, the piece F in two divisions composed of three plates, and the friction pins arranged alternately in

combination with the levers M and M[1] and adjustable lugs N and N[1], so as to give M M[1] any requisite amount of motion.

Second. I claim, in combination with the feeding device X X[1], the slip clutch 2 and the forked rod 6, the whole constructed and operating as and for the purposes set forth.

Third. I claim, in combination with the feeding device X X[1] and carriage U, the guide 19 and revolving table 18, for receiving the filled moulds from said carriage and delivering them at the side of the machine; the whole being constructed and operated in the manner set forth and described.

No. 19,366.—George O. Houck and Henry Gore, of Springfield, Ohio.—*Improvements in Brick Machines.*—Patent dated February 16, 1858.—This invention consists in a novel device connected with the pressing mechanism, whereby this mechanism may be rendered inoperative while the tempering device is in operation. It also consists in the peculiar means employed for presenting the moulds G to the press-boxes and for cutting off the excess of clay.

The inventors say: We *claim*, first, the boxes or followers F F, applied to or fitted on the ends *c c* of the frame E and connected thereto, substantially as shown for the purpose set forth.

Second. The hinged plates or shelves *e*, which receive the moulds attached to the frame A, as shown and used in connexion with the stationary frames M and sliding frames H, provided with the wires *g*; the whole being arranged to operate as and for the purpose set forth.

Third. The sliding frames H, provided with the wires *g*, or their equivalents, and connected with the springs *t* in connexion with the spring catches I, the above parts being arranged so as to be operated automatically from the reciprocating follower frame E, substantially as and for the purpose specified.

Fourth. The strips or ledges *h* placed within the box B, substantially as and for the purpose set forth.

No. 19,470.—Daniel Lombard, of Boston, Mass., assignor to Himself and George F. Richardson, of said Boston.—*Improvements in Brick Machines.*—Patent dated February 23, 1858.—In the operation of the machine the hopper B is charged with wet clay. The mixers D D break it up and reduce it to a proper consistency. The moulding wheel forces it forward under the gauge, which, by its resistance and inclined under surface, causes the clay to pass the moulds and depress the pistons in case their own weight should not cause them to descend in the matrices. In passing under the condensing roller the clay is rolled into and forced into the moulds. The scraper next operates to reduce to a plane surface the rolled surface projecting from each mould.

The inventor says: I *claim* combining with the brick-making machinery a means of heating the condensihg roller F, as described.

I also claim the combination of the gauge E, constructed as described, the scraper G, and the condensing roller F, with the hopper, B, the moulding wheel C, and mixers D D, the whole being arranged as and for the purpose specified.

No. 19,792.—J. L. Ransom, of Charleston, S. C.—*Improved Brick Machine.*—Patent dated March 30, 1858.—When the box B is supplied with tempered clay and a mould Q placed on the bar L, the bar is elevated by turning down the upper end of lever P, and the mould Q is forced upward directly in front of the grating F. The lever E is then actuated, which forces forward the follower C, and the clay is forced through the grating F into the mould Q. The scraper G smoothes off the face sides of the moulds, removing all superfluous clay.

The inventor says: I *claim* the box B, provided with the follower C, in combination with the roller frame I, feeding-bar L, and scraper G, when the whole are arranged relatively with each other, so as to operate substantially as and for the purpose set forth.

I also claim the adjustable roller *i*, arranged as shown, and operated by means of the cams *l* on shaft J, substantially as and for the purpose set forth.

No. 20,109.—J. Z. A. Wagner, of Philadelphia, Pennsylvania.—*Improved Brick Machine*—Patent dated April 27, 1858.—This invention consists in the employment of two wheels, the peripheries of which are notched or recessed in such a way as to form, as the wheels rotate and the projections formed by the notches come in contact, rectangular chambers or moulds, into which the clay is compressed by the rotation of the wheels which work through the lower part of a hopper in which the clay is pressed.

The inventor says: I *claim*, first, moulding and pressing bricks by means of the two rotating wheels C C[1] and hopper H, or its equivalent, the wheels having their peripheries notched or recessed as shown, so as to operate substantially as and for the purpose set forth.

Second. Having the hopper H formed of two parts and arranged substantially as shown in connexion with the plates I I[1], so that the sides of the hopper and the plates may be adjusted to the wheels to prevent the escape of clay between their ends and the sides of the hopper and plates.

Third. Pin L, operated from the wheel J by the rod K, with its wedge *a* and spring *l*, substantially as shown, where said pin is used in connexion with the moulding and pressing wheels C C[1] and hopper H, or its equivalent, substantially as and for the purpose set forth.

No. 20,107.—Stephen Ustick, of Philadelphia, Pennsylvania.—*Improvement in Brick Machines.*—Patent dated April 27, 1858.—This invention is an improvement on the machine patented by the same inventor June 7, 1857, and September 8, 1857, and consists in the peculiar construction of the clay charger and parts attached to the same, and of the lower piston and parts connected with it, by which the mould is filled deeper along its sides and ends than in the main area of the same; also in a peculiar construction of the piston facings, by which they are expanded readily to compensate for the wearing of their edges, and a novel device for regulating the depth of the clay in the condensing mould, and at pleasure cutting off the communication between it and the hopper.

The inventor says: I *claim*, first, the combination and arrangement of the filling box E^2, scraper E^3, and guides b^1 b^1, or their equivalent, as an improvement on the filling box E^2 in the machine for which letters patent were granted to me on September 8, 1857, when said parts are constructed and arranged to operate substantially as described.

Second. The piston K and plunger K^3 combined and arranged to operate in the manner and for the purposes set forth, the plunger K^3 being operated by the spring K or its equivalent.

Third. The grooves l^1 in the facing l of the piston K^1, and the grooves m^1 in the facing m of the plunger K^3, constructed substantially as described for the purposes above stated.

Fourth. The curved piece U in combination with the segmental piece v and pin n, arranged as described.

No. 20,594.—George L. Smull, of Meadville, Pennsylvania.—*Improvement in Brick Machines.*—Patent dated June 15, 1858.—The clay is put into the hopper E, and in this hopper is hung a shaft L with flanges on its lower end constructed in the form of the flanges of a screw propeller; on the upper end of this shaft is a pinion wheel k hung loosely and made to revolve like the pinion G by means of a pawl 1, and a catch in the upper surface of the wheel like 12. The wheel K is made to revolve on the shaft L in an opposite direction from x by placing the pawl and catch in a reverse position from G, so that the shaft L revolves while the wheel C is standing still, and as there is a mould under E at this time, the clay is forced into it by the flanges at the end of the shaft L, and is filled ready for use.

The inventor says: I *claim*, first, the moulding wheel C in combination with the press V, toggle joint P, and the incline plane O, for operating the followers U U, when these several parts are constructed, arranged, and operated as described, and for the purposes set forth.

Second. I claim the hooks S, constructed as described, and operated by the crank J for operating through the rod R the toggle joint P, in the manner and for the purpose set forth.

Third. I claim the half wheel I in combination with the pinions H and G, cranks n and m, and connecting rod 11, for giving intermittent motion to the moulding wheel C, when the several parts are constructed, arranged, and operated as and for the purposes described.

No. 20,536.—Gerard Bancker, of New York, N. Y.—*Improvement in Brick Machines.*—Patent dated June 15, 1858.—W is a hopper, into which the pulverized clay is put for delivering it to the reciprocating feed-box X. This feed-box X is secured in suitable guide-ways upon the frame A, so that its lower surface is on a level with the upper surface of the moulding plate C. Attached to the upper back edge of the feed-box is a flange Y, and a similar one Y^2 attached to the lower front edge of it.

The inventor says: First. I *claim* the use of the flanges Y and Y^2 in combination with the feed-box X, and rotating moulding plate C, or equivalents, substantially as described and for the purposes set forth.

Second. I also claim the use of the air-expeller piston Z in combination with the rotating moulding plate C and the flange Y^2, or equivalents, actuated simultaneously with the feed-box, for the purpose substantially as described.

Third. I also claim, in combination with the rotating plate C, the reciprocating feed-box X, having the flanges Y and Y^2 attached thereto, the bell crank f^2, pin k^2, on the cam a^2, when these several parts are constructed and operated in the manner and for the purposes set forth.

No. 20,612.—Francis Allen, of Boston, Mass.—*Improvement in Brick Machines.*—Patent dated June 22, 1858.—Directly under the hopper B is an endless mould carrier C, constructed of a series of sections or boards a a a, hinged together and supported by two drums D D and sets of friction rollers E E E. Each of the sections is made of a length sufficient to give support to two moulds when placed on it, as M M^1, fig. 1. The prismatic drum N is for the purpose of striking the clay off the mould. Over the striker N is a clearer or board O, which is arranged in such manner as to clear or scrape each edge of the prismatic striker during the revolution of the striker.

The inventor says: I do not claim the use of a single bar or striker.

But I *claim* the combination of the prismatic striker N and its edge clearer O with the hopper B and the mould carrier C, when the several parts are constructed and arranged as described.

I also claim the application of the mould joint coverer or bar G to the discharging passage of the hopper B, and so as to cover the joint between the two abutting ends of two moulds M M^1, as specified.

I also claim the arrangement of each mould directly over a joint between two sections a a of the mould carrier, and so as to cover and protect the said joint in combination with the projection and recess, or the equivalent thereof applied to the mould and the carrier, and to operate substantially as specified.

No. 21,025.—S. C. Salisbury, of Milwaukie, Wis.—*Improvement in Brick Machines.*—Patent dated July 27, 1858.—This invention consists in certain improvements in making brick and pottery by machinery.

The inventor says: I *claim* the large cylinder M in combination with a series of small cylinders I, spring guard plates a^1 a^1, and die box a^2, the whole being arranged and operating as set forth.

I claim cutting the bricks of the required lengths from the continuously moving body of clay, by means of the double knife passing through the forming die, in the manner set forth.

No. 21,186.—J. W. Crary, of New Orleans, La.—*Improvement in Brick Machines.*—Patent dated August 17, 1858.—The nature of this invention consists, first, in the combination of an annular rim or concave moulding surface, with a roller or concave pressing surface, so that the bricks are moulded by pressure operating to the circumference, and discharged in a direction toward the axis of said concave moulding surface.

Second. In arranging a pug mill for the preparation of the dry clay,

to work in connexion with the first feature of this invention by means of gearing.

The inventor says: I *claim*, first, the combination of an annular rim or concave moulding surface with a roller or convex pressing surface, so that the bricks are moulded by pressure operating toward the circumference, and discharged in a direction toward the axis of said concave moulding surface, substantially as and for the purposes set forth.

Second. Arranging a pug mill for the preparation of the dry clay, to work in connexion with said first feature of my invention by means of the gearing described, substantially as and for the purposes set forth.

No. 21,458.—Henry White, of Cleveland, Ohio.—*Improvement in Brick Machines.*—Patent dated September 7, 1858.—The following is the mode of operating this machine: The clay having been properly prepared in the usual way, care having been taken to remove the stones, and the clay or pug having become sufficiently dry to break up into fragments under a rake, is thrown into the grate, through which it falls into the buckets of the elevator, and is carried up and thrown into the chute U, and thus through the hoppers and feed-box into the mould, where it is pressed by the combined action of cams 1 and 2, both from the upper and under side; the upper plunger is intended to press the clay into the mould, but not to a definite thickness; while the process of pressing the brick is being performed, all the other parts of the machine are at rest, or nearly so. The brick being pressed, and the upper plunger raised about two inches, and the feed-box raised, the plane is made to pass over the top of the mould and cut away all surplus clay; then the mould is spread and the brick raised above the top thereof, and carried off on the endless apron.

The inventor says: I *claim*, first, the bevelled joints of the mould, as arranged and for the purpose specified.

I also claim the mechanism, as described, when relatively arranged and combined in its several parts, as set forth and for the purposes specified.

No. 21,545.—John Booth, of Mobile, Alabama.—*Improvement in Brick Machines.*—Patent dated September 21, 1858.—The operation of the machine is as follows: The clay in its crude state is received into the chamber B, where it is subjected to the action of inclined blade F, which tempers and forces it through the perforations *t* into the chamber C. Shaft D being revolved in direction of arrow, cam S secured to the shaft acts upon the projection *n*, and causes the mould I^1 to be brought in position as shown in engraving, fig. 2. When the mould filler K forces the clay through the openings *l* in the bottom of chamber C into the mould and completely fills it, causes it to be compact and removes the surplus clay. The mould is then withdrawn by the action of cam S upon the projection n^1 and platform O^1.

Claim.—The chambers B and C separated by the perforated floor *a*, in combination with the spring blade F, scraper K, and reciprocating mould carriage H, all constructed, arranged, and operating substantially as and for the purpose set forth.

No. 21,888.—John Kutts, of Philadelphia, Pennsylvania.—*Improvement in Brick Machines.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the main cylinder F when constructed and arranged in the manner and for the purpose specified—that is to say, with the stationary hollow axis with the beam or truss J through the same, the eccentric collar H, piston G, with its knuckle joint and shoe K and division plates O, these several parts being constructed, arranged, and operated as and for the purposes set forth. I also claim the arrangement of the double chamber or box beam W over the cylinder F, as described, in combination with the back horizontal pistons *b* and cut-off slide *e*, propelling bars *m* and *n*, and levers *i* and *k*, all arranged for joint operation in the manner and for the purpose set forth. I also claim the compound or double levers A and B, in the box H^1 over the press beam X, when these are constructed and arranged, in connexion with the gearing or fly wheel J, substantially in the manner and for the purpose set forth. I also claim the double rimmed elevating and filling boxes T, Plate 2, Nos. 9, 10, and 11, when constructed as and for the purpose specified.

I also claim the pulverizers A^2 *a*, when constructed, arranged, and operated in the manner and for the purpose specified.

I also claim the fly or wing wheel for lowering the brick from one belt to another at right angles thereto, when constructed, arranged, and operated substantially as described.

No. 21,876.—Thomas Forbes, of Kansas City, Missouri.—*Improvement in Brick Machines.*—Patent dated October 26, 1858.—At one end of the mill A a cast-iron box C is attached. This box extends the whole width of the mill, and communicates with the interior of the mill by an opening or passage *c*. Within the box C a cast-iron follower D is fitted, said follower being transversely of sector or V-form, and working on a rod *d* a toothed sector E is fitted, and these sectors are connected with the follower D by a rod *e*.

In each sector E a pinion gears. These pinions F F^1 are attached to a shaft G, and to the pinion F^1 a bent bar *f* is attached, said bar being connected to a crank pinion *g* by a connecting rod H. The rod H is attached to the bar *f*, by having it fitted in a socket *h*, a pin *i* passing through the socket and rod.

Claim.—The arrangement and combination of the variable rods H with the sockets *h*, bars *f*, pinions *g* g^1, and spur wheel I, as and for the purpose shown and described.

No. 20,433.—Thomas James, of Canton, Maryland.—*Improvement in Manufacture of Brick.*—Patent dated June 1, 1858.—The nature of this invention relates to the compounding of ninety-seven parts of quartz pebbles and three parts of quick lime; the pebbles are crushed to fine gravel and mixed with the lime water; the material is placed in moulds and then burnt in a kiln.

Claim.—In the manufacture of fire-bricks or tiles compounded of the ingredients described, the described process of heating or burning to convert said ingredients into a substantial fire-brick or tile.

No. 19,309.—A. J. Mullen & Robert Hall, of Greensboro', Ala.—*Improved Mode of Burning Bricks.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and illustrations.

Claim.—We claim the construction of a brick kiln with an inclined bottom *a* leading to the drawing pit, when used in combination with the irregular setting of the brick in the kiln, as set forth.

No. 22,119.—James A Hamer, of Reading, Pa.—*Improvement in Brick Moulds.*—Patent dated November 23, 1858.—C C are two crank rods with a number of cranks upon each rod corresponding with the number of moulds in the frame or box. Said crank rods are also provided with a number of journals or bearings, corresponding with the partitions or divisions of the frame to which they are secured by means of the cap pieces D; the said journals are made eccentric with the body of the rods in order to let the cap pieces in level with the surface of the same, and at the same time allow as much strength as possible to them. The crank rods are thus secured to the partitions or divisions in such a manner that they may turn freely from a horizontal to nearly a vertical position.

Claim.—The two crank rods or their equivalents, as connected with the followers and secured to the frame, and as operated upon by the hand piece; the whole being arranged and combined and operated substantially as set forth.

No. 21,419.—Thomas Hoadley, of Cleveland, Ohio.—*Improvement in Machines for Moulding Clay.*—Patent dated September 7, 1858.—The object of this invention is to mould the clay so that it will be of equal density throughout each part or portion of the clay as the process of moulding is carried on, being subjected to an equal ramming, so that when the articles are moulded they will be perfectly free from air-cells, more compact than usual, and consequently more durable and less liable to leak on account of porosity, and also less liable to fracture in baking.

Claim.—The inventor says: I do not claim broadly the employment or use of rammers operated by wipers or lappets, for such device is well known and in common use.

But I claim the rotating mould D and rods or rammers O, in connexion with the rammer elevating plate Q, arranged for joint operation as and for the purpose set forth.

I also claim the guides P P, one or more, attached to the shaft F, and used in connexion with the elastic bands *m* on the rammers, for the purpose set forth.

No. 21,506.—Henry Leguay, of St. Louis, Mo.—*Improvement in Machines for Working Clay.*—Patent dated September 14, 1858.—The nature of this invention consists in making openings and valves in the spaces between the teeth of one or both of the grinding or crushing gears, so that the teeth of one wheel will force the clay or substance ground through said openings into the hollow space in the interior of the other wheel with sufficient pressure to force the substance ground out through

the moulding or forming apparatus applied to the other side of the wheel, either with or without the aid of a screw o- carrier in the moulding tube. Also in a cutting apparatus arranged and applied so that it may be operated automatically by the machine or by hand to separate the substance moulded into parts as desired to make brick or other articles.

The inventor says: I *claim* as my invention, in mills or grinding gears for grinding clay or other substances, making openings and valves, substantially as described, in the spaces between the teeth in one or both gears to receive and hold the clay or substance ground, substantially as described.

I also claim, in combination with the grinding gears, the moulding tube, when these parts are constructed and arranged for joint operation, substantially as described.

No. 22,450.—James Pilgrim, of New Britain, Conn.—*Improvement in Cores for Moulding Plastic Substances.*—Patent dated December 28, 1858.—This invention consists in the formation of cores for moulding in plastic clay, cement, and other similar substances of India-rubber, or other equivalent material, and in such manner that they may be inflated and allowed to collapse for extraction from the moulded form, as described.

Claim.—Constructing cores for moulding in plastic clay, cement, or other like substances of India-rubber or equivalent material, so that they may be inflated and collapsed, substantially as described.

No. 22,091.—Samuel S. Shinn, of Lancaster, N. Y.—*Improved Mould for Glass Bottles.*—Patent dated November 16, 1858.—This invention consists in constructing the moulds in which the glass bottles are blown partly of clay, plaster of Paris, or other of the earthy matters commonly employed for the purpose, and partly of metal, by which the advantages of the two materials are combined in such a manner as to make a mould superior to one made entirely of either material, like the moulds commonly used.

Claim.—The mould constructed with its stationary portion A of clay, plaster, or material of similar character, clamped between plates B C and the opening portions E E of metal hinged to the upper clamping plate C, substantially as and for the purpose set forth.

No. 22,393.—Ezra Wells, of Covington, Pennsylvania.—*Improvement in Manufacture of Glass Furnaces and Pots.*—Patent dated December 21, 1858.—This invention consists of an improvement in the art of making pots and furnaces, to be employed in the manufacture of glass and glassware, by the use of black American clay.

The clay is prepared by grinding it very fine and then sifting it through a fine sieve. Thus prepared the clay is mixed with water into a paste hard enough to handle. This paste is then thoroughly trodden twice a day for two weeks, when it is fitted for working into pots or into blocks for making furnaces.

Claim.—A new article of manufacture, namely, pots and furnaces

made of the black American clay, for use in manufacturing glass and glassware, substantially as set forth for the purposes described.

No. 19,569.—Alexander Lindsay, of Malone, New York.—*Improvement in Machinery for Polishing Glass, &c.*—Patent dated March 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I do not claim producing a simple rotary motion of grinders or polishers, or the surfaces to be ground or polished by the friction produced by the rotation of the opposed surface or surfaces.

But I *claim* the arrangement of the grinders or polishers, substantially as specified, whereby they are caused to derive a compound rotary motion such as is specified, by the friction produced upon them by the rotary motion of the surface or surfaces to be ground or polished, or, what is equivalent, the reverse arrangement by which the surface or surfaces to be ground or polished are caused to derive similar compound rotary motion by the friction produced by a rotary motion of the grinding or polishing surface.

No. 19,023.—H. R Fell, of Texas, Maryland.—*Improvement in Lime Kilns.*—Patent dated January 5, 1858.—A represents a kiln constructed with a circular central chamber B suitable for burning limestone and coal together. The basin *a* of this central chamber is similar in form to an inverted cone, and has a discharge opening C through which the manufactured lime discharges; D D represent the air chambers; they are constructed in the building of the wall of the stack, and present in their horizontal section an annular space a^1 intermediately between the inner and outer surfaces of the kiln. The chamber D is double the depth of the air chamber D^1, and has two internal inlet passages a^2 a^2, while D^1 only has one *b*.

Claim.—The peculiarly constructed air chambers D D^1, intermediate between the inner and outer surfaces of the wall of the kiln, and arranged as described, for the purposes set forth.

No. 19,525.—Abner B. Weeks, of Rockland, Maine.—*Improvement in Lime Kilns.*—Patent dated March 2, 1858 —This invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim any of the devices shown in the patent of Aaron Jeffries, dated April 21, 1857; nor any of those shown in the patent of Isaac Richardson, dated February 21, 1840.

Nor do I claim a single stack, having at its top a single mouth of discharge, and at its bottom or lower part a wall to extend above such bottom about one-third the height of the stack, the same being as shown in Hebert's Cyclopædia, vol. 2, page 16.

But I *claim* my improved arrangement of a single hopper with respect to two separate stacks, such being placed at or over their upper ends, and so as to flare and increase in width from them upward and communicate with them, as represented and described.

I also claim arranging air or cooling passages horizontally, or with the inclinations as described, under broad, flat hearths of any suitable material, in the manner and for the purpose as set forth, and in combination and connexion with the furnace of a lime kiln, by means of pipes or passages constructed and relatively arranged as specified.

No. 20,015 —Bernard Zwart, of Keokuk, Iowa.—*Improvement in Lime Kilns.*—Patent dated April 20, 1858 —In this improved kiln the stone is placed in an oblique vertical stack, to which the flame and gaseous products of the fuel are admitted from the fire chambers below, placed in the centre of the kiln.

The inventor says: I *claim* the construction of a division wall B. in combination with the two adjoining fire-places E and walls g^1, to secure the even burning of both sides when desired.

I claim the combination of the solid spherical triangle I, in connexion with the form of the canals from R down to K, for the uses and purposes as above more fully described.

I claim the particular construction of the hot air conductors X, in combination with the division wall B, and in combination with the draught flues *y*, to procure the horizontal draught of hot air, and make the same serviceable, so as to act direct on the limestone in the manner and for the uses as fully described.

No. 20,549.—George W. Calkins and Henry White, of Cleveland, Ohio.—*Improvement in Lime Kilns.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We do not claim any of the parts separately.

But we *claim* the arrangement of a lime-kiln, or parts of a lime kiln, as described, that is to say, the arrangement of the furnaces F^1 and F, provided with the diagonal mouths G G^1 G^2, in combination with the dampers H H^1, and K, the ash pits O, the cold blast aperture P, the flue J, and a hinge chute draw D, when the several parts are constructed and arranged with relation to each other as described, and operating in the manner and for the purpose set forth.

No. 22,239.—Clark D. Page, of Rochester, N. Y.—*Improvement in Lime Kilns.*—Patent dated December 7, 1858.—The nature of this invention consists in so constructing the cupola and arranging the flues that a portion of the flame and hot gases arising from the combustion of the fuel will be deflected towards the centre, thus causing the limestone to become equally heated.

Claim.—The construction of the cupola with the sectional form shown in fig. 2, combined with the arrangement of the flues E E F F F, substantially as described.

No. 20,458.—Caleb Warner, of Washington, D. C.—*Improvement in Machines for Working Marble.*—Patent dated June 1, 1858.—The object of this improvement is to overcome the difficulty of working or turning marble or other hard stone as a piece of wood is turned in a lathe, and consists of such an arrangement of mechanism that, in the production of articles with angular sides or corners, the arris may be formed and preserved.

Claim.—The arrangement of the saws *f f*, bevel gearing *a a*^{1}, and feed screws *b b*, when employed in combination with a lathe consisting of head-blocks *g g*, pulleys *h h*, substantially as described, for the purpose of facilitating the working of marble or other hard stone, in the manner and for the purpose set forth.

No. 21,622.—James Norman and Aaron R. McLean, of West Dresden, N. Y.—*Improvement in Machines for Sawing Marble, Stone, &c.*—Patent dated September 28, 1858.—In using this machine the stone to be cut is placed securely in the carriage, and the motive power applied to the wheels, putting them in motion to drive the saw S; the sand and water are then applied in the usual manner. To give direction to the cut of the saw, the operator turns the hand wheels K^1 and L^1, by which any irregular or regular line may be sawed. As the line varies from a perpendicular, Q is used for rotating the stone to the desired position, which is in a perpendicular form.

Claim.—The carriage as constructed of the parts E E^1 and F F^1, with the means of holding and adjusting the same, and for holding and adjusting the stone thereon, in combination with the endless saw, when the several parts are constructed and arranged substantially in the manner and for the purpose set forth.

No. 19,194.—James A. Hamer, of Reading, Pennsylvania.—*Improvement in Pug Mills.*—Patent dated January 26, 1858.—Motion is applied to resisting plungers by means of arms P P, which are furnished with rollers R R in the end, secured to shaft K, which is supported on frames B B by means of bearings S S; the resisting plungers are provided with brackets T T, which form pockets to receive the ends of vibrating beam U, supported on frame-work V, which forms guides for the plungers, and is secured to frame B B; the arms P P on shaft K are set opposite each other, and, in revolving, catch on the ends of brackets T T, which withdraws one plunger and one end of the beam U, and forces the other into the hopper; while one is withdrawn, the thread of the screw passes the point Z, and the other plunger enters.

The inventor says: I am aware that screws of different kinds have been used for tempering and carrying clay into brick machines; I therefore do not claim the screws separately.

But I *claim* the arresting plungers or their equivalent, in combination with the screw, the whole being constructed and arranged for operation in the manner and for the purpose set forth.

No. 19,407.—Elijah Brady, of New York, N. Y.—*Stone Dressing Machine.*—Patent dated February 23, 1858.—The machine is operated as follows: The stones Z are secured to the platforms K, which are raised to such a height as the size of the stones require by means of screws L; the tool stocks E are brought in such a position that the tools are in line with the outer edges of the two stones, and the machine is started. By the action of the screws S the tools will be made to travel over the surfaces; one of the tools will work in one direction, while the other works in the other direction.

Claim.—The arrangement and combination, as shown and described, of the two adjustable platforms K with the self-adjusting tool stocks E, for the purposes specified.

No. 22,113.—A. C. Ellithorpe and Ives Scoville, of Chicago, Illinois.—*Improvement in Machines for Breaking Stones for Ballasting Railroads and Turnpikes.*—Patent dated November 23, 1858.—The nature of this invention consists in constructing the cracking cylinders A B of a solid central core or base C and of a sectional outer shell D, the sections of the solid shell being fastened together by tongues and grooves *a b*, and the outer surface of the shell dressed with stone-cracking teeth E, which are set in rows running parallel longitudinally, and diagonal transversely to the axis of the cylinder, and which are shaped similar to one-half of a pyramid, which is cut vertically through its centre in a line parallel with one of its sides, or so that the front or cracking sides *c* are flat, or at right angles to the axis of the cylinder, while their transverse and rear sides *d e f* are similar to the sides of the pyramid, with the exception that the rear sides *d* take the form of a quadrant of a circle as they rise to the apex or point of the teeth.

Claim.—The cylinders A B, constructed with a solid base C and sectional shell D, when the said shell is made in segments and dove-tailed and secured together, and dressed with teeth shaped and set as described, and when the said cylinders are used for breaking stone for macadamizing or ballasting railroads, &c., substantially as set forth.

No. 21,539.—Eleazer B. Knight, of Malden, N. Y., assignor to Himself and Nathan Kellogg, of said Malden.—*Improvement in Stone-Holding Machines.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, a box or holder, detachable from its guiding or supporting frame, and provided with sets and means as recited for holding stones or other substances to be operated upon in being rubbed or ground, and which can be adjusted to plain or bevelled edges, and for angular pieces, as described.

Second. I claim the angular guides or standards, as arranged for keeping the box or holder in its proper position in relation to the rubbing bed.

Third. I also claim the adjustable rests or supports A for keeping the box or holder at any point desired, as set forth.

No. 20,542.—Eli W. Blake, of New Haven, Conn.—*Improvement in Machines for Crushing Stones.*—Patent dated June 15, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the combination of the following features in the construction, arrangement, and movement of the jaws A B, to wit:

First. Making the acting faces of the jaws upright, or so nearly so that stones will descend by their own gravity between them.

Second. Making the acting faces of the jaws convergent in such manner that while the space between them at the top is sufficient to receive the stones that are to be broken, that at the bottom shall be only sufficient to allow the fragments to pass when broken to the required size.

Third. Giving a short vibratory movement to the movable jaw.

I disclaim the above three features severally, and limit my claim to their joint co-operation, as described, in a machine for breaking stones or other hard substances.

No. 21,742.—William Cooper, of Mount Gilead, Ohio.—*Improvement in Machines for Dressing Stone.*—Patent dated October 12, 1858.—The operator sits upon the machine, and while he operates the picks with one hand, he can with the other move the slide bars E E^1 forward when necessary, thus making the picks to progress to unpicked portions of the stone. Furrows may be made with this machine, or the stone may be dressed level, and any number of picks may be used that the capacity of the machine will allow of, or all may be removed but one.

Claim.—The arrangement of the picks A A, screw *a a*, springs *c c*, and shaft D, with the adjustable carriage E, ratchet wheels *m n o*, and ratchet F, the same being constructed, combined, and operated in the manner and for the purpose specified.

No. 20,885.—John H. Lyon, of Baltimore, Md.—*Improvement in Machines for Drilling and Splitting Stone.*—Patent dated July 13, 1858.—The nature of this invention consists in a new method of drilling a slab of stone and afterwards drilling it into blocks for paving and other purposes.

In the engravings, A is the frame of the machine; B the space in which the slab is placed; C the drill-stock; D the drills; E the slug attached to the drills; F the ropes or chains for raising and lowering the drill-stock; G the pulleys over which the ropes F pass; H the windlass around which the ropes are wound; I the worm-shaft driving the wheels *a a a;* and J the spring pawl working ratchet wheel K.

Claim.—The hammer stock M and hammers N, arranged and operated as described, in combination with the drills D and removable slugs E, for drilling and splitting blocks of stone; the whole being constructed and arranged for joint operation in the manner and for the purposes set forth.

No. 20,981.—Horace L. Arnold, of Elkhorn, Wis.—*Improvement in Stone-Sawing Machines.*—Patent dated July 27, 1858.—This invention consists of a peculiar arrangement of means for giving a lateral feed movement to reciprocating saws while they are being operated, and also in the peculiar manner of arranging the saws in connexion with their frames, the whole being so arranged whereby stone or marble blocks may be sawn with either curved or taper sides, with

parallel sides, or sides of irregular form, such as are used for monuments, fence posts, &c.

The inventor says: I do not claim the employment or use of screws *h* h^1 for giving saws a lateral movement, for they have been previously used.

But I *claim* the particular means employed for operating the screws *h* h^1 to wit: the rack J and pinion *a*, gearing u^1, rack shaft H, rack n^1, and the wheel o^1, pawl I, and pinion p^1 placed on the shaft F; the whole being arranged to operate as set forth.

I also claim, in combination with the above, the racks m^1 g^1, attached respectively to the collar l^1 and shaft G, and used in connexion with the pinion h^2 and pattern K, for the purpose specified.

I further claim the plates *j*, provided with inclined planes *q*, and having rods *k* and slotted bars *t* attached, which bars are connected with adjustable arm c^1, whereby the saws are tilted or slightly raised at the termination of each stroke of the frame, and the saws also inclined as occasion may require, substantially as described and for the purpose set forth.

XVI.—LEATHER, ETC.

No. 20,434.—Robert Jancovins, of Newark, N. J.—*Improved Self-adjusting and Vibrating Back-Band Strap.*—Patent dated June 1, 1858.—The nature of this invention consists in attaching the saddle to the shaft by means of the peculiar construction of the vibrating sector B, having a curved groove or slot F, through which is the pin D^1, connected with the pointed back support D, and working on the centre bolt C, causing an easy movement of the back band strap on the saddle.

The inventor says: I do not claim broadly the joints, hinges, or chain links L.

But I *claim* the peculiar construction of the vibrating sector B, provided with the slot F, the pointed back support D, with the pin D^1 attached; the whole in connexion with the several joints, hinges, and link L, or their equivalents, for the object and purposes set forth and described in the specification.

No. 22,102.—Isaac Rich, of Manchester, Conn., assignor to Samuel C. Arnold, of said Manchester.—*Improved Instrument for Trimming the Edges of Boot and Shoe Soles.*—Patent dated November 16, 1858.—The nature of this improvement consists in constructing a cutting instrument in such a manner as that a boot or shoe sole may be trimmed with more or less projection, true with the form of the boot or shoe, and will also avoid the liability of otherwise entering the upper leather.

Claim.—The described instrument for trimming the soles of boots and shoes, consisting of the handle A, guard B, knife C, and sliding gauge D.

No. 22,095.—Daniel J. Tapley, of Danvers Centre, Mass.—*Improvement in Machine for Moulding Boot and Shoe Soles.*—Patent dated November 16, 1858.—The object of this invention is to produce a machine for moulding or shaping soles for shoes, by which a workman can conveniently and rapidly mould or shape his soles every day, and one at a time, so that they may always be in proper season to work; and at the same time a machine which shall be compact, simple, and cheap.

The inventor says: I do not claim pressing soles between a concave and convex former, in order to shape them to the last, as that is old; nor do I claim any one particular part of the machine independently of its combination.

But I *claim*, first, providing, substantially as described, the lower former B with a socket C to receive the upper end of the wooden standard D, and also with projecting ears *b b* to guide the rods F F and holes *e e* in the back flange, to admit screws for confining the machine to a bench or the side of a shop.

Second. The combination of the spring H, lever G, and connecting guide rod F F with the upper former A, substantially as set forth, and for the object specified.

No. 20,992.—John Dick, of New York, N. Y.—*Improved Method of Cutting Boot Fronts.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that boot fronts have been made without crimping, by being made of more than one piece of leather or other material; and I do not therefore claim making a boot front which can be used without being crimped.

But I *claim* cutting a boot front out of a single piece of leather or other material to the form described, or to any other form substantially the same, whereby it can be used (in making the same into a boot) without undergoing the operation of crimping, as set forth.

No 19,227.—Leonard J. Worden, of Utica, N. Y., assignor to Himself and Edwin L. Swartwout, of said Utica.—*Improved Method of Securing Straps upon Boot Legs.*—Patent dated January 26, 1858 —The claim and engravings explain the nature of this invention.

The inventor says: I am aware that metal plates have been used for fastenings in various ways in the construction of harness, carpet-bags, book-clasps, and the like, by rivet pins cast upon the plate, or by riveting on the plate by the use of separate rivets, and that boot-straps and leather belting have been fastened by riveting the parts together by the use of separate rivets. I do not, therefore, claim any such devices.

But I *claim* the fastening of straps upon boot-legs by the use of the toothed clasp A, as I have described it, formed of a simple flat piece of sheet metal, with the points or teeth by which it is fastened punched or projected from the plate by the use of a punch, die, or other equivalent means, which, being angular in their shape and pointed, are at once a substitute for the separate nail or rivet, and capable of being driven through the leather, and easily clenched on the opposite side.

No. 22,205.—Bradford Stevens and Lorenzo Stevens, of Stoughton, Mass.—*Improvement in Crimping Boot Soles.*—Patent dated November 30, 1858.—A is a bifurcated block, having its top surface formed or curved to the form to which a boot sole is to be bent. The prongs *l b* of the fork are hollow, as seen at *c c*, to constitute a seat for the heel part of the sole and the upper leather of the boot when the sole is applied to the block.

Each of the holders consists of a jaw *d*, furnished with a notched shank *e*, which enters and slides longitudinally on a tabular supporter *f*, which at its lower end is hinged to the block.

Claim.—The said article or boot-sole crimper, made of the bifurcated and grooved block, or its equivalent, and the holders applied thereto, substantially in manner and to operate as specified.

No. 19,912.—Perez C. Clapp, of Stoughton, Mass —*Machine for Turning the Edges of Circular Boot Tops.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of the boot board J, the movable frame X Y, the slide W, and the boot form Z, for turning the edges of the circular and other shaped boot tops, in the manner set forth.

No. 19,508.—Reuben L. Lewis, of Milford, Mass.—*Improvement in Boot Trees.*—Patent dated March 2, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Combining the backs with the axial stretching rod by means of the inclined guides F and cross-heads B, or other equivalent means, so that the backs can be readily changed in the manner and for the purposes set forth.

No. 20,185.—William W. Willmott, of Boston, Mass., assignor to Himself and Henry F. Gardner, of said Boston.—*Improvement in Boot Trees.*—Patent dated May 4, 1858.—By connecting the lower ends or other proper parts of the two portions A B by a staple and hook, they are prevented from falling asunder as well as from moving out of place endwise, while the stretching mechanism may be in operation. The mode of supporting the lapping parts L M is very advantageous, for either of the parts A B may be moved with less friction than would be the case were the lapping plate to be fastened to it.

The inventor says: I *claim*, in the application of the screws the rod and toggles (or mechanical equivalents) to the front and back portions A B of the leg of a boot tree, the arrangement of the two sets of toggles as shown in the drawings, and the application thereto of the screw rod H in such manner that it may be free to move longitudinally during its rotary motions on its axis, the same being for the purpose as specified.

I also claim combining the regulator or latching mechanism N *e e* (or their equivalent) with the back and front parts A B of the leg portion of the boot tree and the separating mechanism applied thereto and made to operate therewith, substantially as described.

No. 20,914.—A. J. Wisner, of Homer, N. Y.—*Improvement in Boot Trees.*—Patent dated July 13, 1858.—The object of this invention

is to construct the boot tree so that either the upper or lower portion of the same may be forced to any desired position and kept there as long as necessary and without reference to the movement of the other parts; and also to provide the means of preventing the stretching of the boot from removing the crimp.

Claim.—The combination of shaft G, bevel wheels W W^1, screw H, nut I, screw F, and yoke *b*, with the thin shaft E and hinged sole D; the whole constructed and arranged for joint operation, substantially as and for the purpose set forth.

No. 21,424.—Jacob Jenkins, of Charlestown, Mass.—*Improved Apparatus for Applying Soles to Boots and Shoes.*—Patent dated September 7, 1858.—In operating this machine, a shoe on a last, and having a cemented sole placed against the under side of the insole, should be arranged on the top surface of the elastic bed D and directly over the sole-adjusting cavity. This being accomplished, the screw F should be turned around so as to force the bearer E down upon the shoe and the last, and cause them to be firmly pressed against the elastic bed D and into the adjusting cavity C, the elastic bed at the same time being crowded into the adjusting cavity and down upon the horizontal arms of the clamps *h h*. By continuing to depress the shoe and last, the clamps will be so caused to act as to depress the sole to its proper position on the insole, such adjustment having partially taken place by the action of the sole-adjusting cavity C.

The inventor says: I *claim* the combination of the elastic bed D and the sole-adjusting cavity or space C, arranged in a press, and so as to operate together, substantially as specified.

I also claim constructing such sole-adjusting cavity C, with adjustable sides *a a*, or adjustable ends *b b*, or both its sides and ends made adjustable, substantially as set forth.

I also claim the combination of the lever clamps *h h* with the adjusting cavity C and the elastic bed, and so as to operate therewith, substantially as described.

I also claim the combination and arrangement of the tank B with the elastic bed D and the sole-adjusting cavity C.

No. 21,564.—Jacob Jenkins, of Charlestown, Mass.—*Improved Apparatus for Applying Soles to Boots and Shoes.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim an elastic bed and a sole-adjusting cavity or space, nor do I claim constructing such sole-adjusting cavity with adjusting sides or jaws, as such have been the subjects of claim in another application for a patent which I have made.

But I *claim* the application of the rocker-jaws or jaw-holders to the elastic bed, whereby the latter, when forced downward, is made to draw the jaws towards one another in manner as explained.

I also claim the combination of the elastic cushion or sole pressure with the elastic bed A, and a mechanism for forcing the shoe down upon the said bed.

I also claim the combination of the rocker-bearer H and its screws

I I with the holding lever F or its equivalent, and to operate therewith, substantially as specified.

I also claim the contrivance shown in figs. 7, 8, and 9, and as above described, to be used in manner and for the purpose specified.

No. 20,960.—Varanes Snell, of North Bridgewater, Mass.—*Improved Heel-Shavers for Boots and Shoes*—Patent dated July 20, 1858.—This improvement consists in combining with a knife rigidly secured to the stock or handles *a* an adjustable guard *c* that can be removed from the stock at pleasure, thereby exposing the edge of the knife *b*, and permitting it to be applied to the grinder and sharpened without removing it from the handles.

Claim.—Combining with the stock and the stationary knife the adjustable guard, so arranged as to be susceptible of being removed from the said stock, as set forth.

No. 22,328.—Samuel Flint and Robert S. Rogers, of Lynn, Massachusetts, assignors to William F. Johnson, of said Lynn.—*Improvement in Heels for Boots and Shoes.*—Patent dated December 16, 1858.—The nature of this invention consists in a combination of a wooden body or heel, and an elastic or India-rubber guard applied within the heel, and so as to make a part thereof.

The inventor says: I *claim* an improved manufacture of heel made of wood and India-rubber combined, and arranged together substantially as set forth.

No. 20,936.—John Crawshaw, of Rochester, New York.—*Improvement in Machines for Cutting out the Soles of Boots and Shoes.*—Patent dated July 20, 1858.—This invention consists in a certain mode of applying and operating a pattern and a cutter, whereby a cheap, easy working, and easily managed machine is obtained.

Claim.—Combining the cutter and the pattern with each other and with the wheel D, by means of the pattern gear *m*, pinion *o*, groove *n*, tongue *r*, cutter carriage *c d e*, slot *f*, and the cutter stock E, or their equivalents; the whole being arranged to operate substantially as specified.

No. 21,593.—B. F. Sturtevant, of Boston, Massachusetts, assignor to Himselt and Elmer Townsend, of said Boston.—*Improvement in Machine for Pegging Boots and Shoes.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, causing the hammer to descend each time a peg is driven a short distance below the stationary rest, for the purpose of compressing the soles, as set forth, and of relieving the shoe from contact with the rest, that it may be fed forward, as described.

Second. The arrangement of the hammer X^2 and stationary rest H, constructed and operating as described, in connexion with the weighted lever, as set forth

Third. I claim the peculiar holder *p* for the blank, the same having several knife-edges lying in the direction of the feed, operating in the

manner set forth, to hold the last peg of the blank whilst it is being separated from the one preceding it.

Fourth. And in combination with the holder *p*, I claim the pawl A^2, operating upon several points of the blanks, in the manner set forth, for the purpose specified.

Fifth. I claim sawing off the pegs in the machine by a saw operating into and through the trough through which the pegs are fed.

Sixth. I claim the spring p^2 in the end of the trough, operating as described, for the purpose specified.

No. 19,611.—Edward S. Snell, of North Bridgewater, Massachusetts, assignor to Himself and Francis B. Washburn, of said North Bridgewater.—*Machine for Pricking and Cutting Heels of Boots and Shoes.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* the arrangement of devices described, for pricking the holes in boot and shoe heels, the same consisting of the block *g* furnished with a series of awls *h*, the plate *k*, and a pattern or bed piece *n*, upon which the heel is placed, the whole operated substantially as set forth.

In connexion with the above, I also claim the cutting apparatus, consisting of a knife so arranged upon a sliding carriage as to keep up to the pattern, and furnished with a wheel that travels on the pattern in front of the knife, to adapt the knife to short curves in heels, whereby a heel is formed and pricked accurately, as set forth.

No. 19,040.—George A. Mitchell, of Turner, Maine.—*Metal Tips for Toes of Boots and Shoes.*—Patent dated January 5, 1858.—The plate as applied to the shoe may be seen in the engravings. B represents the plate when set.

The inventor says: I am aware that in George S. McWalters's rejected application for a patent (1847) it was proposed to cover the ends of shoe lasts with metallic tips, and therefore I disclaim the application of such tips to lasts.

I *claim* a boot or shoe the toe part of which is provided with a metallic tip A, as described.

No. 19,305.—Abram T. Merwin, of New Haven, Connecticut.—*Improved Method of Attaching India-Rubber Soles to Boots and Shoes.*—Patent dated February 9, 1858.—The nature of this invention consists in so connecting, by means of a binder, an outer sole of India-rubber, gutta-percha, or other like material, with the side or edge of an inner sole, and also with the body or upper of the shoe, as that an entire surface of India-rubber or like material shall be presented on the part most exposed to wear.

Claim.—Securing a sole of India-rubber, gutta-percha, or other like material, to a shoe by means of a binder, as shown and described.

No. 21,334.—George W. Griswold, of Carbondale, Pennsylvania.—*Improved Method of Stretching Boots and Shoes.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Stretching boots or shoes from the outside, and at any part or point, without stretching other parts or points, by means of a skeleton last on the inside and a pressing apparatus, substantially such as that described, on the outside of said shoe or boot.

No. 20,510.—James H. Roome, of New York, N. Y.—*Improvement in Revolving Heels of Boots and Shoes.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the slotted or perforated slide F, bent at its forward end as described, with the hub bed shank C and notched rim plate H, arranged and operating substantially in the manner set forth.

No. 21,760.—William Johnson, of Hampstead, New Hampshire.—*Improved Tool for Chamfering Soles for Boots and Shoes.*—Patent dated October 12, 1858.—This invention has reference to a tool composed of a knife-holder A, a gauge B, a rest C, a spring-presser D, and a handle E, combined and arranged together, the knife-holder being for the purpose of receiving and carrying a shoemaker's knife F, which is placed in it with its cutting edge against the edge gauge B.

Claim.—The improved chamfering tool as constructed, with means not only of adjusting the angular position of the knife with respect to the sole rest, but the distance of the said edge at the gauge from the rest, as described.

No 22.248.—George C. Todd, of Lynn, Massachusetts.—*Improvement in Edge Keys for Boots.*—Patent dated December 7, 1858.—This invention consists in certain improvements in the construction of the edge key for which letters patent were granted to the above named inventor on the 25th of November, 1856, by which the objections to said key are remedied and a more perfect tool is produced.

The side of the shank at *a* is slightly rounded as well as bevelled. The edge of the disk C is grooved at *f*, the face or shoulder of the groove forming such an angle with the inclined surface or guard *a* of the shank B as will give the required bevel to the edge of the sole or shoe.

Claim.—The shank B, in combination with the disk C, so attached to the side of it that the angle of inclination of the disk to the shank may be varied as required, substantially as set forth.

No. 19.269.—Thomas C. Wales, of Dorchester, Massachusetts.—*Improvement in Water-Proof Gaiter Shoes and Boots.*—Patent dated February 2, 1858.—The body of the shoe, or foxing and sole, as it may be termed, does not extend entirely between the outer and inner layers of cloth, but is only connected to the inner layer or lining and to the edges of the layer, so as to permit nearly the whole outer layer to be cemented directly to the inner layer. The outer layer of cloth may be broadcloth or any fancy material, and may be of a drab or any other color, while the inner layer or lining may be of napped cloth

having a furzy or raised nap on its inner surface. The furzy nap, while it keeps the foot warm, furnishes ventilation of the shoe, or permits the moisture or perspiration of the foot to escape between its fibres.

The inventor says: I do not claim the vulcanizing process; nor do I claim making articles of cloth cemented together with rubber cement and afterwards vulcanizing them; nor do I claim making shoes partly of leather and partly of cloth, the same being made by connecting the leather and cloth together by water-proof caoutchouc cement; as such, when made partly of leather, cannot be vulcanized, owing to the fact that the great heat required in the vulcanizing process injures or destroys the leather.

I *claim* a new or improved manufacture, or water-proof vulcanized rubber and cloth gaiter shoe, made in manner and with its external layer of cloth and its lining of cloth arranged together, and with respect to the remainder or rubber parts or foxing, substantially as specified.

No. 21,889.—JOHN M. LANIER, of Eufaula Alabama.—*Improvement in Bridles to prevent Horses from Kicking or Running away.*—Patent dated October 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of two bits so arranged with two sets of reins that one bit will operate upon the lower jaw while the other operates upon the roof of the mouth and upper jaw, the same being combined and operated in the manner and for the purpose specified.

No. 22,352.—JOHN CUMBERLAND, of Mobile, Alabama, and JAMES R. MCCLINTOCK, of New York, N. Y.—*Improvement in Buckles.*—Patent dated December 21, 1858.—The nature of this invention consists in making the buckle in two parts, one of which slides upon the face of the other, attached to each other, by means of grooves or pins, in such a manner as to allow of the requisite movement of the sliding part. The sliding part is made to bite upon the strap or article to be held, by means of the pressure caused by tightening the buckle.

Claim.—The buckle or clasp composed of the parts A and B or their equivalents, substantially as described and for the purposes described.

No. 19,169.—G. W. N. YOST, of Cincinnati, Ohio.—*Improvement in Combined Horse Collar and Hames.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim —The adjusting breast yoke E, in combination with the hame bows A A, for the purpose of making the hames press directly backward and upon the fleshy portions of the shoulders, in order to enable the horse to draw with greater ease, and also for more accurately fitting different horses, and thus preventing the chafing, galling, and stiffening of the shoulders, substantially as set forth.

No. 19,846.—ELANSON D. GOULD, of Darien, New York.—*Improvement in Horse-Collar Blocks.*—Patent dated April 6, 1858.—The thick part of the block which forms the rear of the collar is shown at A,

with a score B cut from its narrowest end into about the centre. There is a groove in each side of the score B for the tongues C C of the bar D to traverse in, which bar D is fitted to traverse in the score B, and is made, as shown in the engraving, with a semi-circular head to form the top of the collar.

The inventor says: I do not claim a collar block with a base to mould the rear or belly of the collar.

But I *claim* a collar block so constructed as to shape the interior of the front of the collar, and the interior of the rear of the collar next to the front, and the interior only, and stretch them at the same time, and hold them firmly in the form required, while the rear or belly of the collar is manipulated by hand, and worked and beat into the form required with a mallet, and other suitable tools, substantially as described.

No. 21,301.—B. W. MCCLURE and GEORGE MARSH, of Pike Hollow, New York, assignors to B. W. MCCLURE and J. H. WINDSOR, of said Pike Hollow.—*Improvement in Horse Collar Blocks.*—Patent dated August 24, 1858 —The nature of this invention consists in the peculiar arrangement of the mould-block, the rim-setter, the hame-cord, and the stretcher.

Claim.—The peculiar arrangement of the mould-block B and rim-setter C, with the cord *a* and stretcher D, when the same are constructed, operated, and combined in the manner set forth and for the purposes described.

No. 21,821.—C. K. CUCKLER, of Columbus, Ohio.—*Improvement in Horse Collars.*—Patent dated October 19, 1858.—The nature of this invention consists in combining and arranging in a collar the breast and side plates in such a manner that the collar may be adjusted, laterally or longitudinally, to suit the size of the horses neck.

Claim.—The combination of the breast-plate E, springs D D, side plates *a a*, and springs *c c*, when the whole are arranged, constructed, and operated in the manner specified and for the purpose set forth.

No. 20,816 —LEVI PLONK, of Newton, North Carolina.—*Improvement in Machines for Stuffing Horse Collars.*—Patent dated July 6, 1858.—H represents two rails which, at their upper ends, are secured to the cross-piece I; the rollers *b* of the rails H rest on the frame A, while the cross-piece I rests against the upper end of the feed-rod E. The parts H and I thus form a frame or gate which rests on the inclined frame-work of the machine. *q* and *r* represent two flexible pieces of metal which are fastened respectively one to the curved brace S, and the other to the forward end of the piece *g*.

The inventor says: I *claim* the straw conveyers *d*, in combination with the loose sliding frame H I, for the purpose of carrying the straw to the feed-rod, substantially in the manner set forth.

I also claim the elastic blades *q r*, in combination with the guards *t u*, for the purpose of guiding the straw to the funnel, substantially in the manner described.

No. 21,674.—Samuel C. Hawkins, of Patchogue, New York.—*Improvement in Halters and Bridles for Horses.*—Patent dated October 5, 1858.—This invention consists in having a flanch cast or formed on the ring of the halter so that the straps may be riveted and permanently secured thereto and prevented from slipping on the ring, the halter or bridle being thereby rendered more durable than those constructed in the ordinary way.

Claim.—Forming the ring A with a flanch *a*, and securing the straps B to the ring by rivets *b* which pass through the straps and flanch, substantially as and for the purpose specified.

No. 22,096.—John Tingley, of Potter county, Pennsylvania.—*Hame Fastener.*—Patent dated November 16, 1858.—The inventor, in describing his invention, says: I construct two hooks, each having an acute angular catch, as seen at letters A and E. There is also a projection formed on each of the hooks, as seen at B and C; the former has a notch in it, and the latter is shaped to fit the notch when they come together, as seen at B and C. D is a steel spring inlaid and fastened to the handle of plate F, and is so placed that it presses B and C together, causing them to lock and hold the fastener in a closed position. The face-plate F is provided with two perpendicular posts, upon which the shank of each hook is placed by means of the hole, as seen at N and O.

The inventor says: I do not claim, broadly, a metallic hame fastener, for I know there has been at least one patent granted for a metallic fastener.

I *claim* the combination of two hooks coupled together by a semi-revolving force plate, and the spring D, figure 4, the catch B, and the projection C, when made and combined substantially as set forth and for the purpose described.

No. 20,278.—Ed. D. Lockwood, of Churchville, New York.—*Improved Hame Tug Fastener.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim, broadly, the fastening of hame tugs by means of revolving studs or buttons.

But what I *claim* is connecting the hame tug to the tongue *t* by means of a joint *c*, so that any strain upon the tug will tend to turn and lock the stud or pin P, thus rendering the contrivance self-fastening, substantially as and for the purposes set forth.

No. 20,246.—Joseph E. Ball, of Newark N. J.—*Improved Fastenings for Hame Tugs.*—Patent dated May 18, 1858.—In figure 2 C is the draught plate; D is a small loop or keeper; E is a large loop with a groove; F is a key which is provided with two projections $i\ i^1$ on its under side; projection *i* is a little shorter than i^1, so that i^1 may pass through the trace in order to strike against the projection upon the upper surface of the plate C when the key F is drawn home or in the position in figs. 1 and 2. The loop E has a stop K which secures the small end of the dovetailed key F, at the same time i^1 comes in contact with the projection on the upper surface of the draught plate C.

Claim.—The combination of the loop E, the dovetailed slide or key F, the projections *i* and i^1, and plate C, arranged and operated in the manner and for the purpose substantially as shown and described.

No. 21,267.—Freedom Monroe, of Romeo, Mich.—*Improvement in Harnesses.*—Patent dated August 24, 1858.—This invention consists (in such arrangement of the coupling tree) of the novel combination therewith of bow whiffletrees pivoted to said coupling tree, and passing, but perfectly free from contact, round the breasts and along the sides of either horse, said bows being made with rigid arms or stiff back extensions, with appliances for hitching on to the ordinary or any other suitable plough harness.

Claim.—The combination of the rigid bow whiffletrees A A with the front coupling bar or tree B, connected by swivel joints *c c*, said bows having hooks or other appliances for connecting the ends at F F with an ordinary plough harness, constructed and operating in connexion with the central draught bar or chain, in the manner and for the purposes specified.

No. 22,383.—Orin B. Smith, of Monticello, N. Y.—*Improvement in Harness Buckles.*—Patent dated December 21, 1858.—The nature of this invention consists in having a bow attached to the end of one strap and a lever secured to the end of the bow opposite to where the end of the strap is attached. The other strap passes through the bow, and a tongue attached to the end of the lever fits in holes in said strap.

Claim.—The combination of the lever C, operating as described, with the bow B^1 for the purpose of making a harness or other buckle, and to which may be attached straps A and B, as set forth.

No. 21,989.—Adolph Stempel, of Oquaroka, Ill.—*Machine for Creasing and Blacking Leather for Harness.*—Patent dated November 2, 1858.—The nature of this invention consists in the use of creasing and embossing rollers, and a pressure roller, combined and arranged with two color fountains provided with felt distributors, the whole being arranged for creasing, embossing, and coloring the edges of leather straps.

Claim.—The pressure roller F and the creasing and embossing rollers *i*, in combination with the color fountains K L and felt rolls M M, the whole being arranged to operate as and for the purpose set forth.

No. 20,588.—Robert M. Selleck, of New York, N. Y.—*Improvement in the Construction of Harness Pads.*—Patent dated June 15, 1858.—This invention relates to first class coach pads made upon iron plates enclosed in the housing by being stitched around the edge. A full description would require too much space to be given here.

The inventor says: I *claim*, first, the cast-iron frame, having the depressions E E, in combination with the recesses O O cast on each side, for the side straps D to fit in, substantially as and for the purposes described.

Second. The under plates or clamps to secure the pads, provided

with hooks F F fitting into the depressions and recesses S S on the frame, the ends of the pads being secured by screws, substantially as and for the purposes set forth.

No. 19,048.—Henry Sanders, of Utica, New York.—*Improvement in Harness Saddles.*—Patent dated January 5, 1858.—In the plates A are formed holes *b*, having screw threads cut in them, into which the screw end of the turrets *c* and pad-screws *d* take, by which the top plates A are firmly secured to the lower plates B, between which the edges of the leather that forms the pad are secured, there being flanges *e* and *f* formed around the edges of both plates, (A and B,) whereby a firm hold is given to them on the leather.

Claim.—The flanged plates A and B, when constructed and arranged in relation to each other, in the manner as and for the purposes set forth.

No. 20,463.—F. P. Ambler, jr., of Trumbull, Connecticut, assignor to F. P. Ambler & Sons, of Bridgeport, Connecticut.—*Improvement in the Construction of Wooden Saddle-Trees for Harness Saddles.*—Patent dated June 1, 1858.—The seat B projects some distance above the upper surface of the sides A A of the tree, so that its form is clearly defined and the seat may be covered with the greatest facility. The upper ends of the "jockeys" C may be fitted within the recess *a*.

The inventor says: I do not claim broadly the employment or use of a raised seat of harness saddle-trees irrespective of the material used and the construction of the whole viewed as a new and useful article of manufacture.

But I *claim* a saddle-tree having a separate or independent raised seat of wood, made substantially as shown and described.

No. 22,290.—B. B. Hotchkiss, of Sharon, Connecticut.—*Improvement in Harness Snaps.*—Patent dated December 14, 1858.—The nature of this invention consists in securing the spring to the hook by the application of a collar, with a projection extending in the opposite direction from the spring, and which collar is powerfully compressed and the projection thereon bent down by suitable means after the parts are all in place, so that the metal is caused to embrace the spring on every side and the projection is made to extend over the end of the spring and enter the angle of the wire, thus rendering it impossible for the spring to work backward or the collar to work forward.

Claim.—Securing the spring B to the snap-hook A by means of a collar C C^2, so constructed and applied as to press against the broad end as well as the faces of the spring, substantially in the manner and for the purposes set forth.

No. 19,078.—Thomas Dempsey, of Newark, N. J.—*Improvement in Harness Trees.*—Patent dated January 12, 1858.—This invention is entirely adapted to light carriages or coach harness trees, and not to saddles of any kind.

The inventor says: I am aware of the application of springs of various kinds having been applied to riding saddles and harness saddles, and that pads have been made upon plates that were hinged to the terret, nut, and other parts of the tree, and that these plates have been held to their places by means of the terret and nut. Spiral springs have been used between the pad plate and nut, for the purpose of easing the horse. I disclaim either of the above applications.

Neither do I claim to be the inventor of the individual parts of the described harness trees.

But I *claim* the plates B B^1, tongues *d* and d^1, in combination with the nuts *k* and tree A, in such a manner that I relieve the horse's back, and not his side, by means substantially as described and shown in the drawings.

No. 19,371.—F. B. Kuehnhold and D. B. Sturges, of Newark, N. J.—*Improvement in Harness Trees.*—Patent dated February 16, 1858.—*a* represents the tree, with the inside hook *b b* on the end, which forms two-thirds of the joint for the reception of the cross bar *d* on the pad *e*. The groove nut *f* completes the joint, and is held together by the screw of the turret *g*.

Claim.—The hook *b*, in combination with the grooved nut *f* and cross bar *d*, to form the concealed joint, in the manner and for the purpose specified.

No. 20,222.—William Straw and Ransom H. Armstrong, of Hudson, Mich.—*Improved Harness Tug Buckle.*—Patent dated May 11, 1858.—There is a plate B attached by a sliding joint to a frame A, the plate being provided with one or more tongues *i i*, and so arranged in connexion with a catch that the tug C can be readily adjusted so as to be of greater or less length as desired, and, at the same time, the connexion rendered more secure than in the usual way.

Claim.—The plate B, provided with one or more tongues *i*, attached to the frame A at one end by means of a sliding joint, and attached at the opposite end to the frame by means of a catch *h* and dove-tail connexion formed by the groove *f* in the cross piece *g* of the frame, and the bevelled front end *e* of plate B, the whole being arranged as and for the purpose set forth.

No. 20,997.—John H. Ferow, of Hinsdale, N. Y.—*Improved Harness Tug Buckle.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The double tongue cog wheel *a*, the traversing bars *b*, arranged and operating in the body or box in a manner so as to adjust itself in lengthening out and taking up the traces, as described.

No. 20,861.—John R. Bumgarner and Lyman White, of Davenport, Iowa.—*Machines for Dressing Hides and Leather.*—Patent dated July 13, 1858.—This machine is designed for unhairing, fleshing, scraping, dressing, and finishing hides, these several operations being performed successively. The hides are clamped upon a table B D which has a gradual longitudinal movement, and are continuously operated upon by the unhairing, fleshing, scraping, and finishing

frames, which reciprocate across it in a direction at right angles to the move ment of the table.

The inventors say: We *claim*, first, the combination, by means substantially as specified, of two carriages B D moving at right angles to each other, one having an intermittent longitudinal motion, and serving to feed the hides or skins to the action of the dressing frames, and the other D having a transverse reciprocating motion, and serving to carry and move the dressing frames across the hides or skins, as set forth.

Second. The peculiar manner of constructing the intermittent carriage B in sections, and with long and short clamps *c c*, whereby hides or skins of different sizes can be clamped and distended on the same, substantially as and for the purposes set forth.

Third. The automatic device G specified for clearing the knives *x x*, just after the completion of their movement from one edge of the hide or skin to the other, of all matter which may have accumulated on them and which would be likely to clog their action, as set forth.

Fourth. The arrangements of the standards *q q q q*, set screws *r r r r*, levers *s s s s*, cords *t t*, and windlass shaft *u*, substantially as and for the purposes set forth.

Fifth. The combination of the windlass shaft *u* with the dressing frame carriage by means of the ratchet movement S T and the projection U U', substantially as and for the purposes set forth.

No. 20,228.—Sidney S. Turner, of Westborough, Mass.—*Improvement in Lasts.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—A last made of wood, and provided with metallic edge guards *a a*, and with grooves *b b*, arranged along and against the inner sides of such edge guards, and for the purpose of receiving strips of wood *c c* or other suitable material for the points of the pegs to enter while the last is in use, or a shoe thereon is being pegged, as described.

No. 20,393.—David Philbrick, of Manchester, N. H., assignor to Himself and Elmer Townsend, of Boston, Mass.—*Improved Rotary Last Holder.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a cylindrical journal and a circumscribing socket held together, not only by a groove running around the journal, but a pin or screw extending from the socket into the groove.

Nor do I claim attaching the radial arm to a revolving plate held to the circular face of a support or standard by a clamp.

But what I *claim* is my improved support piece of the radial arm, viz: as made of a standard and plate K, recessed as specified, and a circular plate I formed to enter the recess of the plate K, and to make with such a dove-tailed groove or its equivalent for receiving the head of the clamp screw L, the two plates being confined together by a screw and nut, constructed and operating as and for the purpose set forth.

I also claim the improved last holder, hinge, and clamp G, as made essentially as above described, viz: with its clamping and hinge pin B constructed with a head to bear against one end of the male part of the hinge, and to turn and be supported in one of the prongs of the fork of the hinge, as explained.

No. 21,721.—William Kemble Hall, of West Hoboken, N. J., assignor to Amos Broadnax, of St. Louis, Mo.—*Improvements in Artificial Leather.*—Patent dated October 5, 1858.—The nature of this invention consists in combining the chemical constituents of leather, procurable at a comparatively cheap rate, to form a substance resembling leather, and applicable to the manufacture of boots, shoes, harness, trunks, &c. The gelatine and fatty matters of the skin or hide are represented or replaced by glue and grease, and the tannic acid and mucilaginous matters of the tanned leather by catechu or terra-japonica. To accomplish their combination with water, as the cheapest possible solvent, the fatty portion of the composition is used in the modified condition of soap, which occasions its solubility in water.

Claim.—The combination of the chemical constituents of leather, or their equivalents, substantially as described, for the purpose of forming a substitute for leather.

No. 19,583.—John Rose, of Newark, N. J.—*Improvement in Enamelling Leather.*—Patent dated March 9, 1858.—The leather is first stretched uniformly. There is then applied a mixture of aqua ammonia and warm water, about one part aqua ammonia to five parts water, rubbed on with a soft brush. The surface of the leather is then rubbed over with a brush dipped in the common iron liquor of tanners. When the leather is dry, there is a coating applied of a mizture of dissolved India-rubber, lampblack, and a little common salt; the leather is left about six hours to dry in a temperature of from 50° to 70° Fahr. Then the coated surface of the leather is sprinkled with water slightly salted, and afterwards is rubbed smooth with pumice stone. There are then applied two more coats of the rubber mixture in the same manner. When the third coating is dry and rubbed smooth, there is applied with a camel's hair pencil, a mixture of two parts Canada balsam to three parts spirits turpentine, with lampblack or other coloring matter. This also dries at the same temperature as above.

The inventor says: I am aware that carbonate of ammonia and sea-salt have been mixed with India-rubber, but in a manner and with results widely different from my invention; such use of these substances I do not claim.

Neither do I claim the invention of Canada balsam varnish.

But I *claim* the process of enamelling leather, the whole operation being substantially as described and for the purpose specified and set forth.

No. 20,093.—Charles E. Robinson and L. D. Sanborn, of Concord, N. H.—*Improvement in Apparatus for Raising Leather from Vats.*—

Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the crab machine wholly as our invention.

We *claim* the manner of taking leather out of tan vats by using hooks, as aforesaid, on a movable frame with copper rods, to be placed in the bottom of each vat before the leather is placed therein, or any way similar to the same, by which all of the leather and bark can be taken out at one time.

No. 21,114.—NATHAN BURK, of Fulton, N. Y.—*Improvement in Machines for Rolling Leather into Bales.*—Patent dated August 10, 1858.—The operation of this machine is as follows: The ends of the hides are passed over and between the rods or shafts *c e*, and the crank *b* is turned, which, through the pinion *a* and gear-wheel C, rotates said rods on shafts, and they, clamping the ends of the hides between them, wind them around themselves into a bale or bundle. The spring G under the table forces the roller *h* and the hides drawn over it hard up against the bale or bundle, and thus compresses it into a very small bundle.

Claim.—In combination with the winding and clamping-shafts, the spring-table, with its friction-roller, stops, and string-guides, arranged and operating together in the manner and for the purpose set forth.

No. 22,108.—HENRY E. CHAPMAN, of Albany, N. Y.—*Improvement in Machine for Splitting Leather.*—Patent dated November 23, 1858.—C is a circular knife of any required diameter, made of a dishing form, and placed with its convex side uppermost; D is a sliding bed or table, over which the cut is made, and which also carries the folding apparatus; *d d* are racks attached to the table D for the purpose of moving it in and out of gear; d^1 d^1 are guides for the racks; G G are a series of springs for holding the leather to the table, and which are split to allow them to pass over any unequal thickness of the leather; the edge of these springs are made to conform to the circumference of the knife so as to keep the leather down to the table close up to the cutting edge of the knife.

Claim.—The arrangement of the dished circular knife C, the series of split springs G G G G, and the sliding bed D, in their relation to each other, as described.

No. 20,911.—JOHN B. WENTWORTH, of Lynn, Mass.—*Improved Leather Shaving Knife.*—Patent dated July 13, 1858.—C C is the stock made in two parts. These halves are made of steel and are bevelled from the line *x* to *y*; the part between *x* and *w* being parallel with the inner side. The halves of the stock are held together and confine the blade D between them by means of seven screws which pass through the half *c c* to c^1 c^1; two of said screws *f f* passing through the shanks, and five *e e e e e* through the unbevelled part of the stock.

Claim.—The described leather shaving knife, consisting of a stock C C^1, with a bevel only on one edge, extending beyond the centre from Y to Z, and provided with screws *e*, combined with a blade D, having slots *d*, operating as and for the purpose specified.

No. 20,098.—H. LEE SULTZBACK, of Marietta, Pa.—*Improved Leather Slicker.*—Patent dated April 27, 1858.—A represents a knob in the centre of the handle of the adjustable slicker, which, by being pressed upon, slides the bolt B off the neck C, the latter being hidden in fig. 1. The pressure on the knob relieves the blade D, and thus enables it to be adjusted in three different positions, in which curriers are required to use it. The pressure being removed from the knob, the force of the spiral spring holds the blade firmly in either of the three positions.

Claim.—The arrangement of the bolt B with the blade D, operated by the knob A and spring, or its equivalent, in the manner and for the purpose specified.

No. 21,937.—JAMES BRIDGER, of Richland, Iowa.—*Tool for Chamfering Leather Straps.*—Patent dated November 2, 1858.—The nature of this invention consists in a groove in a block provided with chamfering and scoring-knives so arranged as to chamfer and score, or channel the leather straps as they are drawn through the groove in the block.

Claim.—The tool described for chamfering and channelling leather straps, as described.

No. 20,821.—CHARLES L. RUSSELL, of Derby, Conn.—*Machine for Leathering Tacks.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* one or more separators 5 6 A, leaving a cavity in their ends, or an equivalent therefor, which shall grasp the head or body of the tack, or both, substantially as and for the purposes herein described.

Second. The fingers W W^1 arranged in the relation shown to the tube or guide P, and working alternately, so that one serves as a stop to the tack and the other as a discharger thereof, in such a manner as to insure the dropping of the tack into the tube or guide P with unerring certainty at the precise time and place necessary, substantially as and for the purposes set forth.

Third. The fork 5, or its equivalent, when working through or across a tube near its top as shown, for the purpose of insuring the dropping of the tacks perpendicularly into the tube P, substantially as described.

Fourth. The guide or conducting tube P P^1, having inclined or horizontal passages running into each other in combination with the driving punch O, cutting punch L N, die M M, race *x*, and feed motion I J, substantially as and for the purposes set forth.

Fifth. The self-adjusting grooved rest or guide *v* for receiving and supporting the point of the tack, when arranged so that the tack shall be kept on the guide by its own weight, substantially as and for the purpose herein specified.

Sixth. Feeding leather or other material to the machine in the op-

eration of leathering tacks, by each succeeding tack itself, which is driven into or through the material used for forming the heads or disks, and acts as a stop to a feed motion whereby to effect the movement of the material to a position in front of the cutting punch, substantially as described.

No. 20,819.—Jesse Reed, of Marshfield, Mass.—*Machine for Leathering Tacks.*—Patent dated July 6, 1858.—In operating this machine, as each tack drops down the tube Q it is arrested at the bottom of it by the shield *v*, the end of which hangs within the opening *q*, cut in the tube, and catches the head of the tack whilst the point of it hangs down below the end of the tube in the space 6 between the jaws of the nippers N; then, as the nippers are drawn back in the direction of their arrow, the head of the tack being still in the tube and the point of it in front of the stop *x*, it is prevented from being drawn back by the nippers, and they are forced apart by the body of the tack itself. At the next vibration of the arm M the tack is carried by the nippers under the punch E, which pushes the tack through the leather.

The inventor says: I *claim*, first, driving the tacks and cutting out the pieces of leather by a solid punch, operating in the manner substantially as set forth.

Second. I claim the nippers N, in combination with the rest *x*, and tube *q*, operating as described for the purpose specified.

No 22,340.—Thomas D. Bailey, of Lowell, Mass —*Improvement in Pegging Jacks.*—Patent dated December 21, 1858.—The nature of this invention consists in providing means for jacking the last by simply turning the plate or turn-table on which the last is supported. Also, in providing means by which the sole of the shoe may be turned from a horizontal position, either way, until it is brought to a perpendicular position, or fastened at any intermediate angle, as may be desired for the convenience of the operator. And it also consists, in connexion with both the foregoing, in having it so arranged that the plate or table to which the shoe is fastened may be turned freely about, so that either side or heel or toe may be presented to the operator.

The inventor says: I *claim*, first, the method of jacking the last by turning the plate to which the last is fastened.

Second. I claim the combination of the lever H, screw F, and turn-table T, for jacking the last, substantially as described.

Third. I claim fastening the screw F, or its equivalent, stationary by means of the coupling pin L^1 and plate I, so that when the turn-table T is revolved it shall operate the lever and jack the last, substantially as described.

Fourth. I claim fastening the screw F, or its equivalent, to turn the plate T, after the last has been jacked, by means of the coupling wheel L and pin R, operated by the thumb latch O and spring P, for the purpose of preventing the screw F from turning round and loosing the lever H, substantially as described.

Fifth. I claim the combination of two hinges S S^1, cam levers U U^1, hinge seat B, the link C, and hand-set screw W, for the purpose and substantially as described.

No. 21,091.—Edgar M. Stevens, of Boston, Mass.—*Improvement in Pegging Machines.*—Patent dated August 3, 1858.—This invention relates to that portion of the mechanism of a pegging machine which operates directly on the pegs, and is particularly applicable to the pegging machine patented by this inventor on the 15th of December, 1857, and numbered 18,879. It may also be applied to other varieties of pegging machines.

The inventor says: I *claim*, first, a peg wood box or receptacle *s*, which is vibrated or reciprocated so as to bring the peg wood *s s s* upon the knife *r*, for the purpose of splitting a peg from the peg wood, and which is so located and arranged as to present the peg to or directly over the hole in the sole into which it is to be driven.

But I do not claim broadly any moving peg wood box, which is arranged remotely from the awl hole made in the sole, and there delivers the peg wood or pegs, which ultimately are fed to the awl hole into which they are to be driven.

Second. In combination with the vibrating or reciprocating peg wood box *s*, a stop which is adjustable to the length of the peg wood *s s s*, and is located in the mouth of *s* near the peg tube in *f*, and within less distance of the plane of the edge face of the knife *r* than the bigness of one peg, and whose function is to hold the peg wood against the action of the knife in splitting off the peg, and this I claim whether such stop forms a part of the cover of the peg wood box S or is separate therefrom.

Third. I am aware that it is not new to use a feed instrument having a compound movement like that described for *m*; that, therefore, I disclaim.

But I claim the mechanical means, or their equivalents, for producing said compound movement of *m*, the same consisting of the bell-crank lever *u* hinged to *m*, and the friction block *w* which is arranged to slide in the slot in *u*, both *u* and *w* being arranged to pivot upon *x*.

Fourth. The use of a spring (the spring on *v*) or its equivalent, in combination with a peg wood feeder *m*, having a range of feed movement when unobstructed, greater than the bigness of a peg, for the purpose of rendering the movement of the feeeder *m* self-regulating, as set forth.

No. 19,354.—J. A Dunworth and F. Dunworth, of Dobbs' Ferry, N. Y.—*Device for holding Horse Reins.*—Patent dated February 16, 1858.—This invention provides a permanent hold-fast for the reins, one that may be connected to the reins and not at all interfere with their proper management while the horse or horses are being driven, and at the same time holding the reins as soon as they are dropped from the hands of the driver.

Claim.—The elastic tubes C C, or their equivalents, placed within a case A attached to the dash-board, the reins being attached to the tubes, and the whole arranged substantially as and for the purpose set forth.

No. 22,130.—Jesse Nece, of Philadelphia, Pa.—*Improvement in Saddle-Trees.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, rounding the underside of both the pommel B and cantle C of a wooden saddle-tree, where they bear on the side pieces, and employing in combination with the whole, the side slips *h* and *i* and h^1 i^1, so that the said side pieces may be free to vibrate on their hinges and still retain their proper relative position with regard to the pommel and cantle, as set forth.

Second. The metal-arched pieces E and F secured to the pommel and cantle of the saddle-tree, as described and for the purposes specified.

No. 20,439.—F. W. Michel, William C. Willcox, and Henry T. Miller, of Utica, N. Y.—*Straw and Wood Over-Shoes.*—Patent dated June 1, 1858.—The over-shoe A is made of braided straw C, and is formed by sewing the braid over a last of the desired size and fashion. The heel B is made of wood and is fastened to the shoe by means of copper rivets.

Claim.—The straw over-shoe, constructed in the manner and for the purposes mentioned.

No. 19,461.—Abijah Woodward, of Keene, N. H.—*Improved Shoe-Peg Machine.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a fluted feed roller and splitting knife combined, irrespective of the manner in which the combining is effected.

Nor do I claim the arrangement of the roller in an adjustable frame which cannot be adjusted without injuriously affecting the feed movement of the roller.

But I *claim* giving an uniform and arbitrary intermittent rotary motion to the fluted feed roller, whatever may be its adjustment, by means of two bevel wheels *k l*, peculiar screw cam I, worm-wheel *h*, and pinions *i j*, arranged as follows: one of the bevel wheels being on the upper end of a vertical shaft, and the other which must always gear with the first, being on the end of the fluted roller, and both being adjustable so as to suit different thicknesses of peg blocks without getting out of gear with one another, and with the driving shaft; the cam being so constructed, and its screw-thread arranged in such relation to the eccentric pin which moves the splitting knife, that the feed or movement of the block will always cease or be completed before the knife commences to descend, and again commences just as the knife has completed its ascent, all substantially as and for the purpose set forth.

No. 19,730.—Amos H. Boyd, of Saco, Maine, assignor to Samuel F. Chase, of said Saco.—*Improvement in the Manufacture of Shoe Pegs.*—Patent dated March 23, 1858.—The nature of this invention consists, first, in combining in one machine the several offices of feeding the block of wood from which they are to be cut, pointing and splitting them. Second, in moving by a single shaft the several departments

of machinery which perform the said several offices, each of said departments keeping pace with the other till the block is pointed and split. Third, in the continuous operation of the machine upon a succession of blocks, without requiring stoppage or interruption for the purpose of adjustment. Fourth, in the transversely grooved rollers, to hold the block firmly while being pointed.

The inventor says: First. I *claim* the combination of the pointer, splitter, and intermittent feed of the block, operated conjointly, substantially as specified.

Second. The construction and arrangement of the transversely or circumferentially grooved or threaded rollers, as a means of feeding and holding the block or bolt for pointing, substantially as specified.

No. 22,061.—Azro Brown, of West Waterford, Vermont.—*Improved Shoe-Peg Machine.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination and arrangement of the radial slotted plate *f*, eccentric helical or spiral edged plate, between which and the lower plate *e* it is confined, said lower plate *e* having depressions and gutters in its upper surface for receiving corresponding parts formed on the lower surface of the slotted plate *f*, and a raised or ridged portion nearer its centre, whose inner edge corresponds with the eccentric curvature of the edge of the plate; the said slotted plate *f*, and the other parts mentioned, being arranged and operated substantially in the manner and for the purpose set forth.

Second. I claim giving an intermittent progressive motion to the slotted plate *f*, by the combination of the ratchet notches on its under surface, spring pawl K, and oscillating lever *l*, attached by a connecting rod *m* to the pitman rod, as described.

Third. I also claim forcing or conveying the strips of wood from which the pegs are formed after being cut from the block or bolt, by means of the combination and arrangement of the traversing bars V^1 V^1, guided by wheels on the end of the cross-head, at the angle where they are connected, curved groove V in the drum P, and knives W, between which the strip is first deposited and subsequently conveyed through the slot in the rim of the plate or rim *e*, and under the V-shaped cutter V, substantially as set forth.

Fourth. I claim the combination of the cylindrical knife H and cutters J, as described.

No. 21,104.—Isaiah G. Worth, of Vassalborough, Maine.—*Improved Machine for Manufacturing Shoe Pegs.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the combination of a reciprocating knife, a fluted feeding roller, and a mechanism for so operating both as to feed a peg block along with an intermittent motion, and cut pegs from it, as I am aware that such is the principle of the well known Baldwin peg cutting machine.

But I *claim* an improved machine consisting of a combination and

arrangement, essentially as specified, of a vibrating knife F, or its equivalent, a bench or table, two fluted feed rollers L L, and mechanism for imparting to such rollers intermittent feeding motions, in opposite directions, the same being productive of advantage in cutting blocks into pegs.

No. 19,282.—B. F. Sturtevant, of Boston, Massachusetts, assignor to Himself and Elmer Townsend, of said Boston.—*Improved Method of Preparing Blanks for Shoe Pegs.*—Patent dated February 2, 1858.—In operating this machine the lumber employed is first sawed into planks of two inches thickness, then into strips, from which all knots and other imperfections are then cut out and the clear strips are glued together, forming a new plank of clear stuff; these planks are then sawed into blocks the thickness of which is equal to the length of the pegs. The blanks thus formed are assembled in packages and are held together by narrow bands of adhesive paper which attaches itself to opposite sides of each strip, the blanks being torn off one by one, the adhesive paper holds all the remaining blanks in a body.

Claim.—First. The described process of making blanks for shoe pegs by sawing and gluing up the material in the manner substantially as set forth for the purpose specified.

Second. I claim the method described of securing the blanks in packages, by means of bands of adhesive paper, or their equivalents, whereby the blanks may be placed in the machine and removed therefrom in bundles, as set forth.

No. 21,223.—Daniel J. Tapley, of Danvers, Massachusetts.—*Improved Combination Shoe-Tool.*—Patent dated August 17, 1858.—The nature of this invention consists in making a combination tool which will answer in the place of a "tack stamp," "last hook," and "peg cutter;" *a* is the "tack stamp," B the last hook, and A the peg cutter.

Claim.—The combination and arrangement of the "tack hole stamp," "last hook," and "peg cutter," substantially as described and for the objects specified.

No. 20,882.—Freeman Killbrith, of Pembroke, Massachusetts.—*Improvement in Shoemakers' Edge-Planes.*—Patent dated July 13, 1858. The nature of this invention will be understood by reference to the claim and engravings.

Claim —The attachment to the edge now in use, and known as Dunham's patent, of the movable guard C with its screw *e*, the guard being movable to and from the edge of knife D, and sliding on the face of the shank B, and also the attachment to the shank B of the knife D, with its screw *f* working in a slot, and raised or lowered to any desired gauge for paring soles, and which knife D can be wholly removed from the shank B by unscrewing the screw *f* and so ground or sharpened, and be replaced by a new knife if necessary.

No. 19,284.—John Allender, of New London, Connecticut.—*Implement for Holding Open Shoes, Bags, &c.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—A pair of forceps with one jaw, provided with a plate for the inside of a shoe, sack, or other article; the other jaw carrying two arms, one to clamp the shoe, sack, or other article, against the first mentioned jaw or plate upon it, and the other arm carrying a bar or plate to spread the opening in the shoe, sack, or other article, substantially as described.

I also claim making the bar that carries the arm that spreads the shoe, sack, or other article, adjustable, substantially as described, so that the forceps or apparatus may be adapted to shoes and sacks of various sizes.

No. 21,500.—Jacob Jenkins, of Charlestown, Massachusetts.—*Improved Heating Apparatus for the Manufacture of Cemented Sole Shoes.* Patent dated September 24, 1858.—The claim and engravings explain the nature of this invention.

Claim.—An improved heating apparatus for the manufacture of cemented sole shoes, consisting of the box A provided with door B, glass front *b*, deflector *f*, as described, openings *d*, and lamp C or its equivalent, for heating, arranged and operating substantially as and for the purposes set forth.

No. 21,051.—Leander Lackey, of Sutton, Massachusetts, assignor to Himself and Elmer Townsend, of Boston, Massachusetts.—*Improvement in Machines for Pegging Shoes.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim holding the last or shoe up to the pegging mechanism by means of a weighted lever and a standard connected together by a universal joint.

But I *claim* the combination of the heavy inertia block P with the weighted lever R, and either the last or the standard for supporting the last, the same being for the purpose as specified.

I also claim the arrangement of the inertia block with reference to the lower bearings K K of the universal joint—that is, so that a vertical line passing through the centre of gravity of the inertia block shall fall on one side of and at a distance from the axis of such bearings, the same being for the purpose as set forth.

I also claim combining with the inertia block and its universal joint, a mechanism for revolving the inertia block twice while a sole on the shoe last is being pegged, such a mechanism as shown in the drawings, consisting of the flange *n*, the griper *o*, the connexion bar *p*, the lever *q*, the pitman *r*, and the cam E.

I also claim so arranging and applying the last standard on the inertia block that the position of the standard may be varied on the block, in order to change the inclination or slant of the pegs, as described.

I also claim arranging and combining with the peg feeding mechanism, substantially as described, a mechanism for receiving each peg

and condensing or compressing it just prior to its being driven into the sole; such a mechanism is shown in the drawing, consisting of the slider g^1, the hook, slide bar m^1, the toggles i^1 k^1, the pitman b^1, and the mechanism for actuating the said pitman as described.

I also claim the combination of the wedged pitman b^1, its side cam d^1, the recessed post Z, and the stud of the feeder C, the same being the mechanism for feeding the shoe along.

I also claim combining with the feeding mechanism a mechanism, substantially as described, for imparting to the shoe last an intermittent, reciprocating lateral motion, such as will cause the machine, when in motion, to insert two rows of pegs in the sole; such a mechanism as shown in the drawings, consisting of the pitman d^2, the notch x^1, the recess z^1, the stud e^3, the heart cam a^2, and the plate v^1.

No. 19,542.—John H. Browne, of Abbey Mills, Romsey Hants, England.—*Improvement in Manufacture of Artificial Skins.*—Patented in England November 18, 1853.—Patent dated March 9, 1858.—This invention has for its object to produce artificial skins for the manufacture of parchment, or such like article, and leather; and consists in employing the other parts of hides and skins, by reducing the same to pulp, and then, by rollers or pressure, to produce sheets. For this purpose the parts of hides or skins should have the outer surfaces removed, and soaked in water having dissolved therein, by preference, barilla and caustic lime, though other matters may be used. They are then well washed and subjected to a bath of water having therein alum and sulphuric acid. The parts of hides are then washed, pulped, and subjected to pressure between rollers or other pressure.

Claim.—The manufacture of artificial skins described.

No. 21,764.—John Loudon and Hans Iversen, of New York, N. Y.—*Improvement in Stirrups.*—Patent dated October 12, 1858.—The nature of this invention consists in the application of a joint *a a* in each of the sides *b b* of the stirrup, about midway between the bottom or tread *c* and the eye *d* receiving the strap *e*, whereby the bottom *c* cannot become impinged on to the sole of the shoe, because in cases where a person is thrown from a horse the foot turns the lower part *c* into a position shown in figure 2, when the bottom *c* approaches toward a parallel line with the pull of the strap *e*, and the stirrup will slide off.

Claim.—Constructing a stirrup with a joint at or near the centre of the sides *b*, substantially as and for the purposes specified.

No. 21,755.—Barzilla Harrington and Nelson Russell, of China, Maine.—*Improvement in Tannning.*—Patent dated October 12, 1858—By this invention comptonia aspenifolia, or sweet fern, is used in lieu of bark or other tanning material for the purpose of converting raw hides into leather. The fern is leached in the same way as bark in the usual mode of tanning, the use of a bark mill being unnecessary.

Claim.—The use of comptonia aspenifolia, or sweet fern, in room of bark or any other tanning material now in use.

No. 21,705.—A. C. Taggart and A. Gray, of Alleghany City, Pa.—*Improved Tannery.*—Patent dated October 5, 1858.—The nature of this invention consists in an arrangement for agitating, separating, and conveying the liquor from one tan vat to another. *a* are the rocking shafts, which have their bearings on pivots, marked *y*, placed in the cross beams of frame *e*, and are held on the pivots by the links *x;* to the shafts are attached arms *d*, and upright levers *b*, which are attached to a beam *c;* this beam is connected to the driving power; the length of the arms will regulate the dip of the agitating frames 3; to these frames are attached rods 1; these rods are connected to arms *d*, on the shafts *a*.

The inventors say: We *claim*, first, the arrangement of the pivot *y*, and links *x*, as herein described, and for the purposes set forth.

Second. The use of the pipes *n*, when placed near the top of the vats and used in connexion with the pipe *o*, as described and represented and for the purpose specified.

No. 21,168.—Theodor Klemm, of Pfullingen, of Rentlingen, near Stuttgart, Wurtemberg, Germany, assignor to Edward Moss, of London, England.—*Improvement in Tanning Hides.*—Patent dated August 10, 1858.—This invention consists in the preparation for preservation of hides, skins, and other animal tissues, by impregnating them with compounds of certain vegetable, animal and saline substances, or any equivalent therefor, by means of mechanical agitation and heat.

The inventor says: I do not wish to be understood as limiting my claim to the use of the special composition of matter herein specified, as the said composition of matter may be varied within the range of my invention.

What I *claim* is, the process of treating and impregnating hides, skins, and other animal tissues, by alternately agitating them in a heated atmosphere or current of heated air, and rubbing or smearing them with the substances specified, substantially as and for the purpose specified.

No. 21,126.—Lewis C. England, of Owego, New York.—*Improvement in Apparatus for Tanning Hides.*—Patent dated August 10, 1858.—This improvement consists in suspending the hides in the vat, at the commencement of the process, in such a manner that they shall be free to shrink, and keeping them so suspended, without disturbance, until sufficiently tanned, the different liquors required being supplied one after another, and each liquor being kept at all times among the hides. A is the vat, and *a* represents the skins or hides.

Claim.—The described improvement in the art of tanning—that is to say, causing the liquors to circulate among hides which are kept in fixed positions, for the purpose and substantially in the manner set forth.

No. 19,201.—Butler G. Noble, of White Water, Wisconsin.—*Improvement in Tanning Leather.*—Patent dated January 26, 1858.

The inventor says in describing his improvement: One hundred calf-skins, having been prepared by depilating and bathing in any of

the usual modes, are immersed in a preparation consisting of ten pounds of catechu dissolved in a sufficient quantity of water to cover the skins. In this they are kept in motion for two or three hours until well colored, when there is added ten pounds more of catechu to the solution, and permitted to remain, with occasional handling, from fifteen to twenty-four hours. They are then removed, and there is then added to the vat containing the liquor fifteen pounds of catechu, ten pounds of sulphate of soda, and two pounds of common salt.

The skins are then immersed in the liquor and allowed to remain, with the addition of ten pounds of catechu each day thereafter, until tanned, which is usually from five to ten days. They are then removed and a new liquor is prepared, consisting of water sufficient to cover the skins; catechu, five pounds; alum, three pounds; and common salt, one pound. In this the skins are placed and remain about twenty-four hours when, they are removed. The "fixing bath" is then prepared, consisting of water sufficient to cover the skins, one ounce of commercial nitric acid, and one-half ounce of glycerine to every four gallons of water, in this the skins are placed.

The inventor says: I am aware that sulphate of soda, chloride of sodium, alum, and nitric acid, have been used in different proportions and combinations in other processes of tanning, and therefore I do not claim their use in any manner differing substantially from my own.

But I *claim* the fixing bath composed of nitric acid and glycerine diluted with water, in the proportions specified or thereabouts, and employed substantially in the manner set forth.

No. 20,565.—Horace G. Johnson, of Cleveland, Ohio.—*Improvement in Tanning Leather.*—Patent dated June 15, 1858.—The tan liquor is prepared in the following manner: To one gallon of strong decoction of Anthemis Cotula (one pound of the dry herb to one gallon of water) is added ¼ of a pound of catechu, or terra japonica, two ounces of alum, and two ounces of common salt, mixed well together.

Claim.—The use of the Anthemis Cotula, or any other species of Maruta, either separately or mixed with terra japonica in any proportion, or combined with alum and common salt or their chemical equivalents, in the manner and for the purpose set forth, not intending, however, to confine myself to the exact proportions named.

No. 20,502.—Jesse Morgan, of Sumterville, South Carolina.—*Improvement in Method of Tanning.*—Patent dated June 8, 1858.—The claim will explain the nature of this improvement.

Claim —The compound, composed of saccharine matter, glauber salts, and muriate of soda, in about the proportions set fortn, for the purpose of expeditiously completing the process of tanning as described.

No. 19,211.—Charles A. Shaw and James Clark, of Biddeford, Maine.—*Improvement in Apparatus for Tanning Skins.*—Patent dated January 26, 1858.—In fig. 1, *a a a a* is a strong frame work, or false vat, having two open sides and made exactly to fit the real vat J, in which the hides *b b* are placed, firmly secured on two opposite

sides to sticks *c c c c*. These sticks are supported at each end by horizontal rests *d d d d*, which rests are strongly bolted to the inside of the ends of the frame-work at a sufficient distance only from the side of said frame to freely admit the said sticks, thus keeping the sides fully extended while in the frame *a*.

The inventors say: We make no claim whatever to the invention of Wattles, as patented by him May 26, 1857, or any part thereof.

We *claim* the use of the horizontal movable frame rods or sticks *c c c c*, the toothed bars *m m m m*, and the rests *d d d d*, or their equivalents, for the purposes set forth and specified.

No. 21,394.—John C. De Witt, of West Bloomfield, N. J., assignor to Himself and Teran Benedict, of Newark, N. J.—*Improved Trace Fastening.*—Patent dated August 31, 1858.—The object of this invention is to obtain a buckle or fastening for securing the traces of harness to their hame-tugs without injuring the traces, and at the same time obtain also a fastening that will admit of a ready adjustment and form a sure connexion.

Claim.—The frame or body D, provided with the tongue *f* projecting from it at right angles when the frame or body is connected with the plates *e* of the tug A by means of the pivots *b b* of said plate, fitting in oblong slots *c* in the sides *d d* of the frame or body, so that the same may be shoved forward and backward to admit of its being locked, and also of being opened, substantially as described.

No. 22,454.—Uel J. Reynolds, of Webster, N. Y.—*Improvement in Trace Fastenings.*—Patent dated December 28, 1858.—This buckle is called the "box buckle" and is used for attaching tugs to harness. It is to be made of various sizes, and of any metallic substance suitable to the purpose for which they are designed.

The inventor says: I *claim* the formation of the eye *d* which receives the tongue E, for the purpose described and set forth.

Second. The tongue E, in combination with the tube c, spiral spring and bolt *e* in the eye *d*, as described.

No. 19,934.—Samuel Lagowitz, of Newark, N. J.—*Improvement in the Mode of constructing Trunk Handles.*—Patent dated April 13, 1858.—A is a metallic male die, made the exact shape and size of a leather handle for a trunk; this die corresponds with and fits in the female die B, thus forming a mould to shape the upper or ornamental portion of the leather handle shown at C.

The inventor says: I do not claim to be the inventor of pressing leather into dies or moulds for the purpose of ornamenting the same; this has long been in common use for various purposes.

I *claim* the thin leather shell, prepared, packed and stitched in the manner and for the specified purpose, substantially as described and shown.

No. 20,832.—Robert M. Wade, of Wadesville, Va.—*Trunk Protector.*—Patent dated July 6, 1858.—The object of this invention is to prevent injury to trunks by rough usage. It consists in providing

a skeleton casing of sufficient strength and elasticity to resist the blows to which the trunk may be subjected, which casing is to be attached in the manner of an ordinary canvas cover.

Claim.—The skeleton trunk casing made up of wooden strips B B, with bent extremities connected with straps S S and attached to the trunk, substantially as and for the purposes set forth.

No. 20,259.—Joseph Dudley, of Fall River, Mass.—*Improvement in Card Plates for Trunks.*—Patent dated May 18, 1858.—This device consists in a metallic frame A, having a transverse central cross-piece and two transverse end pieces, and a spring or elastic D plate placed on the central cross-piece, its ends being underneath the end pieces and used in connexion with it to secure the cards in the frame which is placed on the trunk.

Claim.—The frame A, provided with transverse bars B C C, and an elastic plate D, the frame being secured to the trunk, and the whole arranged substantially as and for the purpose set forth.

XVII.—HOUSEHOLD FURNITURE, ETC.

No. 21,218.—J. B. Sargent, of New Britain, Connecticut.—*Improved Andiron.*—Patent dated August 17, 1858.—The nature of this invention consists in the mode of manufacture, whereby they are cheaply made and easily detached to be packed closely in crates or boxes, in order to prevent breakage in transportation.

The inventor says: I am aware that andirons have been made having a bolt with a screw on the upper end for the purpose of securing the ornamental pillar, and also having a shoulder on the lower end passing through the legs and fire-iron, and riveted on the under side, which cannot be said to be detachable; neither do I claim such.

But I *claim* the construction and arrangement of the legs A, the fire-iron B, the pillar C D, all secured together by the bolt E, in the nut *c*, in the upper portion of the pillar D, all of which can be readily detached when desired, in the manner and for the purpose as described.

No. 19,402.—Ahaz N. Alcott, of Gowanda, New York.—*Improved Apple Corer.*—Patent dated February 23, 1858.—This invention consists in combining with a shaft D, which is first bored into the apple, a knife F, which may be thrown out from the shaft while the apple is upon it, to cut out the larger part of the core in the middle of the apple. The knife is thrown out, so as to cut this part of the core, by the collar I, which rotates with the shaft D, but is kept from sliding with it by the bracket or arm J, which is attached to the standard D, and a disk flange *i*, turning in a notch in this bracket or arm J for that purpose.

Claim.—The combination of the knife F with the shaft D and collar I, or its equivalent, by which the knife may be thrown out from the shaft to cut out the core in its largest part, as set forth.

No. 21,695.—Adam Oot, of Minetto, New York.—*Improved Apple-Paring Knife.*—Patent dated October 5, 1858.—The nature of this invention consists in attaching to a curved stock or handle, by means of adjusting screws, a curved blade, for the purpose of forming a convenient fruit-paring knife for hand use.

Claim.—The combination and arrangement of the curved blade, with its projecting end, and the guard or stock, substantially as and for the purpose specified.

No. 20,295.—H. Norton and J. S. B. Norton, of Farmington, Maine.—*Improved Device for Slicing Apples.*—Patent dated May 18, 1858.—In this apparatus a reciprocating frame D, provided with knives *d*, a pressure bar E, and a rotating fork or arbor M, is used for the purpose of slicing vegetables rapidly.

The inventors say: We do not claim separately any of the parts described.

But we *claim* the combination of reciprocating frame D, provided with the knives *d* and pressure bar E, with the intermittingly rotating arbor G, the whole being arranged to operate as and for the purpose set forth.

No. 21,141.—Charles Lounsberry, Jr., of Nichols, New York.—*Improved Machine for Coring and Quartering Apples.*—Patent dated August 10, 1858.—The nature of this invention consists in so arranging and combining a cup or receptacle for the cores as they are cut, with a lever operating the cutting blades and coring tube, that the cores may be kept separate from the quartered apples, and thus dispense with the labor consequent to other machines worked with a lever, when this feature does not exist.

The inventor says: I am aware that the knife with a handle attached has been operated before now by hand, and therefore do not claim it.

I *claim* the combination and arrangement of the knife with the movable step *i i*, the standard *a*, with its attachment *d*, the cup *h h*, and spring *s*, being substantially made as described and for the purpose set forth.

No. 20,814.—J. J. Parker, of Marietta, Ohio.—*Improved Machine for Paring, Slicing, and Coring Apples.*—Patent dated July 6, 1858.—In this device there is employed a rotating coring bit I, provided with radial flanches, a stationary screw F, and rotating slicing knives *c*, all constructed and arranged so that the operations of coring, slicing, and paring are performed in a perfect manner.

The inventor says: I *claim* the combination of the stationary screw, slicing and paring knives, by which the apples are fed and revolved, arranged substantially as and for the purpose described.

I further claim feeding the apples past the paring knife to the sliding device, by giving the apples a rotating motion, and using a stationary screw, the screw slicing device and paring knife being arranged relatively with each other, substantially as specified.

No. 20,550.—William S. Carr, of New York, N. Y.—*Improved Attachment of Pipes to Water Closet Basins.*—Patent dated June 15, 1858.—The nature of this invention consists in a metallic socket *a*, attached to the end of the pipe *c*, and connected to the arm *b* of the basin by a rod *e* passing through said arm, one end of which attaches to the basin itself, and the other end passes through said socket and is provided with a nut *f*, the parts being rendered water-tight by leather washers.

Claim.—The socket *d*, rod *e*, and nut *f*, connecting the pipe *c* and and arm *b*, substantially as and for the purposes specified.

No. 21,042.—Ellyson Yerby, of Washington, D. C.—*Improved Batter Machine.*—Patent dated July 27, 1858.—This machine consists of a cap or head piece *a*, two upright side timbers *b b*, which connect with head piece *a* and the feet *c c* below; *d* is the brace between the head and feet; *e* is the horizontal shaft, wheel, and crank; *f* is the perpendicular shaft and wheel, extending from the cap downwards through the brace to within one inch of the bottom of the feet.

Claim.—The slide *g*, as a disconnecting apparatus, when said slide is used in combination with the conical pan and agitator, the said pan and agitator constructed substantially as and for the purpose described.

No. 20,362.—James M. Noble, of Delhi, Iowa.—*Improved Bed Bottom.*—Patent dated May 25, 1858.—A series of pulleys are attached to the head and foot-rails of the bedstead by means of straps, or other flexible material, and a rope passes through a pulley on the head-rail, and then around one on the foot-rail, from side to side of the bed, so that the rope forms a flexible, secure bottom.

The inventor says: I am aware that pulleys have been placed on pins attached to the rails of bedsteads, to serve merely as friction rollers or pulleys to ease and facilitate the adjusting of sacking bottoms to bedsteads, but I am not aware that rollers have been attached to bedstead rails as shown, and a rope passed around said pulleys as described, so as to form a flexible and yielding bed bottom. I do not claim broadly, therefore, the employment or use of friction rollers.

But I *claim* the pulleys B, attached to two opposite sides or ends of the bedstead by cords, straps, or equivalent means, so as to admit of the free turning of the pulleys and the twisting of the same in planes at right angles with their plane of rotation, in combination with the rope, which is strained around the pulleys, the whole being arranged as and for the purpose set forth.

I also claim, in combination with the pulleys B and rope C, the elastic bands *e*, for the purpose specified.

No. 20,486.—Benjamin Griffin, of Lawrence, Mass.—*Improved Bed Bottom.*—Patent dated June 8, 1858.—The mortise bars D D are bolted to the rails opposite. The lower end of the spring A in the mortise is placed in one of the bars. One end of the slat is then put into the link C attached to the said spring.

Claim.—The mortise bar, the open link, the lifter spring with the tapered slat, when combined and arranged for a bed bottom in the form and manner as specified.

No. 21,123.—W. H. Elliot, of Plattsburgh, N. Y.—*Improved Bed Bottom.*—Patent dated August 10, 1858.—The nature of this invention consists in the combination and arrangement of certain devices by which is produced a bed bottom which is entirely supported by conically-coiled springs *b*, the upper surface in all parts yielding alike to pressure, and in there being no unyielding frame-work of any kind above the beams upon which the springs rest to interfere with its comforts.

The inventor says: I am aware that beds have been constructed with springs, slats, and flexible strap, therefore I do not claim them or any of them independent of other devices, or of the peculiar arrangement set forth.

But I *claim* the combination and arrangement of braces d^1, flexible strap *e*, slats *d* and *c*, and springs *b*, whether the said braces d^1 reach from one outside slat to the other, or only to some of the intermediate slats, and whether said braces are attached to the upper or lower side of slats *d*, &c., as and for the purpose specified.

No. 21,263.—Rufus Leavitt, of Cambridge, Mass.—*Improved Bed Bottom.*—Patent dated August 24, 1858.—To secure the spring bottom to the bedstead, when combined with the webbing, it is necessary to compress the springs *b* nearest the catches *c*, and slip each catch over the head of its pin *d*; when the springs are released they will draw the catches upon the pins to the position shown in the engravings, thereby securing the spring bottom to the bedstead.

Claim.—The construction of an elastic bed bottom by means of a series of springs, constructed and arranged substantially in the manner described.

No. 21,519.—Franklin Russell, of Otselic, N. Y.—*Improved Bed Bottom.*—Patent dated September 14, 1858.—In this invention, instead of cords made of flax or any other vegetable substance, metallic rods are used. The net-work is secured to the bedstead by iron bolts or hooks. There are ordinarily five of these hooks on each side, and three at each end.

Claim.— The combination and arrangement of the rods 2 and 3 with the wires 5, the bolts 4 in the rails 1, substantially as and for the purposes specified.

No. 19,473 —Charles Schroeder, of New York, N. Y., assignor to Himself and P. H. Tuska, of said New York.—*Improved Bed Bottom.*—Patent dated February 23, 1858.—In this invention the wire *a* is inserted in one of the sides of the frame X, and thence is so wound upon a rod *b*, which extends along the frame, that it shall leave the rod upon the upper side. The spiral spring being formed upon the rod *b*, the wire passes over the upper side to another rod *c* placed parallel with the first on the general line of an arch and at a short distance from it. The wire passes on to the under side of this one,

and is wound upon it the same direction as before, thence leaving this rod *c* it is carried over a similar rod *d*, placed as far from *c* as that was from *b*, the wire resting upon the rod *d* and going on to the under side of the next equidistant one *e*. This is continued entirely across the frame, the last rod *l* receiving the wire upon its upper side, and which wire is inserted into the side of the frame at a^1; another wire *i* is now started from the frame X in the same manner, but this one passes over the rod *c*, merely resting upon it, and is wound as before from the under side upon the next rod *d*. This is continued across to the opposite side where the wire *i* is inserted into the frame at i^1.

The inventor says: I am well aware that helical springs coiled upon rods have been employed in bed bottoms, &c., and of course I make no claim broadly to that device.

But I *claim* the spring bottom constructed as described.

No. 19,410.—Jacob Coover, of Chambersburg, Pa.—*Improvement in Spring Bed Bottoms.*—Patent dated February 23, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim* constructing the lower slats D with joints at or near the centre, by means of plate G and hinges L, and the screw H passing through plate G, for raising and lowering the slats, as set forth.

No. 19,922.—Elbridge Foster, of Hartford, Connecticut.—*Improved Spring Bed Bottom.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the peculiar spring.

But I *claim* the arrangement of the side and end springs—that is, so that while one set of springs shall be attached at the middle parts of each to the frame A and be made to bear at their ends against the bars F F, the other set shall be attached at their middle parts to the bars F F, and be made to bear at their ends on the frame A.

No. 20,609.—George E. Safford, of New York, N. Y., assignor to Himself, F. G. Ward, and F. T. Ward, of Buffalo, N. Y.—*Improved Spring Bed Bottom*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the elliptic springs, thumb-screws, or frame E, separately considered, as my invention, neither do I claim hinges or a hinged frame as such.

What I *claim* is the jointed frame, hinged beneath and supported above, in combination with the springs, substantially as and for the purpose described.

No. 22,098.—Noah Warlick, of Chambers Court-House, Ala.—*Improved Spring Bed Bottom.*—Patent dated November 16, 1858.—This invention consists in having the bed bottom formed of a series of longitudinal wooden strips, or slats, having their lower ends, or the ends at the foot of the bedsteads, permanently attached at equal distances apart to a transverse bar, the slats at about their centre being attached to springs which rest on a traverse bar attached permanently to the bedstead, and the upper ends of the slats attached to a strap which serves as a stay; the whole being arranged so that an elastic, simple, and cheap bed bottom is obtained.

The inventor says: I am aware that wooden slats have been used with spiral springs, and therefore do not claim, broadly and irrespective of arrangement, such device.

But I *claim* the wooden springs D attached to the under side of the longitudinal slats B and resting on the transverse bar E.

I also claim the use of metal or India-rubber springs resting upon said transverse bar for the purpose specified.

No. 20,097.—Noah W. Speers, of Cincinnati, Ohio.—*Improved Bedstead.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: The connexion of the posts at top gives additional strength, but I do not intend to confine myself thereto in all cases, as the other features of my invention may be successfuily used in the construction of bedsteads with short posts.

I *claim*, first, the bent posts A, in combination with the clamp B C, or substantially equivalent device, by which they are connected at top.

Second. The outside encircling rail D for supporting the posts and fastening the various parts together.

Third. The construction and arrangement of the corner fastening F in the described connexion with the rails and posts, for the purpose explained.

No. 20,435.—William B. Johns, of United States Army.—*Improved Bedstead.*—Patent dated June 1, 1858.—The posts B B are made of thin bar iron, and are welded together along the straight portion *b*, an enlargement *c* being formed for the passage of the bolts C C^1. The head posts A A have a branch *f* at top for the reception of the head board H. The outer slats D D have notches *m* cut in their outer edges for the reception of the straight portion of the post. The bolts C have lever nuts *n* for permitting the application of sufficient power to thoroughly tighten the bedstead.

Claim.—The combination of slats, posts, and screw bolts, substantially as and for the purposes set forth.

No. 20,518.—William St. Charles, of Fairmount, Va.—*Improved Bedstead.*—Patent dated June 8, 1858.—The nature of this invention consists in framing the four posts of a bedstead together by passing three round tenons of a suitable size attached to the rails E E F F thereof through each post, two parallel tenons and the other at a right angle, and receiving a screw nut or incline outside of the post, and on the projecting end of the tenon.

The inventor says: I do not claim, separately, any of the parts described.

But I *claim* the combination of the old devices newly arranged in

the following manner: The collar L, the tenons A B C D, the holes A B C D, the nuts *e f g h*, and cylindrical bearded wire, arranged in combination with the construction of the head and foot board I I L L; the whole being arranged to operate conjointly as and for the purposes set forth.

No. 20,750.—C. A. Warner, of Bristol, Connecticut.—*Improved Bedstead.*—Patent dated June 29, 1858.—The nature of this improvement consists in the mode of constructing and arranging staples or pins C D, with pulleys B thereon, placed at regular intervals, over which the cord is placed; one end of which is secured at or near one corner of the bedstead, and the other to a winding spindle F, having a ratchet G and pawl H secured thereto, so that the cord may be tightened at will without removing the bedding.

The inventor says: I do not claim either of the parts separately considered, as I know they have been in use.

But I *claim* the arrangement of the staples and pins C D, pulleys B, spindle F, ratchet G, pawl H, in the manner and for the purpose as described.

No. 20,723.—Norman Lanphear, of Monmouth, Illinois.—*Improved Bedstead.*—Patent dated June 29, 1858.—By turning the rods *d d*, or swivels *f f*, the springs *a a* can be reduced in diameter vertically, and their diameter increased horizontally. Also, the centre rail *i* is raised or lowered by means of the rods *d d*, or swivels *f f*.

The inventor says: I do not claim the invention of circular or elliptical springs.

But I *claim* the arrangement of those parts of bedstead with each other which serve for stretching and securing permanent elasticity in the bottoms thereof in the manner and by the means specifically set forth.

No. 21,527.—William S. Todd, of Mechanicsville, Iowa.—*Improved Bedstead.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, attaching the ends of the side rails D D^1 of the bedstead to the foot and head posts B B^1, by the butt hinges E E^1, arranged in reverse positions with each other, so as to enable the said side rails and the head and foot rails to be folded together almost parallel with each other, in the manner and for the purpose described.

Second. I also claim the combination of the right-angled brace or rod I, groove L, in which it traverses, and turning winged or cam shafts M for disengaging the right-angled end of the said rod from the openings in the projections on the inner sides of the side rails, substantially as described.

No. 21,841.—Rufus Maxwell, of Tucker county, Va.—*Improved Bedstead.*—Patent dated October 19, 1858.—The engraving represents the position of the rails when in use, as they would be seen from the outside of the bedstead if the post was removed. The outlines of the post are shown by the dotted lines A A. The dotted circle shows the outer periphery of the side rail. C is the end of the rail.

Claim.—The construction and arrangement of the end rail C, with the notch *d*, the side rail with the tenon B, substantially as described, as and for the purpose specified.

No. 21,878.—Samuel E. Hartwell, of New York, N. Y.—*Improved Bedstead Bottom.*—Patent dated October 26, 1858.—This invention consists of an adjustable attachment between the side rails of the bedstead and the slats, whereby one end of a rubber or elastic loop is adjustably connected to the slat, and the other sets over a bar or rod connected to the sides of the bedstead, so that by adjusting the aforesaid attachment the bedstead bottom can be adapted to different variations in the size of the bedstead, and also to the particular strain or weight of each slat.

Claim.—The adjustable rack *f* carrying the elastic loop *g*, and connected to the slat *c* by the clasp *e*, substantially as and for the purposes specified.

No. 21,926.—Francis Hoffman, of New York, N. Y., assignor to Himself and John Menzell, of said New York.—*Improvement in Bureau Bedstead.*—Patent dated October 26, 1858.—A is a box of rectangular form, and constructed externally to imitate a bureau. The front part of the box is movable, and is secured to the sides *b*, when the box is closed by means of the hooks b^1 and cleats *c*, the latter being attached to the front edges of the side of the box. The back *d* and sides *b* are permanently secured together, and a lid *e* is secured by hinges *f* to the upper end of the back, the lid *e* projecting a trifle beyond the top edges of the sides *b* and front *a*, and when the box is closed it is secured by a lock.

Claim.—A bureau bedstead, in which the bed bottom B is hinged so as to fold and expand horizontally, when opened or closed, as shown and described.

No. 19,451.—A. C. Semple, of New York, N. Y.—*Improvement in the Fastening of Cast Iron Bedsteads.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—Fastening the corners of bedsteads and other similar furniture by the mitre joint and the projections on the rails or sides, and the projections on the legs or supports catching behind them, by which the parts form their own fastening and mutually support each other, substantially as set forth.

No. 19,544.—William Clark, of Weymouth, Ohio.—*Improvement in Bedstead Fastenings.*—Patent dated March 9, 1858.—The finger I projecting from the under side of the bolt, near the head, prevents the bolt D from entering too far into the washer E, and affords greater strength to the fastening. On the under side of the rails A is secured a spring J at each end, as seen in figure 1, which reaches into the post C, where it clasps a pin K inserted in the posts; this connexion of

the spring J with the pin K prevents the bottom of the posts from slipping out.

Claim.—The arrangement of the bolt D with the head D^1 and finger I and the washer E, provided with the slot E^1 flange E^2, in connexion with the jointed rails, which are provided with springs J and pins K, for the purpose set forth.

No. 20,478.—George Burket, of Croghan, Ohio.—*Improved Bedstead Fastenings.*—Patent dated June 8, 1858.—This invention consists in a bedstead fastening composed of a straight metallic pin *a* passed at right angles through the tenon on the rail, and of two metallic pins *b b* passed obliquely through the mortise in different directions, one being at or near the bottom, and the other being at or near the top of the mortise, so that when the pin on the tenon or rail is passed through between the two pins in the mortise, and the rail then slightly turned round the fastening shall be complete.

Claim.—Forming a bedstead fastening by a straight pin through the tenon, and two oblique pins through the mortise, as set forth and represented.

No. 20,839.—Edward S. Wright, of Buffalo, N. Y.—*Improved Bedstead Fastening.*—Patent dated July 6, 1858.—This invention consists in the combination of a coupling hook C, pin E, and wedge D, for the purpose of a simple, cheap and effective method of coupling and fastening the post and rail of a bedstead together.

The inventor says: I disclaim either device separately considered.

But I *claim* the combination of the coupling hook C, wedge D, and pin E, arranged in the manner and for the purpose set forth.

No. 21,511.—Isaac M. May, of Anderson, Ind.—*Improved Bedstead Fastening.*—Patent dated September 14, 1858.—This invention consists in constructing the fastening in such a way that when it is applied to a bedstead it not only connects the side rails to the posts, but the end rails also, and dispenses with the use of mortises and tenons, thereby considerably diminishing the cost of construction of bedsteads, and adding to the strength and durability of the same.

Claim.—The inventor says: I do not claim, irrespective of construction and the special adaptation shown and described, the employment or use of pins fitting in slots for the purpose of securing or connecting together the posts and rails of a bedstead, for various forms of such device have been used for the purpose.

But I *claim* the combination of the plates D E, secured respectively to the post A and rails B C, and provided with the oblique slots *f f* and pins *g g*, substantially as and for the purpose set forth.

No. 22,456.—Oliver Robinson, of Rochester, N. Y.—*Improved Bedstead Fastening.*—Patent dated December 28, 1858.—This lock consists of two parts, the hooked bolt A and circular wrench B. A hole in the diameter of the circular part of the wrench and of a suitable depth to receive it is bored in the rail *c*, and another longitudinally in the same rail; a block M being glued on to give the requisite thickness, and at right angles with the first until they meet, receives the bolt A.

Claim.—The combination and arrangement of the hooked locking bolt A with the circular wrench and eccentric B, constructed as described, for holding the bolt by means of the lip *i* in the proper position for entering the post and tightening the connexion made with the pin *f* or its equivalent, substantially as and for the purpose set forth.

No. 19,254.—George Miller, of Frémont, Ohio.—*Improved Invalid Bedstead.*—Patent dated February 2, 1858.—The lower portion of the frame H is connected by cords *c* with the windless I, first passing over the roller R. As the windlass is turned frame H is drawn out, causing frame A to be lifted and frame C to be drawn down by reason of its connexion with pieces G; the back of the chair is thus supported by the cords and springs S. Any inclination can be given the back by stopping the rotation of the windlass at the time the back inclines, as desired.

The inventor says: I *claim* the three frames A B C, in combination with the longitudial pieces F, connecting pieces G, secondary frame H, springs S, and drawing mechanism, constructed, arranged, and operating, as set forth.

I also claim, in combination with the foot-piece of the bed, the roller R^1 and plate P, attached thereto, operating as and for the purpose set forth.

No. 20,580.—Joseph Parker, of Liverpool, England.—*Improved Invalid Bedstead.*—Patent dated June 15, 1858; patented in England, December 14, 1857.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that bedsteads have heretofore been made in which parts of the frame have been made movable, so that the whole or part of the body of the patient or persons reclining thereon may be raised into various positions as may be required. I do not, therefore, mean or intend to claim the exclusive right to use or apply movable frames to bedsteads for such purposes except when such object is effected in the manner and by the means of the mechanical appliances and arrangements above described, or any analogous contrivances.

But I *claim*, 1st. The mode shown and described of constructing and operating the movable parts of invalid bedsteads. I claim, particularly, the combination of the movable head-board *c* with movable frame *i*, and also the attachment of the bolster to the head so as to prevent it from slipping behind the patient.

2d. I claim the use and application for the purposes mentioned, or for analogous purposes, of the movable foot-board, and the mode of constructing and operating the same.

No. 19,987.—Zebulon C. Favor, of Chicago, Illinois.—*Improvement in Portable Invalid Bedsteads.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement in an invalid cot bedstead embracing the

following several features, to wit: two slotted straps G G *l*, two stop pins *j j*, two loops *k*, turning thimble eyes D D, punctured strips *e e*, bevelled rails A A, obliquely-set pivoted legs B, and turning thimble stop catches C, in the manner specified, and for the purpose of producing an improved new article of manufacture of the character set forth.

No. 20,092.—CHARLES ROBINSON, of Cambridgeport, Massachusetts.—*Improved Bedstead Rail.*—Patent dated April 27, 1858.—This elastic support rail may compose the rail of the bedstead proper or may be separate, so as to be placed upon or attached to the ordinary rails of the bedstead and removed at pleasure; or it may compose part of a bed frame to be placed on the bedstead for the reception of the bed, as shown in the engravings.

The inventor says: I do not claim the employment of a stretched elastic band supported at intervals by projecting pins or their equivalents, on which to place the bed or slats, such being liable to objections which my improved arrangement obviates.

But I limit my invention to an elastic support rail, composed essentially of the constituents described, united as a complete, inseparable whole and unit of construction.

I *claim* an elastic support bedstead rail, composed of the notched rail-piece A, stretched elastic band B, and confining or cap strip C, arranged, combined, and operating in the manner and for the purpose specified.

No. 20,206.—JOHN IRWIN, of Philadelphia, Pennsylvania.—*Improved Sofa Bedstead.*—Patent dated May 11, 1858.—This improvement consists in constructing sofa bedsteads with threefold hinges, having two of the straps bent at right angles, so as to embrace both the edge and side of the back D and seat E, thus giving better support to the wood and preventing the liability of splitting or of tearing the screws from their hold, or of breaking the hinge.

The inventor says: I am aware that the branches of gate hinges have been bent, and that a threefold hinge is not in itself new; but my hinge differs from all other known hinges, and, in its application to sofa bedsteads, forms, I believe, both an important and a patentable improvement.

I *claim* the described hinge, in combination with the back and seat of sofa bedsteads, for the purposes substantially as set forth.

No. 19,649.—NATHAN M. PHILLIPS, of New York, N. Y.—*Improvement in Spring Bedstead.*—Patent dated March 16, 1858.—C C^1 are cross-bars, in which the springs E are placed, and which swing on pivots in their ends in the boxes or catches D secured at the head and foot of each side of the bedstead. E is a coiled spring, one of which is connected to each end of each of the bottom bars F by the flexible connexion F^1. They are formed of wire and are inserted in apertures made in the cross-bars C C^1, and confined in place by the caps of the cross-bars being screwed or fastened down upon them.

Claim.—The combination of the cross-bars C C^1 and the spiral springs E with the bottom bars F and flexible connexions F^1, connected, arranged, and operated as and for the purposes set forth.

No. 19,449.—CHANDLER ROBBINS, of Chicago, Illinois.—*Improvement in Wardrobe Bedsteads.*—Patent dated February 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I am aware that press bedsteads have before been used, but I am not aware that the peculiar arrangement, construction, and combination specified have ever before been known or used; therefore,

I *claim* the arrangement of the attachment of the sacking to the bar I with the strap *e e*, for holding the bed and clothes in position, substantially as described.

No. 21,108.—THOMAS W. MOORE, of Plattsburgh, New York, assignor to ELLIOT & MOORE, of said Plattsburgh.—*Improvement in Machines for making Beef and other Stakes tender.*—Patent dated August 3, 1858 —The nature of this invention consists in the employment of a pair of strong iron jaws filled with pointed teeth, and operated by means of a lever in such a manner that the meat is pierced by the teeth of both jaws, and by the peculiar motion of one jaw in relation to the other the meat is torn without being crushed.

Claim.—The combination of joint *g*, lever *b*, and the jaws *c* and *d*, when the devices are so arranged that the jaws operate in relation to each other, substantially as and for the purpose specified.

No. 19,082.—NEVINGSON G. DU BOIS, of Brooklyn, New York.—*Improvement in Bell Hanging.*—Patent dated January 12, 1858.—The nature of this invention consists in connecting the flat crank plate, fig. 1, at right angles with a head plate, fig. 2, by means of a dovetail, fig. 3.

The inventor says: I do not claim the invention of the bell crank or the dovetail.

But I *claim* the improvement of bell cranks by connecting the flat crank plate with the pillar crank plate by means of a dovetail, and thereby make one crank answer for either, substantially as described.

No. 21,335.—ALBERT W. HALE, of New Britain, Connecticut.—*Improved Portable House Bell.*—Patent dated August 31, 1858.—This invention consists in the employment of a sliding arbor having a pin projecting horizontally from it, and also having a spiral spring placed around it; the above parts being used in connexion with a spring, or elastic tongue, provided with a projecting plate, whereby a simple device is obtained for sounding the bell by a single longitudinal movement of the arbor.

Claim.—A spring hammer tongue E provided with a projection *g*, so arranged as to be operated upon by a pin *e* attached to an arbor C, for the purpose set forth.

No. 21,422.—George R. Meneely, of West Troy, New York.—*Improvement in Hanging Bells.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Uniting a bell furnished with horns to a yoke, through the intervention of a cap and clevis bolts, that said bell may be turned in its yoke, in the manner and for the purpose specified.

No. 19,075.—James M. Connel and John Connel, of Newark, Ohio.—*Machine for Blacking Boots, Shoes, &c.*—Patent dated January 12, 1858.—The nature of this invention consists in a shaft on which is mounted cleaning, blacking, and polishing brush wheels, and an adjustable blacking box for the supply of the blacking wheel.

The box E is adjusted so that the brush W^1, when revolving, will be supplied with blacking. The boot is held against wheel W, which removes the dirt; the boot is then applied to wheel W^1, which coats it with blacking; the friction brush W^{11} performs the polishing. As the blacking in box E is consumed the box is elevated by screw F.

The inventors say: We do not claim rotary brushes as polishers, broadly considered, as such are not new.

But we *claim* the arrangement upon a rotary shaft of cleaning, blacking, and polishing brushes W, W^1, W^{11}, as described, when combined with the vertically adjustable blacking box E under the brush W^1, as and for the purposes set forth.

No. 20,307.—Orson S. Sikes, of Suffield, Connecticut.—*Improved Bootjack.*—Patent dated May 18, 1858.—This improvement consists in attaching clamps to the jacks as ordinarily constructed, so that the foot or heel portion of the boot is brought back into the jack; the heel portion of the clamps open against pins, or stops, and clamps the heel of the boot, while, at the same time, the toe portion of the clamps close over the toe of the boot and thus holds the boot while it is being drawn off.

Claim.—The arrangement of the clamps B, spring D, pins F, operating in the manner and for the purpose described.

No. 22,404.—Frederik Ahl, of West Meriden, Connecticut.—*Improved Bootjack.*—Patent dated December 28, 1858.—This improvement consists in constructing a bootjack that will afford a rest for both hands to hold it steady while drawing the foot from the boot. And in not only having the notch or space for the heel of the boot, but also a vibrating piece of the proper shape to rest upon the upper surface of the foot of the boot between the toe and instep, so as to hold the boot in the most convenient position to draw the foot from it.

Claim.—The described arrangement of the platform A, vibrating arm F, and cross bar H, when the whole is arranged, constructed, and made to produce the result described.

No. 19,844.—F. C. Goffin, of Newark, New Jersey.—*Bootjack and Burglars Alarm Combined.*—Patent dated April 6, 1858.—This invention consists in the employment of two adjustable or movable jaws B B and a spring treadle attached to a bed or plate A and used

in connexion with a catch *e*, the parts being so arranged that the treadle C is made to perform the double function of operating the jaws when pressed down by the foot and the implement used as a bootjack, and of sounding an alarm when the implement is used as a burglar alarm and placed in proper position against a door.

The inventor says: I do not claim broadly the employment of movable jaws, to clamp and hold the heel of the boot.

Nor do I claim broadly the employment of spring door alarms, to give them a signal when attempt is made to force an entrance.

But I *claim* as an improved article a bootjack alarm, made substantially as described, to wit: the bed A, jaws B, treadle C, pendant E, slide F, and spring D, arranged substantially as described, whereby the article serves the double purpose of a bootjack and door alarm.

No. 21,619.—William R. Nevins and Joseph J. Yates, of New York, N. Y.—*Improvement in Bread and Cracker Machines.*—Patented in England March 13, 1857; patent dated September 28, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim*, first, extending the endless apron H for the conveyance of biscuit or crackers, and oval or angular bar J, over which it passes, beyond the end of the frame A, and arranging the same in the relation to the hexagonal roller over which the endless metallic apron H^1 of the oven passes, and which has a corresponding intermittent progressive motion with the endless apron H, in the manner and for the purpose described.

Second. We also claim combining and arranging with the lower endless apron H, in the relation described, the upper endless apron D, for separating the scraps from the biscuit, as described; the two aprons H D being made to move together by means of the ratchet wheels F G, notched bars L L^2, and oscillating arm or bar L^1 attached to rock shaft S, which may be actuated by an eccentric or other convenient means, as set forth.

No. 19,238.—Matthew Chapman, of Greenfield, Massachusetts.—*Improved Bread Cutter.*—Patent dated February 2, 1858.—This invention consists in a rotary knife and bed in connexion with a stationary hopper, in which the bread is placed, and a platform, all arranged so that the bread may be cut in a rapid manner.

The inventor says: I *claim* the rotating knife G and bed H placed on the shaft B, when used in connexion and arranged relatively with the platform A and hopper or opening F, so as to operate substantially as and for the purpose set forth.

No. 19,190.—Thomas Floyd, of Chambersburg, Virginia, assignor to Himself, Daniel K. Wunderlich, and Benjamin F. Knead, of said Chambersburg.—*Improvement in the Art of Making Brooms.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim clamp plates stamped up of sheet metal, as this is not new.

But I *claim* the cast metallic clamp plates B with points *d*, between

which is placed and compressed the material used by means of the bolt and screw *b* which passes through the plates and material, and which is firmly secured by means of said bolt and screw, as described, and for the purpose of making brooms or brushes without sewing, as set forth.

No. 19,039.—ABNER MITCHELL, of Eaton, Pennsylvania.—*Improvement in the Construction of Brooms.*—Patent dated January 5, 1858.—This invention consists in having a metal socket A attached to two clamps, whereby the whisks of corn are secured together, and also the socket which receives the handle is secured to the whisks of corn.

Claim.—The metal socket A, with shank *a* and cross bars B C attached, the cross bars having rods or bars *b b*^{1} *f f*^{1} attached or connected at one end by joints, so that the whisks of broom-corn may be secured or clamped between them, for the purpose set forth.

No. 19,971.—JOHN W. WHEELER, of Cleveland, Ohio, assignor to Himself and C. D. WILLIAMS, of said Cleveland.—*Improved Machine for Manufacturing Splints for Brooms.*—Patent dated April 13, 1858.—The purpose for which this machine is intended is to divide the splints made from the ash tree, or other timber, into narrow strips of uniform width, thus preparing them for the manufacture of brooms, brushes, or similar structures.

Claim.—The groove cylinders A A, the periphery of whose tongues or ribs *c c c c* pass each other as seen at *e e e e*, the edges being in contact and acting like revolving shears when arranged in combination with the delivering combs E E, all operating in the manner and for the purpose set forth.

No. 20,226.—JOEL HAYWOOD TATUM, of New York, N. Y.—*Improved Brush.*—Patent dated May 11, 1858.—This invention consists in having the back of the brush, in which the bristles are secured, formed of a thin metal plate, the bristles being detached from each other and at equal distances apart.

Claim.—The brush constructed as herein shown and described, so as to form a new and useful article of manufacture, to wit: Having the bristles B secured in detached positions in a metal plate A, which forms the back of the brush.

No. 22,381.—REUBEN SHALER, of Madison, Connecticut.—*Improved Brush.*—Patent dated December 21, 1858.—This invention consists in the mode of constructing the brush by drawing the bristles of which it is composed into a spiral groove around a cylindrical or polygonal handle, and securing them in place by means of a wire or its equivalent; also in the mode of cementing the bristles in place by which they are prevented from being drawn out, and the tension which it would be otherwise necessary to give the wire which holds them in place is much reduced.

Claim.—As a new article of manufacture, a brush, the bristles of which are secured by winding them into a spiral groove and fastening them in the manner described, or by winding them into cement, as set forth.

No. 19,459.—CHARLES WILLIAMS, of Philadelphia, Pennsylvania.—*Improvement in Whitewash Brush Blocks.*—Patent dated February 23, 1858.—This improvement consists in providing a block for whitewash or wall brushes with broad permanent rests or gauges C C, so that all the bristles may be set with their butts in line without the use of a vise jaw as a gauge. Also in covering the blade with metal for strengthening and protecting the tie-holes, and thus rendering the block available for second using. It further consists in making the blade or tongue B with serrated surfaces and with slits F from its edge to the tie-holes E.

The inventor says: I *claim*, first, the permanent rests or gauges C C, and in combination with the same the slitted and serrated tongue B, substantially as and for the purpose set forth.

Second. Covering the blade with serrated metal, substantially as and for the purposes set forth.

Third. The slits F in the tongue, forming part of and intersecting with each tie-hole E, as and for the purposes set forth.

No. 21,092.—CHARLES D. THUM, of Philadelphia, Pennsylvania.—*Improved Case Shoe Brush.*—Patent dated August 3, 1858.—This invention consists in providing a case 2, of any requisite shape, and made of any suitable material, said box being provided with lids, as shown in the engravings, and numbered 1 and 3, forming the top and bottom of the case. The engravings show the shape of the brushes.

The inventor says: I do not claim to be the inventor of any of the parts taken separately.

But I *claim* the combination of the brushes and case as shown, the same being made of suitable material, such as wood, metal, India-rubber, or its equivalents, and of any desirable shape; the whole being arranged and combined as set forth and shown, for the purposes specified.

No. 20,447.—DAVID W. SHAW and WILLIAM A. MEGRAW, of Baltimore, Maryland.—*Improved Whitewash Brush.*—Patent dated June 1, 1858.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of the metallic box with two or more divisions and slotted ends, and the centre or wedged-shaped bar for dovetailing the end of the bristle, and a movable or top plate fastened by pins or screws, for the purposes specified.

No. 21,464.—STEPHEN BARNES, of New Haven, Conn., assignor to Himself, HENRY S. PARSONS, and SAMUEL ROWLAND, of said New Haven.—*Improvement in the Manufacture of Brushes.*—Patent dated September 7, 1858.—This invention consists in the employment of a movable tubular block, constructed to hold bristles in tufts as required for the manufacture of toilet brushes.

The inventor says: I do not claim to be the first to secure bristles

in a clamp, or its equivalent, while their tops are cemented together, for this has already been done.

But I *claim* the securing of the bristles in separate tufts in the manner described by the employment of the tubular block A, or its equivalent, substantially as set forth.

No. 19,069.—J. D. BURTON, of Boston, Mass.—*Improvement in the Construction of Bureaus and Washstands.*—Patent dated January 12, 1858.—In the bureau the top has dovetailed grooves cut on its under sides from the back toward the front thereof, but so as to stop short of the front and not be seen from that side. These grooves receive dovetailed tenons or tongues *a* on the top of the side pieces C. On the bottoms of the side pieces C are also cut dovetailed tongues *c*, which slide into similarly formed grooves *b* in the bottom piece B. To put together the bureau, the bottom piece B is first laid upon the floor, and the two side pieces C slipped into its grooves. The supporting pieces D are then slid into grooves cut in the side pieces from behind, and the back piece F is then slid down from the top into the vertical grooves *i i* in the side pieces; and. finally, the top piece A is run into the side pieces, and the whole is firmly united, the back holding in the pieces D, and the top preventing the back from rising.

Claim.—The combination of the dovetail grooves and tenons, by means of which a bureau or washstand may be dismembered and again united or set up in the particular order or sequence of parts, as set forth, for the purpose specified.

No. 21,220.—JAMES H. STIMPSON, of Baltimore, Md.—*Improved Butter Bucket.*—Patent dated August 17, 1858.—This invention consists in a new butter kettle made with two walls A and B, for the purpose of keeping butter and other articles for which the kettle may be used cool.

The inventor says: What I *claim* is the new article of manufacture, the same being the double walled butter bucket or kettle, constructed as set forth.

No. 20,902.—JAMES H. STIMPSON, of Baltimore, Md.—*Improved Butter Cooler.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the placing of the ice above the butter.

But I *claim*, as an improved article of manufacture, a butter cooler made substantially as shown and described, to wit: with an ice receptacle D suspended over the dish B in the manner and for the purposes set forth.

No. 19,103.—JUSTIN M. SMITH, of Lyme, Conn.—*Improved Butter Worker.*—Patent dated January 12, 1858.—This invention consists in having a series of oblique arms *g g i i* attached to a vertical rotating shaft C. which is fitted in an inverted conical case provided with a perforated plate at its bottom, the parts being so arranged that the butter, without being subjected to any undue action, will, as the shaft

is rotated, have all the butter-milk which it contains fully expressed from it.

The inventor says: I do not claim broadly a rotating shaft placed within a case, and provided with arms irrespective of the construction and arrangement of the arms and dependent parts, as shown, for such devices are in common use, and may be seen in various churns and clothes-washing machines.

But I *claim* the shaft C provided with arms or blades *g g i i*, arranged as shown, and placed within the inverted conical case A, suspended within a proper framing, and having a perforated plate D fitted in its bottom *b;* the whole being arranged substantially as and for the purpose set forth.

No. 21,106.—N. W. BANCROFT, of Burlington, Vt., assignor to Himself and H. M. PROCTOR, of said Burlington.—*Improved Butter Worker.*—Patent dated August 3, 1858.—This invention consists in the employment of a rotating basin and corrugated adjustable roller in connexion with a shave and guide roller, the whole being arranged to operate so that the butter may be thoroughly worked.

The inventor says: I *claim* the combination of the roller P with the roller J and share O, substantially as and for the purposes shown and described.

I also claim the combination of double-geared shell pinion D with the basin A, adjustable shaft H, socket E I, and pinion G, substantially as shown and described, so that by turning the screw K the shaft H may be raised or lowered, and the height of the roller J altered at pleasure.

No. 21,460.—ZIBA WILLIAMS, of Ithaca, N. Y.—*Improved Butter Worker.*—Patent dated September 7, 1858.—The operation of this apparatus is as follows: The ladle is so arranged as to exert great power in crushing the butter in cold weather, as well as the gentlest force. The trough being open, there is the freest access to the butter. The motion of the ladle reciprocating from side to side extracts the milk, and yet does not crush the butter too much.

Claim.—The combination of a trough and a ladle having parallelism to the axis thereof for the purpose of working butter, when the same are constructed and arranged in the manner described.

No. 20,054.—ADAM FISCHER, of Dayton, Ohio.—*Improved Cabbage Cutter.*—Patent dated April 27, 1858.—In using this machine the cabbage to be cut is placed in the upper section of the cylinder and held stationary by a stop board while being cut to any desired degree of thickness by the knives, which are caused to revolve rapidly by means of a crank and two bevel wheels, the cut cabbage escaping in the lower section of the cylinder, and discharged automatically into a receiver.

The inventor says: I do not claim a horizontally revolving disk set with knives and gauge plates; neither do I claim the partitioned hopper or upper section C; nor do I claim broadly controlling the fineness or coarseness of the cut of knives.

But I *claim* the cabbage cutter specified, where all its parts are constructed and arranged for united operation, substantially as and for the purposes set forth.

No. 20,209.—A. S. Lyman, of New York, N. Y.—*Improvement in Cans for Preserving Food.*—Patent dated May 11, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—In cans for preserving food the combination of the reservoir or filter of suitable material, with a can having an arrangement for discharging its contents in such a manner that, whenever any food is drawn off, air or gas deprived of the primary cause of decomposition shall supply its place, substantially as and for the purposes specified.

No. 20,722.—Azel Storrs Lyman, of New York, N. Y.—*Improvement in Cans for Preserving Food, &c.*—Patent dated June 29, 1858.—F is the float, made of such size that it shall fall freely and without friction on the sides of the can, and of such weight that it shall sink about two-thirds of its depth into the liquid to be preserved. *t* is a tube, forming the handle of the float, and from which the air under the float escapes. *v* is a valve for drawing off the material from the can.

Claim.—The employment of the float, surrounded by the protecting liquid, in combination with a vessel having an arrangement for discharging its contents, substantially as described, for the purposes specified.

No. 22,436.—W. W. Lyman, of West Meriden, Conn.—*Improvement in Fruit Cans.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—In combination with the groove for receiving and holding the packing, and the flange *m* on the cover, fitting into said groove and against the packing, the sleeve C with its cam slots, and the studs on the neck of the can, for drawing the flange of the cover tight down on to the packing without crimping it, substantially in the manner specified.

No. 19,063.—Ezra J. Warner, of Waterbury, Conn., assignor to Himself, William H. Warner, and Rufus E. Hitchcock, of Waterbury, Conn.—*Instrument for Opening Cans.*—Patent dated January 5, 1858.—The looped bar *c* is made of steel, or any other suitable material, and attached to the piercer bar B near its end by a fulcrum or joint pin, as shown at *c*, so that it may readily swing or rock from the position shown in fig. 1 to that shown in fig. 2.

Claim.—The combination of the curved cutter *a* with the looped bar *c*, when constructed and made to operate substantially as described.

No. 20,203.—Edwin W. Gilmore, of North Easton, Mass.—*Improvement in Preserve Cans.*—Patent dated May 11, 1858.—A bar lever B is arranged across the cover D and top of the can, formed with journals *c c*, to extend through stirrups C C. The bar lever is formed with an arm *d*, and is furnished with a cam or projection *e*, so arranged with respect to the arm *d* that, while the latter is being turned down from a vertical to a horizontal position, the said cam shall force the cover D firmly down upon its seat or rubber annulas, so as to effect an air-tight sealing of the can.

Claim.—The arrangement of the arm and the cam and the bar B, whereby the cam is not only made to operate to aid in strengthening the bar when supported as described, but the arm is enabled to operate as a stop to maintain the cam in place while forcing down the cover, as set forth.

No. 20,485.—H. G. Dayton, of Maysville, Ky.—*Improvement in Preserve Cans.*—Patent dated June 8, 1858.—This invention consists in the employment of an India-rubber band B attached permanently to the cover C in such a manner as to enable it to lap over the sides of the can and cover the joint, and keep the latter closed tightly by the shrinking consequent upon its elasticity. It further consists in the employment of an elastic metal clasp D around the India-rubber band to secure it in place upon the can.

Claim.—The employment of the rubber band in combination with a metal cover and metal clamp, substantially as set forth.

No. 21,078.—Emmons Manley, of Marion, N. Y.—*Improvement in Preserve Cans.*—Patent dated August 3, 1858.—This invention consists in forming a depression around the edge of the mouth of the can, and fitting the mouth with a stopper C the form of a cup, whose exterior combines with the depression round the mouth to form a channel to receive the sealing composition, and whose interior serves to receive cold water to cool and cause the cement to set after the closing and sealing of the can, and to receive the hot water to melt and soften the cement, so that the stopper may be removed when necessary to open the can.

The inventor says: I do not claim broadly the formation of a wax space between the lip and the stopper.

But I *claim* the combination of the depression around the mouth of the can and the cup-formed stopper, constructed and operating substantially as described.

No. 22,351.—P. H. Cotton, of Demopolis, Ala.—*Improvement in Preserve Cans.*—Patent dated December 21, 1858.—This invention consists in the application of fastenings to confine the cover on the can against the pressure of steam that is generated to expel the air until condensation takes place and the sealing composition becomes sufficiently hard to retain the cover in its place. It also consists in forming a recess in the lower part of the neck of the can, and making the rim of the cap to extend down some distance over said recess, for the purpose of preventing the sealing composition becoming detached from the sides of the channel, and the cap being thereby unsealed.

Claim.—In combination with the channel C outside of the neck of the can, the employment of a recess *e* in the neck, and the extension

of the rim of the cap over such recess, substantially as and for the purpose specified.

No. 21,348.—W. W. Lyman, of West Meriden, Conn.—*Improved Method of Sealing Preserve Cans.*—Patent dated August 30, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* exhausting and sealing fruit jars and cans, or other similar vessels, by means of the tube C, the cement *e*, and opening *c*, and an exhausting apparatus D, substantially as described, by which means the operation is rendered very easy, simple, and effective, and the closing of the air vent accomplished by the same device through or by which the air is drawn from the can.

No. 22,247.—Allen Taylor, of Baltimore Maryland.—*Improvement in Sealing Preserve Cans.*—Patent dated December 7, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The forming of the gutter-shaped rim E which supports the sealing cement of a porous or textile substance, said substance being applied to the downwardly bent edge of the cover, and forming with said edge a V-shaped gutter, in which the cement when melted will be confined, yet allowed to come in contact with the metal surface, and thus seal the cover to the can with a small expenditure of cement, and in such a manner that the cover can be readily unsealed without cutting up and wasting the cement, as when other modes of sealing are adopted, substantially as set forth.

No. 19,465.—Joseph Harris, jr., of Roxbury, Massachusetts, and Daniel Holmes, of Chelsea, Massachusetts, assignors to Daniel Holmes, aforesaid.—*Improved Carpet-Beating Machine.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: We *claim* the use of the elastic whips *a* connected together at their ends by the cord *g*, in the manner and for the purpose substantially as described.

Second. We claim placing an elastic cushion L in front of the carpet for the whips to strike on, in the manner and for the purpose substantially as described.

Third. We claim the vibrating beaters *f* for beating the opposite surface of the carpet, arranged and operating substantially as specified.

No. 21,211.—Augustine W. Noney, of Bridgeport, Connecticut. *Improved Carpet Cleaner.*—Patent dated August 17, 1858.—A A are the sides of the box; B B^1 the travelling wheels, one on each side of the box, connecting by belts or cords with the brush pulleys E E^1, which are shown on the axis of the brush G; D is the dust pan; H H^1 are the flexible flaps or drags; L L^1 L L^1 are the slotted ears, where, by means of set screws, the shields or guides J K may be adjusted together with the flaps.

The inventor says: I do not claim the revolving cylinder brush, nor the dust pan, nor the enclosing box, nor the combination of the three, all these having been long known and used.

But I *claim* the combination and arrangement of said flaps or drags, and the said shields with the revolving cylinder brush, box, and dust pan, in the manner described, as and for the purpose specified.

No. 19,164.—Charles A. Wakefield, of Dalton, Massachusetts.—*Improved Carpet Fastener.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A carpet fastener composed of metal plates bent so as to form parallel sides or plates *a b* provided with teeth *c*, and each perforated with a hole *d*, the plates being fitted and secured on the edge of the carpet, and used in connexion with the tacks *e*, or their equivalents, driven in the floor, substantially as shown for the purpose set forth.

No. 20,341.—Warren Filkins, of Lancaster, New York.—*Improved Carpet Fastener.*—Patent dated May 25, 1858.—The nature of this invention consists in the combination of a swinging slotted cap *a*, with a plate *e*, and spur *b*, the whole to be used as a carpet fastener.

Claim.—The arrangement of the horizontal swinging slotted cap *a* with the plate *e* and the spur *b*, in the manner specified and for the purpose set forth.

No. 21,325.—Morris Dewey and Ira Phillips, of Clarendon, New York.—*Improved Carpet Fastener.*—Patent dated August 31, 1858.—The nature of this invention consists in the construction of a pin about one inch in length, of proper size, pointed at both ends, or pointed at one end and flattened at the other, as seen in the engraving.

Claim.—The pin and the set, as described, combined and arranged for fastening carpets to floors in the manner specified.

No. 21,365.—Joseph Reynolds, of New Britain, Connecticut.—*Improved Carpet Fastener.*—Patent dated August 31, 1858.—This improved carpet fastener is constructed of suitable metal in form similar to the plan in figure 1, A B C, made with one, two, or more points; the single points are intended to go into the corners of the room; the double pointed ones are for both sides of the room.

Claim.—The hook and plate in one piece, as described, as a new article of manufacture, substantially as set forth.

No. 22,354.—Richard DeCharms, of Philadelphia, Pennsylvania.—*Improved Carpet Fastener.*—Patent dated December 21, 1858.—In this improvement stair rods and tacks are dispensed with in putting down carpets, screws only being used in the eyelet holes.

Claim.—The described new article of manufacture, to wit: an eyeletted carpet or floor cover binding, for the purposes set forth.

No. 19,882.—Horace Thayer, of Warsaw, New York.—*Improved Carpet Holder.*—Patent dated April 6, 1858.—The nature of this invention consists in making a carpet holder, which is driven into holes bored in the floor to hold down carpets firmly, with a clasp and spur at the top of said fastener, thus dispensing with the use of nails.

The inventor says: I do not claim as new the parts composing my device.

But I *claim* the arrangement of the spring-tube clasp and slide forming a carpet holder, constructed and operated substantially as described.

No. 19,230.—Hermann Blau, of Washington, D. C.—*Improved Carpet Stretcher.*—Patent dated February 2, 1858.—This improved carpet stretcher is operated in the following manner: The teeth of the fork *g* having been inserted in the edge of a carpet, the outer end of one of the bars *a* or *b*, or of an elongated bar composed of both of them united, is placed against the washboard, or some other suitable support, in an opposite portion of the room, and then the inner end of the lever C is inserted in one of the notches in said ratchet bar, when a small amount of downward force at the angle of junction of the ratchet bar and lever is applied.

The inventor says: I am aware that a carpet fork has been combined with one end of one of the legs of a pair of permanently-hinged and non-adjustable levers.

I am also aware that the legs of a carpet stretcher have been combined with each other by means of a movable pin and a series of holes, and therefore I do not claim such articles as my inventions.

But I *claim* my double extensible carpet stretcher, composed of the combined notched bars *a* and *b* and the fork-armed ratchet lever *c*, combined with each other, and operating substantially as set forth.

No. 19,596.—Joseph Warner, of New Britain, Connecticut.—*Improved Carpet Stretcher.*—Patent dated March 9, 1858.—This is a lever A having teeth *d* pivoted to a plate B provided with spurs *e*, the parts being arranged so that the implement may be readily secured to the floor and connected to the edge of the carpet in such a way that, as the latter is tacked to the floor, it may be stretched with the greatest facility.

Claim.—The lever A, of any proper form or shape, provided at one end with teeth *d*, and pivoted to a plate B having spurs *e* attached, substantially as and for the purpose set forth.

No. 21,303.—Henry Ridley, of Hartford, Connecticut, assignor to S. P. Thatcher and Walter Stillman, of said Hartford.—*Improved Carpet Stretcher.*—Patent dated August 24, 1858.—In using this improved carpet stretcher, it is first secured to the floor, and the carpet is caught in the clamps at K, when the machine is wound up until the carpet is sufficiently stretched and tacked, then the machine is removed to another point, and so on until the work is done.

Claim.—The construction and arrangement of the clamps I, straps H, wheel C, ratchet E, and pawl G, in the frame-work A B, substantially in the manner as and for the purpose described.

No. 21,654.—W. C. Conant, of New York, N. Y.—*Improved Carpet Stretcher.*—Patent dated October 5, 1858.—This invention consists in combining, with the other necessary parts of a carpet stretcher, the clamp for grasping the carpet, by which the danger of injury is avoided, and at the same time present its edge in a straight, smooth form in suitable shape for nailing.

Claim.—A carpet stretcher made by combining the clamp and wedge D and E with the other necessary parts of a carpet stretcher, as set forth.

No. 21,233.—Hiram H. Herrick, of East Boston, Massachusetts, assignor to La Fayette Culver, of said East Boston.—*Improved Carpet Sweeper.*—Patent dated August 17, 1858.—This invention has reference to certain improvements in machines for sweeping floors and carpets, in which the rotation of the brush is effected by the movement of the box which contains it across the floor.

The inventor says: I *claim*, 1st, inclining or grooving the brush shaft, as at *o* and *k*, as described, for the purpose specified.

2d. I claim protecting the bearings from dust by means of the plates *l m* and *n* operating in the manner described for the purpose specified.

3d. I claim the peculiar construction of the dust pan, with its spring lip 5, in combination with the screen *t*, operating as set forth for the purpose specified.

4th. I claim dividing the brush in the centre, and connecting each half with one of the driving wheels, as set forth, in combination with the method described of pivoting the inner ends to a suspended support, as described, whereby the continuity of the brush is not interrupted, as set forth.

No. 21,451.—Reuben Shaler, of Madison, Connecticut.—*Improved Carpet Sweeper.*—Patent dated September 7, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, 1st. The combination, in a machine for sweeping carpets, of a brush, the bristles of which are set at an angle of about forty-five degrees from a radial line passing directly outward from axis, constructed substantially as described with a traction roller, substantially as and for the purposes set forth.

2d. The construction of the traction roller of a sweeping machine in the manner described—that is to say, by winding a spiral flange of India-rubber, or other flexible and adhesive substance, around a cylinder, as set forth, by which a very powerful adhesive traction of said roller is insured; and the roller is much more cheaply manufactured than an equally efficient one could otherwise be.

No. 21,660.—Jacob Edson, of Boston, Mass.—*Improved Carpet Sweeper.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the arrangement described of hanging the brush at or near one of its journals in a bridle, and attaching the opposite end of the said bridle at a point on the case of the machine, between the centre of the driving-wheel and the other journal of the brush, whereby the machine is made self-adjusting, so as to adapt itself to heavy or light sweeping.

Second. Attaching the handle of the machine to the bridle *e e*, at a

point near the driving-wheel, instead of in the centre of the machine, as set forth, and for the purpose specified.

Third. Forming the entire machine of a tapering shape, as described, whereby the brush can work successfully in the corner of an apartment to be swept.

Fourth. The combination of the revolving brush, having the bristles arranged spirally thereon, with the tapering-shaped dirt receiver, so as to sweep and convey the dirt into the larger end of the receptacle.

Fifth. Combining in one the door for removing the dirt and the dirt receiver, by constructing it as described.

No. 21,673.—DANIEL HARRIS, of Boston, Mass.—*Improved Carpet Sweeper.*—Patent dated October 5, 1858.—This invention has reference to that description of carpet or floor sweepers in which a revolving brush, set in motion by the travel of apparatus across the floor, is made to take up and deposit the sweepings in a case covering the brush. It has for its object important improvements connected with the working or transmission of motion to the brush, and connected with the construction of the case for preventing the return of the sweepings by the brush, and facilitating the removal of them.

Claim.—The arrangement of a revolving brush driven by means of a padded driving-wheel from one side only, within a semi-cylindrical casing provided with stationary pockets and deflectors in front and rear of the said brush, substantially in the manner and for the purpose of acting together as described.

No. 21,701.—STEPHEN P. ROWELL, of Reading, Mass.—*Improved Carpet Stretcher.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in combination with the brush and its main operating gear, devices substantially as described, for adjusting the brush and maintaining its axis at the same or at its proper distance from the axis of the gear, in order to maintain the gear in engagement with its pinion, as specified.

I also claim the application of the rear dust receptacle to the frame, so as to be capable of being swung or turned upward and outward therefrom, substantially in the manner and for the discharge of dust as specified.

No. 21,815.—AUGUSTUS C. CAREY, of Ipswich, Mass.—*Improved Carpet Sweeper.*—Patent dated October 19, 1858.—This machine is operated as follows: It is pushed in the direction of its arrow over the carpet to be swept by the handle D, and as the brush is revolved rapidly in contact with the carpet, the dust is brushed up over the front edge 4 of the dust pan G and is collected in it. The dust pan may be afterwards removed by simply slipping it out from the staples *m*, and the dust be removed from it.

The inventor says: I *claim*, first, placing the revolving brush at the extreme front of the box A, and hanging it in adjustable bearings H, in the manner substantially as set forth.

Second. I claim the deflector I, operating substantially as described for the purpose specified.

Third. I claim the combination of the revolving brush, the double pulley *a b*, or its equivalent, and the roll B, when so arranged that the brush may be disconnected from the roll B and be operated by hand, substantially in the manner and for the purpose specified.

No. 19,824.—EDMUND BIGELOW, of Springfield, Mass.—*Improved Syrup Casters.*—Patent dated April 6, 1858.—The mode of operating this caster is as follows: The several syrup apartments or reservoirs A A having been filled, each with its appropriate syrup, the syrup has flowed through pipe G and filled the register B. The rod D being then pressed down by the hand, valve C is brought firmly into its seat P, closing the port O, and stopping the flow of the syrup into the register. By the same movement of the rod D the valve F is opened, and the syrup, already in the register, flows into the glass. On removing the hand from rod D, the spiral spring J forces the rod D back to its original position, bringing valve F to a bearing and opening the port O, and the register again instantly fills with syrup, and may again be emptied by removing the pressure on rod D.

Claim.—The described measuring faucet or register in combination with the revolving syrup fountain or reservoir.

No. 20,376.—AUSTIN S. SMITH, of Lawrence, Mass.—*Combined Rocking Chair and Cradle*—Patent dated May 25, 1858.—This chair is provided with rockers attached in such a way that they can be turned from one leg to another, and this combined with a movable back and foot rest forms a convenient cradle from the chair.

The inventor says: I do not claim, separately, the adjustable back nor the adjustable foot rest, for they have been used and arranged in various ways.

But I *claim* the adjustable back B and foot rest F, connected by the levers G, and arranged relatively with the seat C, as shown, and used in connexion with the rockers H H, connected to the legs *a* by the swivel sockets *j;* the whole being constructed and arranged substantially as and for the purpose set forth.

No. 22,297.—R. McG. LYTLE, W. I. ALSTON, and LORENZO W. TRUE, of Williamson County, Tenn.—*Improved Folding Chair.*—Patent dated December 14, 1858.—This chair in its general form resembles the ordinary arm chair, with a seat A supported by four legs *a* a^1 connected with each other by cross bars *b* b^1, both at the sides and at the front and back, and provided with a back B and arms C. The back is connected to the seat by a hinge joint *d*, and also by the arms; the upper leaf of the hinge is made fast to the back, and the lower leaf attached to the seat by a sliding bolt *e*, the withdrawing of which releases the hinge from the seat.

The inventors say: We *claim*, first, the arrangement of the arms and also of the back, substantially as described, so that the back retains the arms in place when folded.

Second. The arrangement of the legs substantially as described, so that one set of legs folds over and retains the other set in place.

Third. The combination of the slotted bolt with the socket plate and spring stop arranged substantially as described for connecting the arms with the seats.

Fourth. In combination with the side bars we claim the screw strap or its equivalent, for connecting the bars with the legs, so that when folded between the legs one is raised and the other depressed for the purpose set forth.

Fifth. Connecting the legs with the seat by means of a socket joint arranged substantially as described, so that each pair of legs can be withdrawn from their sockets and folded down without being disconnected from each other or from the seat for the purpose set forth.

No. 20,198.—Augustus Eliaers, of Boston, Mass.—*Improved Reclining Chair.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the general arrangement of the chair described, whereby the back, foot-rest, &c., are sustained and actuated as specified, and the foot-rest made adjustable and locked in any desired position as set forth.

I also claim the combination of the hinged rails *p p*, sliding arms *s s*, and mortises to receive the rails *p p*, or in lieu of the rails entering the mortises in the said combination, the arm g^1 attached to the back and turning upon a pivot in the grooved or mortised sliding arm, whereby I am enabled to obtain a very long arm, as set forth.

No. 22,145.—Amos E. Kendall and Peter K. Keyes, of New York, N. Y., assignors to Themselves and Calvin W. Elton, of said New York.—*Improved Reclining Chair.*—Patent dated November 23, 1858.—The nature of this invention consists in an arrangement of means for fixing the back of a chair at any degree of inclination and holding it firmly in the desired position.

Claim.—In combination with the swinging post E, jointed arm D, and back C, the employment of a serrated segment F and fastening *e*, constructed and operating substantially as set forth and for the purposes specified.

No. 21,320.—David Buzzell, of Charlestown, Mass.—*Improved Recumbent Chair.*—Patent dated August 31, 1858.—The object had in view in the invention of this chair has been to enable a person while sitting in it to easily operate the leg-rest and the back by a slight pressure against the foot-rest of the leg-rest. By pressing the feet against the foot-rest, and at the same time lifting his legs, the said person can with great ease not only raise the leg-rest up to any desired inclination to the horizon, but will at the same time correspondingly decline the back, and these parts will easily maintain any such position as long as the same may be agreeable to the sitter. A little downward pressure of the legs on the leg-rest will suffice to depress the same and bring the back forward. The seat moves with the back and the leg-rest and contributes by the weight of the sitter's body to facilitate the operation of moving the back and the leg-rest.

Claim —The arrangement and application of a lever E and notched cams F G to either or both sides of the seat frame A, and to the back B and leg-rest D, substantially as explained and as represented in the drawings.

No. 19,352.—Thomas W. Currier, of Lawrence, Massachusetts.—*Improvement in Rocking Chairs.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The above described mode of combining rockers F F with the chair-stand A and the recumbent back B, viz: by levers D D and arms E E, arranged and connected with the back B, the arm-rests C C, and the chair-stand A, and jointed to the rockers, substantially in the manner described, so as to enable a person, by laying hold of and moving the back, either to cause the chair to be supported on its legs or on its rockers, as occasion may require.

No. 20,863.—Isaac P. Carrier, of South Glastenbury, Connecticut.—*Improved Rocking Chair.*—Patent dated July 13, 1858.—The nature of this improvement consists in constructing the chair so that the seat will oscillate, and a free and easy motion be produced by the aid of reaction springs G.

Claim.—The arrangement of the frame or arms E, rod F, springs stud H, and the pin *c*, holes *b*, substantially in the manner and for the purposes as described.

No. 19,343.—Leopold R. Breisach, of New York, N. Y.—*Improved Rotary Blast-Producing Chair.*—Patent dated February 16, 1858.—This improvement consists in the combination of a portable rotary chair A B, with double-acting side bellows C C, and in the application of a mechanism by which a constant current of air can be obtained.

The inventor says: I do not claim the arrangement of stationary seats with one pair of bellows, with one foot to be worked upon by a kind of pump handle, in order to produce a current of air.

But I *claim* the combination of the portable rotary chairs, with double-acting two pairs of side bellows, and the mechanism described, by which, with little muscular exertion, constant currents of air are obtained for cooling the operator.

No. 22,419.—Patrick Gallagher, of Pleasant Unity, Pennsylvania.—*Improved Spring Bottom for Chairs and other Seats* —Patent dated December 28, 1858.—The nature of this invention consists in making a spring bottom for seats of any kind out of a spring plate of steel, or cold rolled iron, having the proper strength and elasticity, when said plate constitutes the seat and spring both within itself.

Claim.—Making the bottoms of chairs, or other seats, of spring plate metal, so that when placed loosely upon the frame said plates shall be both a bottom and a spring, substantially as set forth.

No. 21,409.—John R. Cannon, of New Albany, Indiana.—*Improved Cane-Seat for Chairs.*—Patent dated September 7, 1858.—The nature

of this invention consists in the use of a double rattan stuffed bottom. The frame of this chair differs very little from that of the ordinary chair. The only peculiarity in the construction of this frame is, that the stretchers around which the bottom passes are always made round, so as to prevent breaking or cutting the rattan. In constructing the bottom the rattan is plaited closely and passed around the stretchers, and joining it again so as to form a double bottom; between these two bottoms any kind of stuffing is inserted, or any kind of suitable spring.

Claim.—The manufacture of chair bottoms substantially in the manner and for the purpose specified.

No. 19,582.—CHARLES ROBINSON, of Cambridgeport, Mass.—*Improvement in the Spring-Seats of Chairs, Sofas, &c.*—Patent dated March 9, 1858.—When the seat of the chair is unoccupied the elasticity of the band or bands D draws the arms C C toward each other and keeps the inner edges of the supporting blocks B B raised firmly against the middle of the cushion. But if pressure is applied on the top of the chair-seat the inner adjoining edges of the supporting blocks are forced downward, and the elastic band or bands stretched.

Claim.—The hinged supporting blocks B B and their projecting arms C C, connected by a band or bands D, and operating substantially as and for the purpose specified.

No. 20,663.—HENRY A. ROE, of West Andover, Ohio.—*Improved Cheese Vat.*—Patent dated June 22, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim* attaching the milk vat to the casing by a hinge joint, or its equivalent, and so arranging the whey-gate that the weight of the milk vat and its contents will act as a lever, in keeping the cellar and packing C in close contact with the inner surface of the water chamber.

I also claim, in combination therewith, the short legs E^1 and the jointed legs E^2, all operating in the manner and for the several purposes set forth.

No. 19,476.—JOSEPH BAKER, of Washington county, D. C.—*Machine for Stoning Cherries.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim* the perforator *h*, by which the stone is extracted from the pulp of the fruit, and the bevelled feeding slide O.

I also claim the combination of perforators *h*, the bent lever P, and feeding slide O, operated and arranged in relation to each other as described, and for the purpose specified.

No. 22,464.—WILLIAM P. UHLINGER, of Philadelphia, Pa.—*Improved Closet for Sewing Machines.*—Patent dated December 28, 1858.—This invention consists in an improved construction of the stands for sewing machines, in which the machine is attached to a movable platform or table, the latter being so connected with suitable mechanical devices that it may, when the machine is required for operation, be

elevated to the top of the stand, while by lowering the platform into the interior of the same the machine is, when standing idle, not only removed from sight and entirely protected from injury, but the stand itself is, upon shutting the lid, transformed into an ornamental piece of furniture.

Claim.—Combining the sewing machine platform G with the lid B of the closet, that the opening and shutting of said lid shall operate the platform G, substantially in the manner and for the purpose set forth.

No. 19,772.—JAMES J. HAMILTON, of New Castle, Indiana.—*Improved Clothes Dryer.*—Patent dated March 30, 1858.—The nature of this invention consists in an upright post 21, to which is attached four arms 1 2 3 4, which are attached to the post in such a manner that they may be suspended in a horizontal position, forming a right angle with said post; a cord is run through the arms, upon which the clothes may be hung.

Claim.—The application of the roller and pulleys to the arms and the folding of the arms to the post.

No. 20,964.—S. H. TIFT, of Morrisville, Vermont.—*Improved Clothes Dryer.*—Patent dated July 20, 1858.—The nature of this invention consists in so constructing a machine that the arms will always be properly held in position, under all circumstances of contraction or expansion of the cords, while the frame will be at liberty to turn upon the shaft. This result is arrived at by combining with other parts of the dryer a sliding collar with a ratchet catch, capable of being secured to the shaft at any point, and affording a bearing for the sliding head of the folding frame.

I disclaim the mere combination of a sliding hub with expanding arms, as such does not constitute my invention.

But I *claim* the combination of shaft A, hubs B and C, arms D, and braces E, with the sliding collar F and catch G, the whole constructed, arranged and operating as and for the purpose set forth.

No. 21,035.—STEPHEN H. TIFT, of Morrisville, Vermont.—*Improved Clothes Dryer.*—Patent dated July 27, 1858.—This invention consists in the arrangement of the arms, when made flexible, fast in the head of the standard, and considerably oblique to a horizontal plane, in combination with the arrangement of the standard which supports the arms, so that its lower end nearly touches the floor, in a socket which is mounted upon flexible obliquely set legs.

Claim.—The arrangement of the light yielding bars A A A A A A, cords or ropes D D D D, standard B, and light yielding legs C C C, substantially as and for the purposes set forth.

No. 21,639.—E. G. GIBSON, of Owego, New York, assignor to H. G. FINKHAM, of said Owego.—*Improved Clothes Dryer.*—Patent dated September 28, 1858.—The object of this invention is to simplify the construction of revolving clothes dryers, and at the same time obtain

a double device; one that may be readily kept in repair and constructed at comparatively small cost.

The box head B rests on the cap or plate, and is allowed to turn freely thereon; and the arms *c* are retained at a suitable height by a pin *f*[x] which passes through the post, and on which the box D rests.

Claim.— I do not claim broadly a rising and falling frame, nor the lifting thereof by windlass and cords.

But I *claim* the arrangement of the square or box head B between the pieces a^1 a^1 of the arms *c c*, as and for the purposes shown and described.

No. 21,626.—Emma T. Porter, of Washington, District of Columbia.—*Improved Clothes Dryer.*—Patent dated September 28, 1858.—The nature of this invention consists in a light adjustable frame, peculiarly adapted to the drying of clothes by a stove fire, and that, when not in use, may be closed or adjusted so as to occupy but little space, and may be conveniently hung up against the wall of a room.

Claim.—The combination of the adjustable frame and supporting braces with the pivoted stand or foot-piece, substantially as and for the purpose specified.

No. 20,868.—Olonzo R. Dinsmoor, of Auburn, N. H.—*Improved Clothes Drying Apparatus.*—Patent dated July 13, 1858.—In the engravings, A denotes a small building, or shed, carrying within it a large grooved wheel B, such being arranged therein and supported by a post C. The grooved wheel is made about five inches in diameter.

The endless line carries one or more travellers K, each of which consists of a block *c* carrying a pulley *d*, within a space *e* formed in and through the block.

The inventor says: I *claim* the combination of the endless clothes-line, the sheltering shed or building, and the stretching apparatus, the whole being made to operate substantially as specified.

I also claim combining one or more travellers K with the endless clothes-line applied to a building, and a stretching apparatus, and constructed so as to operate essentially as described.

No. 20,579.—Enos Page, of Streetsborough, Ohio.—*Improved Clothes Frame.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that folding clothes-racks and frames have been known and used.

But I *claim* the combined sections I J K, composed of the vertical jointed and folding standards, in combination with the adjustable cross-bars, when arranged as set forth for the purpose described.

No. 22,398.—William Hathaway, of Worcester, Mass., assignor to William G. Maynard, of said Worcester.—*Improved Clothes Frame.*—Patent dated December 21, 1858.—This frame consists of a central post A supported by the foot-block B, with a series of outer posts D connected to the center by cross-bars E. To the central post is fitted a series of collars *a* at regular intervals, with projecting radial

branches *b* to which the inner ends of the cross-bars are pivoted, forming a hinge joint which allows the cross-bar to be moved up and down.

Claim.—Arranging the centre of motion of the cross-bars, substantially as described, so that the centre of motion of the outer end of the cross-bar, when the frame is closed, will be over or within the centre of motion of the inner end of the cross-bar, for the purpose set forth.

No. 20,669.—Chester Stone, of Ravenna, Ohio.—*Improved Frame for Drying Clothes.*—Patent dated June 22, 1858.—By crowding upon the wedge F the head B is pushed down the standard A, this spreads the lower ends of the arms C and makes the cords G H I taut. In this case the standard A is drawn upward, so that the weight of the frame rests upon the ends of the arms C.

Claim.—The described manner of constructing a clothes frame, consisting of the standard A, head B, arms C, braces D, and cords G H I, when arranged and operating in the manner and for the purpose specified.

No. 21,231.—E. Culver, Jr., of Shelburne Falls, Mass., assignor to Himself and S. M. Blackwell, of said Shelburne Falls.—*Improved Clothes-Horse.*—Patent dated August 17, 1858.—A is a post, or stand supported on feet *a*. To this post are attached and pivoted at *c* the rods *b*. A vertical rod *d* is placed over the ends of the rods *b* and the screws *c* pass through both rods into the post A; this binds and steadies the rods *b*, so that they may be vibrated on their pivots *c*, in a vertical plane parallel to the inclined face of the post to which they are attached.

The inventor says: I do not claim joining the rods *b* to standards, so that they may be folded up or spread out.

But I *claim* the combination of the panels B, panels C, and connecting links *l* l^1, with a self-supporting pedestal A, the whole arranged to operate substantially as described for the purpose set forth.

No. 22,435.—Tristram S. Lewis, of Kendall's Mills, Me.—*Improved Clothes-Horse.*—Patent dated December 28, 1858.—The arrangement of the four spring catches is such that the spring K, while in operation to press the horse open, and to maintain it in an extended state when untolded, will also operate to maintain all the catches in engagement with their respective slats.

The inventor says: When the posts A B are hinged together, and the four folding sets of slats are applied to them and arranged on them as described, I *claim* the arrangement of the spring *k* and the two sets of spring catches *f g h i*, in order that the said spring may perform at one and the same time the two functions as specified.

No. 21,818.—Benjamin Chesnut, of Philadelphia, Pa.—*Improved Post for Clothes Lines.*—Patent dated October 19, 1858.—This invention consists in arranging a clothes post to slide between brackets attached to a board, which may be secured to the wall or fence of the yard or garden selected for drying clothes. The post is finished with

inclined teeth on one side, so as to be retained at any desired altitude by a pawl hung to the board, and in the brackets as well as in the post near its lower end are rollers, which render the raising and lowering of the posts a matter of ease.

Claim.—The post B, with its row of inclined teeth, and its roller *m* and pawl *e*, and the brackets *a* and a^1, with their rollers, when the several parts are combined and arranged substantially as and for the purpose set forth.

No. 20,470.—EDWIN L. HAGAR, of Frankfort, N. Y., assignor to Himself and T. D. AYLSWORTH, of Ilion, N. Y.—*Improved Machine for Wringing Clothes.*—Patent dated June 1, 1858.—The nature of this invention consists in providing a self-acting clasp B, which is attached to the rim or edge of the tub A, which receives and holds one end of the article to be wrung, while with the two hands, twisting in one direction, the article is wrung to great advantage.

Claim.—The clasp B, and its attachment and adjustment to the tub as described and shown, the whole being arranged and operating substantially in the manner and for the purpose set forth.

No. 22,451.—EZRA POLLARD, of Albany, N. Y., assignor to Himself and B. W. SEELEY, of New York, N. Y.—*Pestles for Cleansing Clothes.*—Patent dated December 28, 1858.—A is a circular head or stock of requisite thickness, and B represents a series of tubes, which are fitted at one end in the head or stock A, parallel with each other, and in planes parallel with the handles C. The handle as well as the head or stock and tubes may be constructed of wood, and the tubes may be of any suitable dimensions, the proportion of the above named parts may be about as shown in figure 1.

The inventor says: I *claim* this invention as a new article of manufacture; a clothes pounder or pestle, composed of a stock A, handle C, and tubes B, and openings *a*, as shown and described.

No. 20,364.—DEXTER PIERCE, of Sunapee, N. H.—*Improved Clothes Pin.*—Patent dated May 25, 1858.—The limbs of this improved pin, as will be seen at "A" "A" retain an equality of thickness until near the end of the slit, when it slightly enlarges to prevent the breaking off of the one limb or the other, as would be the result if the pin were made entirely straight on the outside. By placing the thumb and forefinger on the hollows marked "B" "B," the swell on each side of the hollows serves to tighten the grasp of the holder, and tighten the pin.

The inventor says: I *claim* as a new article of manufacture, to wit, a clothes pin, all the parts of which are constructed substantially as set forth.

No. 21,029.—ISAAC A. SERGEANT, of Springfield, Ohio.—*Improved Clothes Wringer.*—Patent dated July 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the yoke B, provided with a suitable hitching arm, the said yoke being adapted to be temporarily attached to a wash tub, or readily disconnected therefrom, as explained, and employed as a bearing for a rotary clamp for wringing clothes.

Second. In the described connexion with the yoke B, I claim the movable clamp H I J K, and pawl and dog P O, by means of which the said clamp is retained within the yoke, or may be readily removed therefrom at will to be cleansed or dried.

Third. In the described connexion with a rotary clamp for wringing clothes I claim the hinged and yielding hitching arm E, for the purposes explained.

No. 21,066.—JOHN DENLEY and THOMAS H. HEBERLING, of Warsaw, Illinois.—*Improved Apparatus for Making Coffee.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the process of scalding coffee and boiling it afterwards by additional heat, or forcing water through ground coffee resting in a strainer.

Neither do we claim the application of a heater to a vessel containing coffee.

But we *claim*, first, the apparatus, substantially as described, for the forcible expulsion of the water through the bed of the coffee, resting on the strainer *i* in the mouth of the inverted vessel *a*, by the pressure of steam in the upper part thereof, produced when the red-hot heater *e* is inserted in the central tube *d*.

Second. We claim the cup *l*, for retaining a part of the water around the foot of the heater tube *d*, and the tin arch *m*, for the purpose of preventing the joint at the end of the heater tube from becoming unsoldered when the rest of the water is driven from the interior of the vessel, as described.

No. 19,827.—ROBERT BROWN, of Ashtabula, Ohio.—*Improved Apparatus for Roasting Coffee.*—Patent dated April 6, 1858.—In using this improved machine the coffee is placed in the vessel A, which is placed over a proper fire and the shaft B is turned by hand, the scrapers and shovels rotated and the coffee properly stirred, and as each rod *i* is of a different length the scrapers or shovels will traverse over the surface of the bottom *b* at different points, in order that the whole of the coffee may be properly stirred.

The inventor says: I do not claim separately any of the parts described.

But I *claim* the vessel A, provided with the adjustable rotating scrapers or blades D, attached to rods *i* of varying lengths, which rods are pivoted to the shaft C, and the whole arranged to operate as and for the purpose described.

No. 20,577.—CHARLES NEER, of Troy, N. Y.—*Improved Cracker Machine.*—Patent dated June 15, 1858.—This invention is especially adapted to making "butter crackers" by machinery in a way corresponding to those made by hand, although it may be applied to the manufacture of any character of crackers: *a* is a suitable frame, *b* is an endless apron around the rollers *c c*, *d* is the handle by which the

apron and the crackers are drawn along, *h* is a box into which the dough is placed, *i* is a grating with conical holes at the bottom of the box *h*, *k* is a follower pressed down on the dough by the rack *l*, pinion and ratchet wheel *m* on the frame m^1 actuated by the lever *n* and pall *o* or other suitable device. After the dough is placed in the box *h*, the follower *k* is pressed down on the same to consolidate the dough and force it into the grating *i*.

The inventor says: I *claim*, 1st. The grating *i*, perforated with conical holes, in combination with the dough box *h*, and follower *k*, substantially as and for the purposes specified.

2d. I claim the worker *r*, having the eccentric motion specified, and provided with the cavities 11, substantially as and for the purposes specified.

3d. I claim the plate *y* formed with the convex parts 15, substantially as and for the purposes set forth.

No. 21,606.—J. Holyland & J. C. Holyland, of Rochester, New York.—*Improved Cracker Machine.*—Patent dated September 28, 1858.—This invention relates to an improvement in machines that are used for cutting out crackers from sheets of dough, and which are generally known as cracker machines. This invention consists in applying springs to rods which are connected with the cutter plate, so that the machine will be protected from all strain, and the cutter plate made to act more efficiently than usual.

Claim.—The arrangement and combination of the socket *l*, arm *k*, spring *p*, and rod *n*, as and for the purposes shown and described.

No. 22,056.—Thomas C. Ball, of Keene, N. H.—*Improved Infants' Cradle.*—Patent dated November 16, 1858.—The nature of this invention consists in having pieces which are worked by cranks driven by springs, or other equivalent mechanism, arranged to lift alternately on opposite sides of a cradle with sufficient force to cause it to rock, or when it is set to rocking to maintain the momentum and keep it in motion.

Claim.—The arrangement of the cranks C C, pieces D D, slot E, and cross-bar F, in combination with the spring and gearing operating in the manner explained, for the purposes specified.

No. 20,284.—Jean B. Malbert & Augusti Cheviron, of St. Louis, Missouri.—*Improved Spring Rocking Cradle.*—Patent dated May 18, 1858.—This invention consists of a combination of springs, cog and ratchet wheels, which are secured in a frame and placed inside of one of the columns which constitutes a part of the frame of the cradle. The machine is connected to the cradle by means of the small shafts and lever shown at A O. The cradle is swung on pivots in the columns as shown at Q.

The inventors say: We do not claim broadly the application of machinery to the column or frame of the cradle, neither do we claim the double escapement (which consists of the beams X X, the pallets B B, and the springs *c c*) as such.

But we *claim* the arrangement of this double escapement with the escape wheel D, in the manner described, the wheel being operated by the described combination of wheels and springs, in the manner set forth.

No. 22,349.—Henry P. Clawson, of New Berne, N. C.—*Improved Pepper Cruet.*—Patent dated December 21, 1858.—This invention consists in placing within the top of the pepper cruet or box, a rotating or semi-rotating brush, whereby the perforations of the top of the box are prevented from becoming choked or clogged, and a free discharge of the pepper insured.

Claim.—Placing within the perforated top or cap B of a pepper cruet or box A a rotating or reciprocating partially rotating brush C, arranged substantially as and for the purpose set forth.

No. 19,560.—Joseph F. Hall, of Bangor, Maine.—*Improved Curtain Fixture.*—Patent dated March 9, 1858.—The nature of this improvement consists in the adaptation of a cap piece over the pulley at one end of the roller, which shall have the effect simultaneously to cover the pully as a protection against dust and injury, and guide the cord from getting out of place, and also to act as a spring bearing against the pulley to hold it in position.

Claim.—The combination of the spring E, and the pulley *i*, substantially as set forth.

No. 20,013.—Thomas K. Work, of Hartford, Conn.—*Improvement in Curtain Fixtures.*—Patent dated April 20, 1858.—This invention consists in a novel application of friction rollers to a semi-circular yoke, the rollers and yoke being fitted within, or to a case, and the whole arranged so that the shade or curtain may be retained at any desired point by friction produced by the pressure of the friction rollers on the shade roller, and the shade roller relieved of the friction whenever it is turned by the band.

The inventor says: I do not claim broadly the application of friction rollers to the shade roller, nor do I claim any of the parts separately.

But I *claim*, first, the specified arrangement, consisting of rollers *h h*, bar *c*, pin *e*, yoke *c*, case A, endless band F, roller D, for the purpose set forth.

Second. I claim, in combination with the above, the plates A A^1, constructed with the projecting ears *a*, as shown, so that the plates may be attached either to the front or side of the window casing as may be desired.

No. 22,153.—Thomas C. Baldwin, of Buffalo, N. Y.—*Improved Curtain Fixture.*—Patent dated November 30, 1858.—A is the window frame, B the curtain roller, C the curtain or shade, and D is the winding pulley thereof, such pulley having a cord and tassel depending from it, as shown at E; another cord and tassel being suspended from the middle of the lower part of the curtain, as seen at F. G and H are the two bearing blocks of the curtain roller, one of them, viz: G, or that opposite to the one against which the pulley D runs is formed

with a bearing recess, or supporting bearing *a*, for the reception of the cylindrical end of the curtain roller. Directly over the recess *a* is what is termed the detaching recess, or chamber *b*, which opens into the bearing *a*, and is made of greater depth than such bearing *a*.

The inventor says: I *claim* the detaching chamber *b* and passage *i* in their combination and arrangement with the journal bearings of the two bearing blocks G H, and with the rotary friction ratchet, its spring and the pulley arranged at one end of the curtain roller, substantially as described and for the purpose specified.

I also claim the arrangement of the rotary friction ratchet, the spring and the pulley at one and the same end of the curtain roller, or so that the said ratchet may turn on the journal projecting from said pulley, in manner and for the purpose to obtain the advantages as described.

No. 20,906.—Alson Vail & Tracy Vail, of Berlin, Wis.—*Improved Earthenware Dishes.*—Patent dated July 13, 1858.—This invention consists in making dishes porous on their inner surface, so that the moisture shall be absorbed from hot eatables, and at the same time kept in a dry palatable condition. To accomplish this result the dish is formed of some porous argillaceous substance and only glazed on its exterior.

Claim.—A new article of manufacture, to wit: a covered dish with an absorbent lining, perforated or unperforated, as specified, for the purposes set forth.

No. 21,683.—Josee Johnson, of New York, N. Y.—*Improved Apparatus for Raising Dough for Bread.*—Patent dated October 5, 1858.—The nature of this invention consists in attaching a brake or reversed arch to the bottom *a a* for giving even temperature to the heat throughout the whole length of the box; and the reversed conical shield for receiving and concentrating the flame of the lamp, and slotted in such a manner that the lamp may be easily placed in its position, and be removed when desired without removing the box.

Claim.—The double brake *a* and a^1, in combination with the conical shield *b*, operating as described, and for the purposes set forth.

No. 19,968.—Isaac S Schuyler, of New York, N. Y., assignor to J. McCollum, of said New York, N. Y.—*Improved Machine for Rolling and Cutting Dough.*—Patent dated April 13, 1858.—The nature of this invention consists in the substitution of removable shifting guides in the place of permanent guides, in combination with the slides of reciprocating cutters; in the combination of mechanical devices by which the shifting guides are operated, and in the substitution of an adjustable perforated clearer plate I in place of the well known stationary perforated clearer plate, in combination with reciprocating cutters E E, for the purpose of discharging the dough, and also in giving the said adjustable clearer plate a yielding pressure on the dough when acting to discharge.

The inventor says: I *claim*, first, the removable guides A A or their equivalent, when used in combination with the slides of a reciprocating cutter, and operated for the purpose of releasing and securing the cutter, substantially as herein before described.

Second. I claim the perforated discharging plate, either with or without yielding resistance, in combination with the reciprocating cutter when made adjustable substantially as described.

No. 19,610.—James Perry and Elisha Fitzgerald, of New York, N. Y., assignors to James Perry, Daniel Fitzgerald, and Horatio Bogert, of said New York, N. Y.—*Improvement in Raising Dough.*—Patent dated March 9, 1858.—The object of this invention is to prepare dough or paste in such a way that, in the process of preparing and baking, it will be raised or leavened. It consists in mixing the dough in a close vessel under gaseous pressure. It also consists in discharging the dough, which has been mixed under gaseous pressure, from the vessel in which it was so mixed by the pressure of the gas, so that it can be taken in quantities of the required size.

The inventors say: We *claim* the process of preparing dough or paste for making bread, cakes, or other farinaceous articles of food, by mixing the materials with gas, under pressure, in a closed vessel, substantially as described, as a means of leavening or raising the same, as set forth.

We also claim discharging the dough as aforesaid from the vessel, by the gaseous pressure, as it is required, substantially as and for the purpose specified.

No. 19,738.—Patrick Mihan, of Boston, Massachusetts, assignor to Himself and G. Davis, of said Boston.—*Improved Egg Beater.*—Patent dated March 23, 1858.—A is a circular plate of tin, the edge of which is turned down at right angles with the surface, so as to give stiffness to the plate. B is a tinned wire passing through a hole in the centre of the plate A. To the lower part of B is soldered a metallic foot-piece C and wire D *d*. E is a pinion fast to the shaft B. F is a strip of metal bent, and serves to prevent the shaft from moving up and down. G is the sector of a large pinion turning on the axle H. I is the handle which is soldered to G.

Claim.—Beating apparatus, constructed and operating substantially as described, in combination with the portable plate or cover A, so that it may be either held in the operator's hand or placed on the top of a vessel.

No. 22,161.—Henry Burt, of Newark, New Jersey.—*Improved Apparatus for Assorting Eggs.*—Patent dated November 30, 1858.—The nature of this invention consists in the employment of a box made to exclude the light. The top of this box, which may be movable or fixed, is perforated with holes of proper size to receive the eggs endwise and permit their resting therein at their longest diameter.

Claim.—The arrangement of the perforated surface *b* for receiving the eggs and excluding the light as described; also the mirror *d*, in combination with the above, arranged substantially as and for the purpose specified.

No. 20,032.—William Borrman, of Cincinnati, Ohio.—*Improved Apparatus for Beating Eggs, Churning, and the like Processes.*—Patent dated April 27, 1858.—The leading feature of novelty in this invention is the provision of a semi-spherical dasher formed of wire or other open work, and rotated concentrically within a bowl of corresponding size and form; also in retaining beyond the action of the dasher such portions of the egg or other matter as are not sufficiently beaten.

The inventor says: I *claim*, first, the semi-spherical open work dasher C in the described combination, with a bowl A of corresponding form and size, for the purposes set forth.

Second. In connexion with the above I claim the inverted cup B, adapted to receive the egg or other matter as it becomes sufficiently beaten, and retain it beyond the reach of the dasher.

No. 20,359.—Allan McKeachnie, of New York, N. Y.—*Improved Foot Cleaner.*—Patent dated May 25, 1858.—By means of a scraper, rotary brushes, and brush cleaners, placed in a proper frame or basin, a very convenient device is obtained to scrape and brush shoes or boots quite clean.

The inventor says: I am aware that brushes have been previously combined with scrapers for the purpose of cleaning the feet, but so far as I am aware stationary brushes have been only used and arranged in a very inefficient manner. I therefore do not claim broadly a scraper combined with brushes, irrespective of the construction and arrangement shown and described.

But I *claim* the scraper B, in combination with the rotary brushes D and elastic rotary brushes E E, with or without the cleaners *h f f*, the above parts being placed within a suitable shell or basin A, and arranged as and for the purpose set forth.

No. 19,733.—Enoch S. Farson, of Philadelphia, Pa., assignor to Himself and Henry H. Brown, of said Philadelphia.—*Improvement in Cream Freezers.*—Patent dated March 23, 1858.—This invention consists in arranging the cream cylinder so that it shall oscillate in a *horizontal* position in the ice chamber on rotating its shaft; and in constructing the beater *p* so as to cause it to force air through the cream as it is carried round in the cylinder in operating the machine.

Claim.—The concave beater *p* in combination with a scraper *q* and an oscillating horizontally placed cream cylinder B, the same being arranged so as to operate together in the manner and for the purpose set forth and described.

No. 19,147.—H. B. Masser, of Sunbury, Pa.—*Improvement in Ice-Cream Freezers.*—Patent dated January 19, 1858.—The nature of this improvement consists in a bevelled pivoted stop arranged on the ice vessel top and an inclined or bevelled stop on the bottom of the cream cylinder for operation in combination with an offset or projection on the upper edge of the cream-cylinder C and one on the lower end of the agitator, whereby, when the crank shaft which carries the agitator or scraper *b* will turn together, and when turned in an opposite

direction, the agitator *c* will turn and scrape off the frozen cream that may have adhered to the sides of the cream cylinder.

Claim.—The bevelled pivoted stop E arranged on the top of the ice vessel, and the bevelled stop G on the bottom of the cream cylinder, for operation in combination with the offset F on the upper edge of the cream cylinder, and the offset G on the lower edge of the agitator and scraper, substantially as and for the purposes set forth.

No. 19,635.—William Heaton, of Green county, Pa.—*Improvement in Apparatus for Drying Fruit.*—Patent dated March 16, 1858.—The claim and engraving will explain the nature of this invention.

The inventor says: I am well aware that hot air vents, flues, heating cells, and vapor vents, have been used, and therefore, singly, in themselves, I disclaim all such devices.

But I *claim* the construction of a fruit-drying apparatus, when formed with an inner casing or chamber *m m m m* having series of hot air vents *n n n n*, series of hot air flues or heating cells *r r r* with the compound register chimney *f f* formed with a smoke flue O J Q, and hot air exit flues J J, and vapor vents or escapes I I, when arranged and used substantially as described.

I am also aware that rotating reels and drying sieves and pans have been employed singly for various purposes and individual devices; I do not claim them.

But I *claim* the revolving or rotating drying reel *t u v w*, the drying sieves *x x* and pans *y y* when used in arrangement with the casing, vents, flues, cells, register chimney, smoke flues, exit flues, and vapor escapes, in the manner and for the purposes set forth.

No. 21,415.—Nicholas Hallock, of Flushing, N. Y.—*Improved Fruit Box.*—Patent dated September 7, 1858.—The nature and object of this invention is to obviate objections heretofore made to baskets used for packing fruit, and make a fruit box capable of proper ventilation for the preservation of fruit, adapting it so as to secure the greatest economy as to space or bulk, and rendering the box strong and cheap, costing much less than baskets.

Claim.—Constructing a fruit box consisting of two sheets of material, one of which forms the body of the box, the other the bottom, being ventilated as described, and combining therewith the folding handle, substantially as set forth and for the purposes specified.

No. 22,433.—John K. Jenkins, of Kingston, Pa —*Improvement in Preserving Fruits.*—Patent dated December 28, 1858.—The nature of this improvement consists in giving to fruit, vegetables, hams, eggs, &c., an air-tight water-proof coating or envelope, impervious to dampness or dryness of cellars or climate, and a safeguard against rats, vermin, and insects of all kinds. The composition used for this purpose is made of the following ingredients, viz: 16 parts resin, 2 parts tallow or lard, and 1 part beeswax. The resin is melted and the whole well mixed together, and put on the article to be preserved while hot. Plaster of Paris, pulverized chalk, coal or wood ashes,

is used for dusting the article coated to prevent the coating from sticking.

Claim.—Dusting the article to be coated with any dry powder, such as plaster of Paris or its equivalent, to prevent the coating from adhering to the article coated, and permitting it to come off readily.

No. 20,031.—Henry D. Blake, of New Hartford Centre, Conn.—*Improvement in Furniture Casters.*—Patent dated April 27, 1858.—In operating this caster the plate A is secured to the object through the flange or rim *a* by means of screws or nails; the pin is then made to enter the plate, the spring *c* catching into the groove *d*, thus sustaining the two parts together. The lower portion may be easily removed by pulling it gently, the spring giving and slipping out of the sustaining groove.

The inventor says: I am aware that the spring and groove have been employed before, a groove being made in the plate or socket tube, the spring secured in it, and catching on the groove made in the pin; but this is inconvenient and expensive; hence I do not claim the spring or the groove, my claim being confined to the manner of securing and arranging the groove and spring for the purpose of making a cheaper article to the trade.

But I *claim* the described arrangement of the several parts of the caster, constructed and operated in the manner and for the purpose fully set forth.

No. 22,243.—Henry E. Richards, of Newark, N. J.—*Improved device for supporting Furniture Casters.*—Patent dated December 7, 1858.—The concavity seen at A is for the caster to fit into, and the points or projection B B B and the concavity A, and to give the strongest form consistent with amount of metal.

Claim.—A new article of manufacture for a caster rest, consisting of the arrangement of the concavity A and the points B B B, substantially as and for the purpose described.

No. 19,369.—Jacob Kinzer, of Pittsburgh, Pa.—*Improved Caster for Furniture.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim —The improved mode of constructing casters for furniture described, (having the shank and its body cast in one piece, and the roller and its pivot in another,) by making in each arm of the shank a deep recess with a collar above and a wedge-shaped entrance from beneath, for the purpose of receiving the axis or pin of the roller in the manner herein before described. The recess to hold the roller in place when there is no weight upon it, and the collar to serve as a bearing for the journals of the axis to sustain the weight it has to support.

No. 19,127.—A. D. Brown, of Glasgow, North Britain.—*Improvement in Construction of Furniture.*—Patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Connecting together the several parts of chairs, and of other articles of furniture, by the employment of metallic differently-slotted dovetail pieces, when the said dovetail pieces are secured into recesses in the wood or material of the furniture by means of screws passing through the bottom of said slots; and the centre, or thereabouts, of the parts in combination with wedge dovetailed projections, secured also by means of screws when said screws pass through the central line thereof, substantially in the manner as described.

No. 19,405.—John H. Belter, of New York, N. Y.—*Improvement in the Method of Manufacturing Furniture.*—Patent dated February 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the simple pressing of veneers and glue between dies or "cawls," one of which is convex, and the other, or others, concave.

Nor do I claim the so gluing of veneers together that the grain of each stands at right angles to that of the next.

But I *claim*, first, the described method of accurately finishing at one operation a suitable stave for each layer of the spherical work described, viz: the applying together of as many of the roughly-manufactured staves as there are to be layers in the work and bending the whole between clamps of the form and bevel required, and removing the superfluous material by a plane, or its equivalent, substantially as and for the purposes set forth.

Second. I claim the applying together of the edges of the staves of the several layers at one operation by confining the staves in their proper positions at one or more points, and compelling the remainder of the edges to guide each other as the cawls are compressed, substantially in the manner and for the purposes set forth.

Third. I claim the described method of accurately breaking the joints of the several layers of staves by notching the ends of the staves of each layer differently from the staves of the other layers, and resting the notches of all the staves across knife-edges projecting perpendicularly from the surface of the inside cawl, all in the manner and for the purposes set forth.

No. 19,507.—John Keezer, of Chillicothe, Ohio.—*Improvement in Hominy Mortars.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I disclaim wire gauze mortars used for hulling rice as constituting no part of my invention.

I *claim* the construction of mortars for operating on moist corn, with perforations bevelling outward and presenting sharp edges on the interior, substantially as and for the purpose specified.

No. 20,538.—Jason Barton, of East Hampton, Conn.—*Improved House Bell.*—Patent dated June 15, 1858.—This invention consists in the peculiar arrangement of a spring G, lever D, tongue or hammer E, and handle or rod, placed relatively with each other; and with a bell C, whereby the tongue or hammer, as the handle or rod F is

actuated, is made to move gradually about half the distance of its stroke, and then move the remaining space with an accelerated speed, so as to strike the bell forcibly, the hammer striking the bell at one or at two opposite points, and having the same movement in either direction.

The inventor says: I am aware that springs and levers have been previously used and arranged in various ways, to force a tongue or hammer from one point to another, and back again, so as to strike a bell, and hammers also have been forced across the mouth of a bell against two opposite points thereof. I therefore do not claim such devices.

Nor do I claim broadly such operation of the tongue or hammer.

I *claim* the arrangement of the parts in a house bell, as specified, for the purposes set forth.

No. 21,891.—David Lithgow, of Philadelphia, Pa.—*Improved Flat-Iron.*—Patent dated October 26, 1858.—This iron consists of a hollow triangular metallic box A A, with a chimney B and a non-conducting handle C. The gas is introduced at the rear of the box through a flexible tube D, and thence through the tubes E E, about one-eighth of an inch in diameter, having a series of jets *e e* along their inner side.

Claim.—The combination of the two jet pipes E E and the heating plate F, in the manner substantially as described.

No. 21,450.—John Shaefer, of Lancaster, Pa.—*Improved Machine for Ironing Clothes.* - Patent dated September 7, 1858.—On the base frame B are erected two uprights A, of any desired dimensions and distance apart, with a cross piece *c*, with the thread for a screw E in its centre. This cross piece is firmly framed to the uprights A. The screw E operates on a movable cross piece D, the end of which has a piece *f* attached at right angles in a groove in the uprights A, and resting upon the axis of the cylinder G, and thus enables the operator to adapt the pressure to the thickness of the goods to be passed through or under it, and over the rollers J J.

Claim.—The combination and arrangement of the hollow cylinder G, with the rollers J J, the screws and caps 1 2 and 3, the spigot 4, the screw plug *g*, the screw E, the tables K, all secured in the frame A and B, and operated by the crank and gear wheels, substantially as and for the purposes specified.

No 19,964.—Joseph Borden, of Bridgeton, N. J., assignor to David Potter and Francis L. Bodine.—*Improvement in Preserving-Jars.*—Patent dated April 13, 1858.—This improvement in preserving-jars relates more especially to those made of glass, and to that class in which a groove or recess is formed on the outside to hold the cementing material, by which the cover is hermetically sealed to the jar.

Claim.—A preserve jar, in which the cup or groove for holding the cement is formed on the exterior from the wall of the jar by the method described.

No. 22,066.—Reuben M. Dalbey, of Mount Washington, Ohio.—*Improvement in Sealing Preserve Jars.*—Patent dated November 16, 1858.—This invention consists in the application of the yoke or ring to an ordinary jar or bottle, by means of which a lid may be securely attached to the top of the vessel by the use of screws or other device.

Claim.—The yoke or ring, in combination with the leather or its equivalent, as applied to vessels substantially as described, for the uses and purposes set forth.

No. 21,442.—William S. Reinert, of Philadelphia, Pa.—*Improved Kneading Machine.*—Patent dated September 7, 1858.—This invention relates to an improvement in those machines in which a traversing rotating roller is used in conjunction with a trough or table to knead butter, dough, clay, or other like plastic substances; and the improvement consists in a certain combination of a corrugated roller, pinions, guides, and racks, and so arranged in respect to the trough that the roller and the appliances for operating the same may be allowed an upward and downward movement independent of the trough, in order that the roller may be caused to bear with more or less pressure on the material to be kneaded at the will of the operator.

The inventor says: I do not claim broadly the employment of a traversing, rotating, corrugated roller for kneading purposes.

But I *claim* the shaft D with its corrugated roller E and pinions *d d*, in combination with the guides *f* and pinions, when the whole of the above named parts are so constructed and arranged in respect to the trough that they may have an upward or downward movement, controlled by the weight I, or its equivalent, independently of the trough, substantially as and for the purpose set forth.

No. 20,724.—James Macnish, of Berlin, Wisconsin.—*Improved Knife and Spoon Cleaner.*—Patent dated June 29, 1858.—The scouring powder being applied, the knives are introduced between the faces of the disks C D E and the disks revolved rapidly by means of the gearing which is actuated through a handle *j* of the large cog wheel K. The forks and spoons are first scoured on their backs by being held against the concave periphery of the disk C, then on their front side by being held against the convex periphery of the disk E.

Claim.—An improved new article of manufacture, to wit: a machine combining three disks, C D E, the faces of which are adapted for cleaning large and small knives and the periphery of one of the same for sharpening knives, and the peripheries *a f* of the other two for cleaning the front and back of spoons and forks, substantially as set forth.

No. 20,391.—William Miller, of Waltham, Mass., assignor to Himself and Daniel S. French, of Wadham's Mills, N. Y.—*Improvement in Knife Cleaners.*—Patent dated May 25, 1858.—This machine is operated as follows: the box *b* is filled with fine sand, emory, or other polishing material, which works down through the slots *g* and *k;* the knife is inserted between the lips 5 of the leathers and is worked back and forth between them, or is moved along laterally between the

other parts of the leathers, the spread lips 5 allow the round portion next to the handle and the shank of the fork to be polished as well as the blades and tines.

The inventor says: I am aware that knife cleaners have been constructed in which a box is employed to hold the polishing material and deliver it to the rubbing surfaces; I therefore lay claim to no such invention.

But what I *claim* as an improvement in knife cleaners is the shelves B operating in the manner substantially as set forth.

No. 20,929.—Jacob J. Banta, of Jersey City, N. J.—*Improved Knife Cleaner.*—Patent dated July 20, 1858.—This invention consists in the use of a spring hopper containing brick dust or other cleaning material and forming one side of a cleaning cushion, faced with leather or other equivalent material, and forced against the stationary side of the cushion by suitable springs, so that a knife inserted between said cushion and drawn back and forth is cleaned on said cushion by the brick dust or other cleaning material supplied from the hopper.

Claim.—The combinations of the cushions *b* and *c*, and hopper *e*, with the spring *h h*, the whole acting substantially as and for the purposes specified.

No. 20,340.—Horace T. Field, of New Braintree, Mass.—*Improved Knife Polisher.*—Patent dated May 25, 1858.—The improvement in this knife polisher relates more especially to the rotary disk polisher which generally consists in two parallel circular disks mounted on the same shaft, one of which is fixed to the shaft and the other moves longitudinally and is held against the fixed disk by a spring which allows it to yield and admit a knife blade within.

These improvements consist of a frame A on which is mounted a shaft H, carrying two circular disks B B^1; the disk B is fast to the shaft, the other, B^1, can move laterally. To the adjacent faces of the disk is attached a narrow elastic annular buffer E of the same diameter at its outer edge as the disk, which leaves a chamber G between the inner edges of the buffers to hold the polishing powder.

Claim.—The combination of the annular buffers with the disks, when arranged on the adjacent faces of both disks, as described, for the purpose set forth.

No. 21,058.—John J. Armstrong and Austin T. Armstrong, of Brooklyn, N. Y.—*Improved Knife Sharpener.*—Patent dated August 3, 1858.—This invention consists in securing a file B, or its equivalent, by its edges between the two bevelled sides *c d* or supports for the knife by which the whole breadth of the file is made, while at the same time the proper bevel is given to either side of the knife without reversing the instrument.

Claim.—The combination and arrangement of parts described, that is to say, securing the file by its edges between the inclines *c* and *d*, by which the advantages stated are secured, as set forth.

No. 22,055.—Alexander Annan, of New York, N. Y.—*Improved Knife Sharpener.*—Patent dated November 16, 1858.—This invention

consists in having two cutters formed of rectangular steel plates cut or corrugated at their sides, similar to files, and fitted in oblique grooves in a metallic frame, the cutters being placed in such position that they retain each other in the frame, and are rendered capable of being adjusted in varying positions in the plane of their movement, so that the whole surface of the plates may be used as cutting surfaces.

Claim.—The two cutter plates C C, with cut or corrugated surfaces, placed in oblique positions relative with each other, and arranged or fitted between the upright plates B B of a base A, substantially as and for the purpose set forth.

No. 21,746.—James Dodge, of Waterford, N. Y.—*Improvement in Grinding and Polishing Knives.*—Patent dated October 12, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim* the method of grinding and polishing articles, and forming their surfaces upon a revolving grindstone or polishing wheel, by attaching them to a drum or cylinder, which is made to revolve in the same direction with the stone or wheel, and with velocity adjustable thereto, substantially as set forth.

I further claim the method of attaching and supporting upon a curved surface the article to be ground, so as to permit it to rock thereon, thereby shaping the surface, when formed either flat, concave, or convex, substantially as set forth.

No. 19,419.—Joseph C. Haines, of Dublin, Ind.—*Improved Culinary Ladle.*—Patent dated February 23, 1858.—Projecting from the handle of the strainer B, a short distance from the bowl, is a hook *b*, to receive the handle of the ladle A. At each fresh charge of crackling, the ladle A is placed in an elevated position, and is then gradually pushed forward on the fulcrum *b*, and at the same time closed down.

Claim.—The ladle A and strainer B *b*, adapted to operate in conjunction substantially in the manner set forth.

No. 21,044.—D. Cumming, jr. of Mobile, Alabama, assignor to D. Cumming, sr., of Mobile, aforesaid.—*Improvement in Mangles.*—Patent dated July 27, 1858.—This invention consists in the employment of a rotating cylinder having fixed bearings, a rotating clothes cylinder, and a cylinder with a segment removed so as to form a plane face: the latter cylinder having its axis placed in yielding or adjustable bearings, which are acted upon by wedges and weights, so that the clothes may be operated upon, or mangled in an expeditious manner.

The inventor says: I do not claim broadly the employment or use of pressure rollers for mangling clothes, for they have been used and arranged in various ways for accomplishing the purpose; but, so far as I am aware, they have been used in connexion with a horizontal bed or plane surface on which the clothes were placed, thus making a cumbrous machine.

What I *claim* is, the employment or use of the cylinder B, having its axis fitted in fixed bearings *a*, the cylinder C having an elliptical surface *c* on a portion of its periphery, and having its axis fitted in

sliding bearings *b b*, and the wedges D D having weights F attached, the whole being arranged to operate as and for the purpose set forth.

No. 20,002.—Samuel Nowlan, of New York, N. Y.—*Improved Domestic Mangle.*—Patent dated April 20, 1858.—When the bureau is to be used as a mangle, the table T is lifted so as to occupy a horizontal position; the strat S is taken out of the groove and placed upright beneath the table to support it. The crank is then put in motion in the direction of the arrow *o*, whereby the apron L is unwound. The cloth to be mangled is then slightly wetted, folded, and laid on the apron; when this is done the crank motion is reversed, *i. e.*, turned in the direction of the arrow *w*. By this operation the apron is wound up together with the cloth. After the cloth has been rolled and pressed sufficiently, the crank motion is again reversed, the apron unrolled, and the cloth, completely mangled, taken out.

The inventor says: I do not confine myself to the application of mangles, conducted and arranged as described, to bureaus only, as substantially the same principle of construction can be applied to any kind of furniture, such as wardrobes, tables, desks, &c.

I *claim* the mechanism of a mangle constructed and arranged in relation to and in combination with parts of any suitable articles of furniture in the manner and for the purposes specified.

No. 19,347.—Edwin M. Chaffee, of Providence, Rhode Island.—*India-Rubber Door Mat.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not intend to confine myself to the lozenge cells, as it is obvious that square and some other forms will do as well.

Neither do I intend to confine myself to ribs or ridges intersecting each other, as it is evident that ridges forming various figures will answer much the same purpose, such, for instance, as run circular, parallel, serpentine, zigzag, or angular, or any other raised surface of rubber.

Nor do I confine myself to rubber alone as the only gum, as gutta-percha and other gums may be substituted for it.

I *claim* the mat as formed by ridges or grating, together with the cells or spaces, of whatever form, the one to serve as scrapers to clean the foot, and the other to contain the dirt, whether of rubber, gutta-percha, or other flexible gums.

No. 20,112.—William Wells, of Harrisburgh, Pennsylvania—*Improved Folding Mattress.*—Patent dated April 27, 1858.—A is the top frame; B the raised or angular hinge joint; C the bottom of the frame; D the bottom strips; and E the springs.

Claim.—The inclined seats of the hinge B, on which seats the hinge is fastened for the purpose of folding the mattress in the manner set forth, and for the purposes specified.

No. 22,037.—Thomas Briggs Smith, of Marietta, Ohio.—*Improved Elastic Material for Mattresses and Cushions.*—Patent dated November 9, 1858.—The nature of this invention consists in cutting hickory, poplar, cedar, or other suitable wood, into thin elastic shavings of any desired length, width, and thickness, and at the same time dividing said shavings longitudinally and coiling them so as to form compound shavings or conical wooden springs, consisting of numerous thread-like fibres compactly and spirally coiled one within another, and then subjecting these to the action of steam in a suitable chamber.

Claim.—The compound coil of spiral woody fibres described and represented, when prepared substantially as described, and used as a substitute for curled hair.

No. 19,681.—Plumer H. Chesley, of Lynn, Massachusetts.—*Improvement in Meat Choppers.*—Patent dated March 23, 1858.—The nature of this invention consists in constructing a wheel *a* with cogs *b b b* so placed upon its surface that upon turning it with a crank *c* they will successively come in contact with the projections *d d d* on the rods *f f f* to which the knives *k k k* are attached, and drive them down through their spaces in the slots *g g g* until they are detached from the cogs on the wheel by its rotary motion.

Claim.—Arrangement of the cogged wheel, the series of spring cutters and cleaner with each other, operating substantially in the manner and for the purposes as described.

No. 20,258.—L. A. Dole, of Salem, Ohio.—*Improved Meat Chopper.*—Patent dated May 18, 1858.—This machine consists of a circular and revolving tub A mounted on legs B C. Two knives D D vibrate up and down in said tub and mince the meat perfectly. The tub has a very slow circular motion imparted to it by a peculiar system of gearing, while the knives have a rapid up and down movement by means of a crank shaft G *g*.

Claim.—The arrangement of the horizontally slotted reciprocating vertical knife shaft *c f* F, grooved ways *c c*, horizontal crank shaft G *g*, and central guide tube *d*, for use in combination with the following arrangement of gearing, consisting of the toothed rim H on the bottom of the tub, loose pinion *k* gearing in the same, loose and fast pinions J L arranged on the stationary axis I of the large driving pinion J, and two small pinions P N which are arranged on a shaft O passing through the face of said driving pinion J, and have an independent motion of the pinion, while they and it move round a common stationary axis and are actuated by the same crank or belt, substantially as and for the purposes set forth.

No. 19,547.—Abner B. Davenport, of Petersham, Mass.—*Improved Meat Cutter.*—Patent dated March 9, 1858.—The meat is placed in the tray G, and motion is given to the shaft C; the cam H, throwing back the lever J, turns the shaft F, raising the knife L by the cams K K. Each of the corners of the cam wheel H raising the knife gives a succession of strokes, while the pinion I gives motion to the gear M N and O, and, through them, drives P and R, carrying the tray G, which, as the end comes near the knife L, by the wedge acting on the

lever S, moves the gear P into the other driver, reversing the motion of the tray as each arrives near the knife L.

The inventor says: I am aware that vibrating knives have been used with moving trays; these I do not claim, mine, it will be seen, containing a different feature (its springing or yielding) in connexion with its vibration; neither do I claim the use of cams to operate the knife.

But I *claim* the combination, in the manner and for the purposes set forth, of the cam wheel, spring knife, and reciprocating tray, when constructed and operating as set forth and described.

No. 20,019.—Pierre Demeure, of Brooklyn, New York, assignor to Charles Chepy, of New York, N. Y.—*Improvement in Meat Cutters.*—Patent dated April 20, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the original invention of S. Millet.

But what I *claim* as an improvement on the said patent of S. Millet, of May 24, 1853, is, first, the opening *l* in the cover *e*, placed near the front part of said cover for the purposes and as specified.

Second. I claim the arrangement of the hinged cover *e* and latches 5 5, in connexion with the removable basin d^1, for the purposes and as specified.

Third. I claim the arrangement of the cutters *i i*, acting, through slots in the cover *e*, in opposite directions on the meat, &c., to be cut as the same is presented by the revolving basin, substantially as and for the purposes specified.

No. 21,421.—Jacob K. Hoyer, of Reading, Pa.—*Improved Meat Cutter.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that screw knives setting in a spiral position on the periphery of the revolving cylinder, and forming a screw feed, have been heretofore used. I therefore do not claim that part.

But I *claim* the arrangement of the knives in pairs on the periphery of the revolving cylinder, with their edges radiating from the centre of the cylinder, so as to operate the same as shears in passing between the knives of the hollow cylinder, when constructed as and for the purpose set forth.

No. 21,514.—M. Newman, of Oak Hill, New York.—*Improved Meat Cutter.*—Patent dated September 14, 1858.—The object of this invention is to make a cheap, simple, and effective machine that can easily be cleansed and kept in repair, and thus secure a desirable article of kitchen furniture. The whole machine is made of cast-iron, except the knives, and the parts almost entirely put together without screws, pins, or any other devices, except those that are cast in or on the parts themselves.

The inventor says: I *claim*, first, in combination with the cutters,

the two-branched rack or comb for holding the material against the cutter, substantially as set forth.

I also claim holding the rack or comb in its recess by the clamping of the two parts of the shell together, substantially as and for the purpose described.

I also claim the manner of holding and arranging the screw feeder H on the shaft, so that a portion of the section of the screw shall be on said shaft, as shown and represented, and for the purpose set forth.

No. 19,728.—Frederick Wobfersberger, of Salem Station, Ohio.—*Improvement in Meat-Cutting Machines.*—Patent dated March 23, 1858.—The nature of this improvement will be explained by reference to the claim and engravings.

Claim.—The segment plates M arranged spirally on the roller between the pins in combination with the knives H, substantially as described.

No. 21,016.—Edward H. Nash, of Westport, Connecticut.—*Improved Closet for Milk.*—Patent dated July 27, 1858.—The object of this invention is to obtain a cheap and portable device in which a large number of milk-pans placed in as small space as possible, and in a very expeditious manner, the device being so arranged as to allow the air to circulate freely through it, and at the same time obstruct the sun.

The inventor says: I do not claim simply constructing a box or closet with blinds for sides, so as to admit air and exclude the sun, for this is a common device, and is used in many instances, as in well-houses, &c.

But I *claim* the box or case A, in combination with the rotating shaft C and shelves D, arranged as and for the purpose specified.

No. 21,842.—Henry McClay, of Niles, Michigan.—*Improved Combined Mop and Brush.*—Patent dated October 19, 1858.—This invention consists in having a block or head of triangular form, with a handle fitted into it, one side of the head being fitted with bristles and forming a brush, and another side being corrugated, and having a cloth attached to one end, the cloth and head rendered capable of being so adjusted that the device may be used both as a scrub-brush and a mop.

Claim.—The tri-lateral block or head A attached at one side to the handle B, and having a brush formed on one of the other sides, the remaining side being corrugated and having a cloth C attached, the whole being arranged as and for the purpose set forth.

No. 21,019.—Frederick C. Payne, of Hebron, Connecticut.—*Improved Means of Adjusting Mosquito Bars.*—Patent dated July 27, 1858.—The nature of this improvement consists in attaching a slotted projection D to the body of the sheave E, and securing therein a weighted arm F, so that it may form what may be called a cramp-holder to whatever passes between, the end thereof up over the surface of the sheave.

The inventor says: I do not claim the sheave arrangement as used for hanging lamps, &c.

But I *claim* the application of the slotted projection D, the hanging weighted arm F, in the manner and for the purpose substantially as set forth and described.

No. 19,965.—J. S. Brown, of Washington, District of Columbia, assignor to Himself and Joseph Kent, of Baltimore, Maryland.—*Improvement in Ovens.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim heating the draught air before it is introduced into the furnace or heater.

But I *claim* introducing the draught air in a thin sheet around the top of the oven and sides, substantially as described, whereby the heat, which otherwise would radiate from the outer surface of the oven, is employed for improving the combustion in the furnace or heater.

I also claim the strips or plates *b d* arranged in the enclosed air spaces, substantially as described, for the purpose of confining the heated air closely to or near the inner case of the oven, as specified.

No. 19,050.—John Seipel and William Rupp, of Washington, D. C.—*Improvement in Oyster Openers.*—Patent dated January 5, 1858.—The nature of this invention consists in a hollow tube A to carry off the ends of the shell and to support the knife 5 and levers 7 and *f* working the same.

Claim.—The hollow shaft, in combination with the double levers, for operating the adjustable knife, and these with the movable bed-plate or rest; the whole being relatively arranged and constructed as set forth.

No. 19,648.—Solomon Oppenheimer, of Peru, Indiana.—*Improved Milking Pail.*—Patent dated March 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I am aware that plugs or valves are pressed against the orifices of vessels for holding liquids, and the same kept closed through the instrumentality of springs, and such has been described in the English Patent Journal, vol. VII, page 146, by Theo. de Mevillac on his oil can; also a similar device has been patented to George Trott, on his lubricating cup, in 1856. I therefore disclaim any such devices.

But I *claim* the pendent rod and lever bar, when combined, and for the purpose of keeping the orifice in the milking pail open, when the same stands uninterrupted and in its proper position; anything else I hereby disclaim.

No. 20,811.—Thomas E. McNeill, of Philadelphia, Pennsylvania.—*Improved Dust Pan.*—Patent dated July 6, 1858.—This dust pan is formed of an inclined and slightly concave surface *b* and a dirt receptacle or box *a*, so that the dust is prevented from being thrown back upon the floor by the return movement of the broom while the dirt is being swept into the pan.

Claim.—Constructing the dust pan with a dust receptacle or box *a* and inclined surface *b*, substantially as and for the purpose set forth.

No 19,182.—Edmund Brown, of Lynn, Massachusetts.—*Air-Tight Pepper Box.*—Patent dated January 26, 1858.—A is the box; D is its top or cover, and like those in common use, except that it is air-tight instead of being perforated. The lower part of A, constituting the neck or valve, is smaller than the upper part, the perforations *a* for the delivery of the spice being made in the periphery of said neck or valve, and not in the bottom. B is a cylinder or case of tin or other material into which the pepper box A is fitted, so as to play up and down with freedom, the bottom of the case being provided with a round hole through which the perforated neck or valve can be pressed. C C is a coil spring encircling the valve, one end resting on the shoulder of A and the other on the bottom of B. E is the handle, F is the check and thumb-piece. The contents of this box are delivered from the neck at the bottom, instead of at the top, as in other boxes.

Claim.—Making a spice and pepper box air-tight and self-closing, substantially as described, and for the object specified.

No. 19,855.—Ernest Kauffman, of Philadelphia, Pa.—*Improved Ice Pitcher.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The ice pitcher having the inner portion or lining B fitted to the outer portion or casing A, with screw-threads or their equivalents, which make a tight joint, but provide for its ready removal and replacement or renewal, as set forth.

No. 20,592.—George W. Smith, of Hartford, Conn.—*Improved Ice Pitcher.*—Patent dated June 15, 1858.—This invention consists in surrounding an ordinary double-walled pitcher, or other vessel for holding liquids, with an additional shell E, arranged concentrically with it, and arranged above the double top and bottom of the common pitcher corresponding additional disks G C^1 in such a manner as to interpose an additional air space to the entrance of the external heat.

The inventor says: I am aware that vessels have been constructed with a double wall for the purpose of preserving their contents from the exterior heat, and I therefore do not claim this device.

But I *claim* surrounding double-wall pitchers with an additional concentric shell E, and their double bottoms and covers with corresponding additional disks G C^1, for the purpose of protecting the same from being battered through carelessness in handling and other cause, and preserving them from the direct contact of external heat, and thus keeping a colder body of air in contact with them of such temperature as shall not only more thoroughly preserve the cold temperature of the ice and water contained in the said pitchers, but also prevent the condensation of air on the exterior surfaces of the same, and the consequent dripping of the water thus accumulated therefrom, substantially in the manner set forth.

No. 21,717.—James H. Stimpson, of Baltimore, Md., executor of James Stimpson, deceased, late of said Baltimore.—*Improved Ice Pitcher.*—Patent dated October 5, 1858.—This invention is an ice pitcher with three walls constructed. The construction is shown in the section 2, where letters *a b c* indicate the three walls for the body, bottom, and cover of the pitcher, and *d e* the intervening non-conducting spaces occupied with air.

Claim.—The treble wall for ice pitchers, as set forth.

No. 20,499.—W. W. Lyman, of West Meriden, Conn.—*Improved Refrigerating Pitcher.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I make no claim to a valve in the end of the nozzle or on the lid of the pitcher, as valves have heretofore been placed there.

Nor do I claim a single valve located anywhere.

But I *claim*, in the manufacture of ice pitchers, the particular location of the valve, viz, in the throat of the nozzle, when said valve shuts into instead of against the opening, and is constructed with double sides, or made hollow, provided with a projection lip or shoulder *f*, and having its seat provided with a lip or shoulder *g*, substantially as shown and described.

No. 21,808.—Nelson Barlow, of New York, N. Y.—*Improvement in Coffee-Pots* —Patent dated October 19, 1858.—The general nature of this invention is an improved condensing arrangement, whereby the vapor and aroma is retained, and also a graduated means for returning the same to the boiler.

A is the boiler or coffee-pot, with in which a strainer may be used if desired; the boiler should have a cap on the end of the spout, and its joints well fitted to prevent the escape of steam.

Claim.—The tubular condensing vessel B *c* in its specified arrangement, when cold water is used in the same, and the discharge is graduated in the manner described.

No. 19,780.—James M. Ingraham, of New York, N. Y.—*Improvement in Coffee and Tea Pots.*—Patent dated March 30, 1858.—The water chamber A having been partially filled with boiling water, the space above the water becomes filled with steam, which, pressing upon the surface, forces the boiling water into the siphon F. The cock L being now opened, the water passes through it into the filterer *c*, which has previously been charged with the required quantity of coffee or other material; the scalding water percolates through the material, and finally reaches the bottom; it then passes out through the perforations around the apex, and there collects between the filterer and the pot, ready for use.

Claim.—The steam-tight coffee-pot, the filterer *c*, with the conical chamber B B and the siphon, combined, arranged, and operating in the manner and for the purpose as described.

No. 21,589.—William Austin, of Philadelphia, Pa., assignor to Himself and William Obdyke, of said Philadelphia —*Improvement in Tea-Pots.*—Patent dated September 21, 1858.—This invention consists in furnishing the inside of an ordinary tea-pot with a plunger fitting in an annular casing, and is so arranged that by depressing the said plunger the whole strength of the tea is extracted, thereby requiring less tea to make the same amount of liquid of the same strength as that made in ordinary tea-pots.

The inventor says: I do not desire to claim the use of an interior casing for confining the tea in the inside of the same.

But I *claim* the plunger or presser D, in combination with the interior casing B, the whole being so arranged that, or any equivalent to the same, and for the purpose specified.

No. 22,278.—Stephen Culver, of Newark, N. J.—*Improvement in Tea and Coffee Pots.*—Patent dated December 14, 1858 —B is the leach, composed of three parts; *a a* the receptacle in which the canister is held; *b* a canister into which the material from which the extract is made is enclosed; and *c* a tube or siphon by which the fluid extract is conducted from the receptacle to the hold below. *d* is a diaphragm or partition separating the hold A from the chamber *f*. Over the orifice *i* is a cap or hood, directed centrally, for the purpose of conducting the steam and vapor more directly against the bottom of the reservoir D and the stream running through the hole *k*.

The inventor says: I *claim*, first, the leach B, composed of the receptacle *a*, the canister *b*, and the tube or siphon *c*, constructed and arranged substantially as described.

Second. The combination of the reservoir D with the leach B substantially in the manner and for the purposes set forth.

Third. The diaphragm with the steam orifice *i*, as specified, and the combination thereof with the receptacle of the leach in the manner and for the purpose described.

No. 20,517.—William Smith, of Cincinnati, Ohio.—*Improved Provision Cutter.*—Patent dated June 8, 1858.—The cutters *h* are held and adjusted to the circular plate *f* with the screws J J K and *s s*; the screws J are for drawing the cutters up to the plate, and the screws K for forcing them away. *m m* is a semi-cylindrical piece, closed at one end and made to slide on the plate *a* in the grooves R R for the purpose of feeding the provision to the cutters.

The inventor says: I *claim* the arrangement of the semi-cylindrical piece *m* and guide-slides R, arranged with the stock *a* and circular plate *f*, all as constructed, for feeding the provision to the cutters as mentioned.

I also claim the arrangement of the screws J J K and S S with the cutters *h* and plate *f*, for adjusting the cutters from and to the plate, as represented, for purposes mentioned in the specification.

No. 20,543.—Alanson Brown, of Rochester, New York.—*Improved Quilting Frame.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the construction of the frame A A B B B C, and its combination with the standards S S, said frame consisting essentially of the revolving bars B B, the end pieces A A, and the rigid bar C, which bar C revolves in the standards S S in the manner and for the purpose substantially as described.

I also claim my method of converting the whole into a cradle by means of the reversible feet F F.

It being understood that I disclaim the mere substitution of rockers for feet in any form of bed or cradle, that being a common practice, but claim the feet or rockers F F, reversible, in the manner and for the purpose substantially as set forth.

No. 20,774.—JOHN KING, of Little Falls, New York, assignor to WILLIAM HIGBIE, HENRY LINK, and GEORGE R. COMSTOCK, of said Little Falls.—*Improved Quilting Frame.*—Patent dated June 29, 1858.—C and G are two shafts or rollers arranged parallel to each other, and turning in bearings at either end in the two end pieces M N. H is a third roller, also working in the end pieces, and arranged parallel to the other two rollers a little back of the roller G, and a little higher than it. The main rollers C G have selvage E F nailed on to them, and to which the quilt lining may be stitched. The two end frames M N are united by means of a tie bar or board R.

Claim.—The arrangement of the shafts C G and H, and connecting bar R, operating substantially as and for the purpose described.

No. 19,107.—CHESTER STONE, of Ravenna, Ohio.—*Improved Clothes-Rack.*—Patent dated January 12, 1858.—A A represent the two main or centre standards, and A^1 A^1 A A, the end standards—two on each side. Attached to the face or outer side of the standards are bars D, each bar being at one end and attached to one of the centre standards, and at the other end attached to one of the end standards.

The inventor says: I am aware that various kinds of folding frames or clothes-horses have been invented, and also hanging frames, with jointed connexion bars and tension racks; but these all differ widely from my invention, and I do not claim any of them.

But I *claim* the adjustable standards A and A^1, in combination with the pin-jointed bars D D, for the purpose of supporting clothes and rendering the clothes-horse capable of adjustment, and of folding and unfolding, substantially in the manner and for the purposes set forth.

No. 20,974.—GEORGE YOUNG, jr., of Saratoga Springs, N. Y.—*Improved Clothes Rack.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The arrangement of the folding timbers *b b b b* with the central timber *a*, by which the said folding timbers, when extended, form supporting legs, in combination with the lower arms *d d*, widened for the reception of the supporting pins, in the manner and for the purpose set forth.

No. 21,131.—A. A. HARRIS, of Ravenna, Ohio.—*Improved Clothes-Rack.*—Patent dated August 10, 1858.—This invention consists in having radial arms *d* jointed or pivoted to hubs *c* in such a manner that the arms will be supported by the joints or attachments to the hub, the hubs being placed loosely on a staff A so as to revolve, and at equal distances apart, so as to form a series of horizontal and parallel frames, and having the outer ends of the arms pivoted to vertical bars *f*, so that the frames when not in use may be folded together in sections from a horizontal position by raising the radial arms or sections, so that one or more of these sections may be in use while the rest are folded up.

The inventor says: I do not claim the employment or use of folding or expanding arms broadly or irrespective of the arrangement shown and described.

But I *claim* the radial arms so jointed or pivoted to hubs that they will be supported by the joints or attachments to the hub, the hubs being loose on the staff so as to revolve, and at equal distances apart to form a series of horizontal and parallel frames, each of which series may be folded up separately, and the whole be adjusted vertically by the main staff, as set forth.

No. 19,373.—WILLIAM D. LUDLOW, of New York, N. Y.—*Improvement in Refrigerators.*—Patent dated February 16, 1858.—A is the outer chamber containing chamber for water, &c.; B an inner one rising vertically from the floor of the former to contain ice; the mouth of the chamber B is hermetically closed by means of an annular India-rubber gasket E and a lid F, the latter being secured by a button or key D pivoted to its centre, and engaging with lugs C C.

Claim.—The provision substantially as described of an hermetically closed or sealed ice reservoir within or in connexion with a vessel containing water, or any other matter to be cooled or kept cool.

No. 19,837.—WILLIAM FERRIS, PHILIP GARRETT, and JAMES MEGRATTEN, of Wilmington, Delaware.—*Improvement in Refrigerators.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim the outer and inner boxes or cases, nor their combination.

Neither do we claim filling the space between the inner and outer box with any composition or matter which may be a non-conductor of heat.

But we *claim* the combining the third or inner box or frame *o o o o* with the interior of a refrigerator, as shown, so that a perfect circulation of cold air may be kept up in the interior of the box or case *o o o o*, and also around it, as shown and set forth.

No. 20,621.—JOHN D. BURTON, of Charlestown, Massachusetts.—*Improved Refrigerator.*—Patent dated June 22, 1858.—This refrigerator is constructed with an ice receptacle A arranged in its upper part; below this are chambers B C D E separate from one another. From the ice chamber A a cold air passage or pipe F is led downward

and into each of the refrigerating chambers and terminates near the bottom of the same, and so that cold air from the ice receptacle may pass down through such passage F into the refrigerating chamber, each chamber being furnished with such a pipe F.

Claim.—The arrangement of the separate refrigerating chambers, the ice chamber, and the air passages leading from the latter into the separate refrigerating chambers.

No. 20,907.—NATHANIEL WATERMAN, of Boston, Massachusetts.—*Improved Refrigerator.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the arrangement of the air supply and discharge pipes with respect to the case and its refrigerating chamber, in which arrangement the supply pipe or pipes are disposed within the refrigerating chamber, while the discharge pipe or pipes are disposed outside of the same in manner as specified.

I also claim the combination of a series of grooves or an auxiliary space or spaces, and a discharge pipe or their equivalents with the metallic bottom or lining of the refrigerating chamber, and arranged under the same and within the case or the stopping or bottom part of such case.

I also claim the arrangement of a space H within the cover of the refrigerator, as described, and around the odor discharge pipe G, the same being to operate in the manner and for the purpose set forth.

No. 20,895.—HENRY REHAHN, of New York, N. Y.—*Improved Refrigerator.*—Patent dated July 13, 1858.—The nature of this improvement will be explained by reference to the claim and engravings.

The inventor says: I do not claim circulating the air through the ice and through the refrigerating chamber, as that has heretofore been done.

But I *claim*, in combination with the ice-box C and ventilator arranged near the top of the refrigerator box, the centrally located cold air tube for carrying the cold air from said ice-box down to or near the bottom of the refrigerator, and admitting it into the refrigerating chamber D and in between the inner and outer cases, thence it ascends and escapes through the register, substantially as set forth and described.

No. 21,897.—JAMES NAUGHTEN, of Cincinnati, Ohio.—*Improved Refrigerator.*—Patent dated October 26, 1858.—This invention relates to an improvement in refrigerators for preserving meats, &c., and consists in a peculiar arrangement whereby the warm air is prevented from entering the ice compartment when the door of the refrigerator is opened, thereby causing a saving of ice.

Claim.—The combination of the valves H I and rods M K, arranged and operating substantially as and for the purposes set forth.

No. 21,977.—BENJAMIN M. NYCE, of Kingston, Indiana.—*Improved Refrigerator.*—Patent dated November 2, 1858.—T... invention has reference to the construction and arrangment of refrigerating and

preserving rooms or apartments, within which a desired even temperature can be maintained without material variation, and the most perfect desiccation produced.

The inventor says: I *claim*, first, the employment of the fan K, when arranged as set forth, for producing a circulation of the contained air, so as to bring it in immediate contact with the lime or other desiccating composition for the purposes specially set forth.

Second. I claim the peculiar construction of the beam T; that is to say, I claim the metal bar x, the insulating beam v, the trough y, and supporting beam U, all arranged for the purposes and in the manner described.

Third. I claim the partition O, when arranged and operating substantially in the manner and for the purposes set forth.

No. 22,104.—ABEL H. BARTLETT, of Spuyten Duyvil, New York.—*Improved Refrigerator.*—Patent dated November 23, 1858.—J J show the outer casing of the refrigerator, and h h the inner case; O O the space between the inner and outer casings; C C is the ice receptacle; D is the ice, and S slats for the support of the ice; M is a door which opens into the ice receptacle; c^1 is the lower angle of the ice receptacle, which contains the ice water.

Claim.—The wedge-form and position of the ice and water receptacle D and c^1, dividing the provision chambers B B, arranged substantially as and for the purposes specified.

No. 22,127.—ADOLPHUS LIPPMANN, of New York, N. Y.—*Improved Refrigerator.*—Patent dated November 23, 1858.—This invention consists in a series of coiled pipes, which emanate from the sides of the ice chamber in such a manner that they descend between the two walls of the refrigerator, where they are surrounded by some non-conducting material, so that when the same are connected at their ends to another coil which extends through a central tube from top to bottom of the refrigerator, and back into the ice chamber, the cold air from this chamber is caused to descend through the first named series of coiled pipes, and to ascend and flow back to the ice chamber through the central coil, and so that, by such circulation of the air, the temperature in the refrigerator may be brought to a very low degree with a comparatively small amount of ice.

Claim.—The described arrangement of a series of coiled pipe E which emanate from the ice chamber C, and which are carried down between the two walls a and b of the refrigerator to a central coil G, substantially as and for the purposes specified.

No. 19,432.—CHARLES A. McEVOY, of Richmond, Va.—*Improvement in Table Refrigerators.*—Patent dated February 23, 1858.—A is the ice dish, accessible from the top; B B are two tubes through which the drip water from the dish escapes into the compartment c c, from which it is emptied through the holes D D; E is a large hollow space beneath the dish, the object of which is that it may be placed over a dish that may require cooling.

The inventor says: I do not use nor do I claim double air-tight sides, such as are used in water or ice pitchers.

But I *claim* a combined ice dish and cover cooler, constructed as described, with the tubes or outlets B B, in connexion with the ice-pan A, an annular space *c c*, and having the apertures D D in the external casing, the several parts being relatively arranged as and for the purpose specified.

No. 21,337.—William Heath, of Lincoln, Me.—*Improved Sad Iron Heater Cover.*—Patent dated August 31, 1858.—This invention consists in the production of a cover for the sad-iron heater, which, while it in a measure protects the handle of the iron from the heat, serves to confine the heated air around the body of the iron and contribute materially to its more rapid heating.

Claim.—The described cover for sad-iron heater, constructed and operating in the manner substantially as described.

No. 20,815.—John G. Perry, of South Kingston, R. I.—*Improved Sausage Filler.*—Patent dated July 6, 1858.—To operate this improved filler the cases are put on the tube or nozzle G, which are made of different sizes for different kinds of cases or bags, when the lever C being raised until the head of the piston D is out of the cylinder, the meat is to be put in, and by pressing down the lever it is forced out into the cases which are drawn off of the nozzle by the operation.

Claim.—The combination of the tube or nozzle with the curved cylinder, for the purposes set forth substantially as described.

No. 21,965.—R. V. Jones, of Johnstown, Pa.—*Improved Sausage Machine.*—Patent dated November 2, 1858.—A is the hopper into which the meat is deposited, which is at once received by the flanged cylinder B; said flanges having a twisted form in order that as the cylinder revolves the meat may be pressed upon and cut or sheared off by the knife D. The knife D has a series of hooked or V-shaped teeth, and is placed at the bottom of the concave cylinder, and secured to its place by wedges H, or by means of set screws if desired.

Claim.—The arrangement of flanged cylinder B with a knife D having hooked or V-shaped teeth, substantially as and for the purpose specified.

No. 19,106.—Andrew Steveley, of New Haven, Conn.—*Improved Scissors Sharpener.*—Patent dated January 12, 1858.—The engravings and claim show the nature of this invention.

Claim.—An instrument or tool formed by securing a file or other cutting edge or edges at a proper angle variable or otherwise to the side of a plane surface, so as to form a cheap and efficient sharpener for all sizes of shears and scissors for family use, when combined and fitted for use substantially as set forth.

No. 19,467.—George Hinman, of New Haven, Connecticut, assignor to Himself and John H. Pardee, of said New Haven.—*Improved Scissors Sharpener.*—Patent dated February 23, 1858.—This improvement consists in so constructing the sharpener that the cutter B and guide C may be readily adjusted to any required angle, either by having the cutting blade moved and secured by a cam lever D, to adjust the angle with a stationary or fixed guide, or by having the guide susceptible of being moved to adjust the angle with a stationary or fixed cutting blade, for the purpose of suiting it to the bevels of the cutting edges of any kind of scissors or shears.

Claim.—Making or producing a scissors sharpener as a new article of manufacture, when constructed and made to operate substantially in either of the ways particularly described and set forth.

No. 19,784.—John C. Loveland, of Springfield, Vermont.—*Improved Scissors Sharpener.*—Patent dated March 30, 1858.—The file B is placed in the box *b*, the stud *g* projecting up into the hole *f*; the cap C is placed on top of the file, with its notch 7 corresponding to the notch 6 of the rim *c*; the screw *i* is then entered and screwed down tight on to the cap C. The scissors is pressed with its flat side against the edge 5 of the guide *d*; it is then drawn a few times over the edge of the file.

Claim.—As a new article of manufacture, the described instrument for sharpening scissors, consisting essentially of the revolving file B and guide *d*, constructed and operating in the manner substantially as set forth.

No. 21,868.—Samuel M. Barnett, of New Orleans, Louisiana.—*Improved Scrubbing Machine.*—Patent dated October 26, 1858.—This invention consists in having a tri-lateral frame provided to a vertical arbor, to which a brush is attached, the frame being also provided with adjustable bars to which small brushes or wipers and mops are secured; the frame being mounted on casters, provided with soap and water reservoirs, arranged so that the operation of scrubbing is done quickly and in a perfect manner.

Claim.—The tri-lateral frame A, provided with the soap and water boxes *d e*, arbor B with brush C attached, and the movable bars G with brushes and sponges *m n*, either or both, or their equivalents, attached; the whole being arranged as and for the purpose set forth.

No. 20,018.—Francis A. Cannon, of Brooklyn, New York, assignor to John Phillips, of said Brooklyn.—*Improved Smoothing and Polishing Iron.*—Patent dated April 20, 1858.—A in each figure represents the body of the iron; *a a* are the notches for the reception of the catch D; B B are the rollers or cylinders, varying in size according to the size of the iron, and projecting beyond the surface; C is the frame of the handle; D is the catch to hold the iron in position; F is a slot in the frame in which the catch acts; G G are pivots upon which the iron revolves in its frame or handle.

Claim.—The application and arrangement of rollers or cylinders to smoothing and polishing irons as described, by which a high degree of polish is imparted to linen and other fabrics with the least expenditure of muscular power.

No. 20,445.—ABRAHAM RUDISILL, of York, Pennsylvania.—*Improved Smoothing Iron.*—Patent dated June 1, 1858.—A A A represents a movable handle, by means of which the same smoothing iron may be used both with a flat or concave surface. B is a spring to keep the handle in its place. C C contain holes into which the handle slides when the concave surface is used. D D contain holes into which the handle slides when the flat surface is used.

Claim.—The smoothing iron with concave pressing surface, constructed substantially as described.

No. 20,451.—WILLIAM STAEHLEN, of Williamsburgh, New York.—*Improved Spittoon* —Patent dated June 1, 1858.—This invention consists in having the treadle *c* of the spittoon, which actuates its lid, so placed relatively with a loaded base *e* that the spittoon will be prevented from upsetting when the treadle is depressed by the foot for the purpose of raising the lid.

The inventor says: I do not claim a lid attached to the spittoon, and so arranged as to be actuated by a treadle, for such device has been previously used or applied to spittoons.

But I *claim* arranging the treadle *c* relatively with the loaded base or foot *e*, substantially as and for the purpose set forth.

No. 21,799.—THOMAS J. MAYALL, of Roxbury, Massachusetts, assignor to Himself and BENJAMIN F. COOKE, of Boston, Massachusetts.—*Improved Elastic Stair Pad.*—Patent dated October 12, 185 .—This stair pad is made of the following composition: 1 pound India-rubber; ¾ pound pulverized alum; ¾ pound white lead; 2 ounces sulphur. A is the step; B the elastic pad; C the carpet. The edge of the pad at *a* is so formed as to bend over and clasp the front edge of the step, whilst the other edge *b* gradually tapers off thin, leaving the part on which the foot more directly rests in ascending the stairs somewhat thicker; this gives the required degree of elasticity, whilst the part turned over the front edge of the step protects the carpet from contact with the wood at the place where it is soonest worn or cut out.

Claim.—As a new article of manufacture, the above described "Elastic Stair Pad," of the composition and form substantially as set forth.

No. 22,301.—F. H. MOORE, of Boston, Massachusetts.—*Improved Stair Sweeper.*—Patent dated December 14, 1858.—This invention consists in operating the brush within a box or cover, which prevents the escape of the dust.

Claim.—The combination of the box B and brush E with the dust pan C, arranged and operating in the manner substantially as described, whereby the dust is prevented from escaping, as set forth.

Second. And in combination with the above I claim the curtain F, operating substantially in the manner specified.

No. 21,633.—WILLIAM H. TROWBRIDGE, of Saginaw, Michigan.—*Improved Embroidering and Sewing Stand.*—Patent dated September 28, 1858.—This improvement consists of a plate *m* of iron of convenient thickness and six inches square, upon which plate, near the edge, are fixed two springs *e*, by means of which springs, pressing upon said plate, the needle is to be held; said springs *e* are held by the iron plate *m* by two screws *o* and *i* to each spring, so that by raising or lowering the forward screw *i* the tenacity of the spring is increased or diminished as convenience may require.

The inventor says: I do not make any claim to the invention of the spool rack, or to the work-box and its appendages.

But I *claim* the combination of the plate *m*, the spring *e*, the screws *o* and *i*, the thumb-screws *g*, the box *d*, the spool rack *k l*, arranged substantially as described for the purpose specified.

No. 21,275.—HENRY A. ROBERTS, of Hartford, Conn.—*Improved Ice Stand.*—Patent dated August 24, 1858.—The nature of this invention consists in the mode of construction and in the application of a receptacle or stand, on which blocks of ice are placed for refrigerating purposes, to be used in any locality, or in or independent of a refrigerator.

Claim.—As a new article of manufacture, an ice stand with convoluted angular-shape drip supports A, constructed and arranged in an adjustable frame F with the cross channel C, flexible discharging tube D, rollers E, substantially in the manner and for the purpose described.

No. 20,088.—MICHAEL QUIGLEY, of Watertown, N. Y.—*Improved Convertible Extension Table.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* securing the leaf A to the legs a^1 a^1, and leaf E, as described, for the purpose of forming an extension table, the leaves of which are folded in a perpendicular position, as fully set forth.

2d. The arrangement of the case C, as constructed with the inclined brackets *c c*, for the purpose of forming a convenient receptacle for stationery, and for the purpose of completing the bed of the table when required, substantially as set forth.

No. 20,530.—GEORGE PRATT, of Boston, Mass., assignor to JOHN A. ELLIS, of Cambridge, Mass., and J. E. HAZLETON, of Newton, Mass.—*Improved Extension Table.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim a spring catch nor the mere duplication of such.

But I *claim* the combination of the auxiliary turning stop *h* and its recess *g*, or the equivalent thereof, with the main stop *f*, applied to one of the slides and the rebate made in the other, the whole being as and for the purpose described.

I also claim the combination and arrangement of the two spring catches *m n*, catch bars *q r*, and the space *p*, whereby, during the motion of the supporter S on its hinges, one catch is made to pass between the two catch bars, and one catch bar to pass between the two catches.

No. 20,489.—William Heerdt, of New York, N. Y.—*Improved Extension Table.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim broadly the employment or use of metal plates in the construction of slides or guides for extension tables, for they have been previously used, although, so far as I am aware, not in connexion with wooden bars.

But I *claim* the metal plates *a b*, attached to the upper and lower surfaces of the bars B B^1 C, swaged or so formed as to be provided with ledges and grooves *c d*, which fit one into the other, the whole being arranged as and for the purpose set forth.

No. 22,224.—Adolphus Bader, of New York, N. Y.—*Improved Extension Talle.*—Patent dated December 7, 1858.—This invention consists in arranging a number of additional plates on arms which slide under the table top, said arms being made of such a shape and form that when they are drawn out half way the plates which are supported by the same are brought to form a continuous plane with the stationary top, thereby doubling the area of the table, and that when the arms are wholly drawn out the plates which rest on them may be unfolded and brought in the same plane with the stationary top, so that the area of the table is increased threefold. The arms are provided with springs and guide-pins, which move in suitable grooves, and which serve to guide the arms and keep them in their proper places during the operation of drawing them in and out.

The inventor says: I *claim* the arrangement of additional plates F G in arms E, of such a shape and form that by drawing out the arms the plates are brought to a level with the top of the table, substantially as described.

I also claim confining these arms at the proper places by means of the notches *f* and the hook *g*^{1}, and to guide the same by means of pins c and notches *d*, substantially as specified.

No. 22,294.—Charles Lammrich, of New York, N. Y.—*Improvement in Folding Table.*—Patent dated December 14, 1858.—The nature of this invention consists in combining with the hinged top, folding legs fitted in such a manner that the table, when distended or opened for use, shall be firm and rigid, and when folded together for transportation, or otherwise, occupies but small space, the legs shutting together and folding down closely against the table.

Claim.—The folding legs *a a*, combined with and hinged on to the bed or top of the table, in substantially the manner and for the purposes specified.

No. 19,390.—William Vandenburg and James Harvey, of New York, N. Y.—*Improved Ironing Table.*—Patent dated February 16, 1858.—To put on the garment to be ironed, the catch G is drawn off the board, which is then instantly lifted to the position by the spring *d* and stud H, in which position the garment can be easily put on over the end *d*. When the garment is on, the board C D E is depressed by the operator till it rests on the upright B, when the catch G springs forward and retains it.

The inventors say: We *claim* an ironing table composed of a stand of suitable form, having the board hinged or pivoted to it at one end, and a suitable support for the same at the other, with a spring or its equivalent applied to raise the board from its support, the whole being combined to operate substantially as described.

No. 19,883.—William Vandenburg, of New York, N. Y.—*Improved Ironing Table.*—Patent dated April 6, 1858.—In operating this improved table, when a shirt, or other article which is double, has been put upon the board, the movable piece F is moved down to the position shown in the engravings, where it offers no obstacle to the passage of the article over the end C of the board, the said piece is raised by the hand to an upright position to support the said end, and allowed to remain so till the article has been ironed, and it is desired to remove it from the board.

Claim.—The ironing table, composed of a board rigidly attached at one end to a stand, which is provided with a movable support for the other end of the board, to operate in the manner and for the purpose specified.

No. 20,231.—William Vandenburg, of New York, N. Y.—*Improved Ironing Table.*—Patent dated May 11, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The ironing table, composed of a board attached to one end of a stand in such a manner as to be capable of moving horizontally thereon to and from the other end of the stand, that it may be supported at both ends during the ironing operation, but permitted to have a garment passed over one end before and after the ironing operation, in the manner specified.

No. 19,773.—George W. Hagey, of Smithland, Conn —*Improved Self-Waiting Table.*—Patent dated March 30, 1858.—The shaft C is fastened to revolving part B, the centre pillar D is made hollow, and provided with a socket E to support shaft C, and a collar G to steady the shaft while revolving. The handles F will revolve the part B.

Claim.—The handles F, for the purpose of turning the table, and to which a table cloth may be buttoned, substantially as described.

No. 21,832.—Jacob S. Haskell, of Salem, Massachusetts.—*Improved Writing Table.*—Patent dated October 19, 1858.—The support of this table may be of any suitable form or design, to which the body of the table is fastened by a circular bolt, upon which it may freely turn. In this table there is one large drawer and ten small ones, all moving in the lines of the respective radii which pass through their centers.

Claim.—The arrangement of the circular bolt with, and for fastening of the several drawers, substantially as and for the purposes specified

No. 21,885.—Alexander Kinkead, of Washington county, Ohio.—*Improvement in Dining and other Tables.*—Patent dated October 26, 1858.—The nature of these improvements consists in the arrangement and combination of an ordinary dining or other table with an adjustable receptacle, rotating tablet, and an upwardly folding hinged disk.

Claim.—The combination and arrangement of the adjustable drawer or chambered rotating tablet L L^2, and with the hinged upwardly folding desk J J K K, when constructed as shown, and used with a dining or other table, for the purposes substantially in the manner set forth and described.

No. 22,086.—James M. Meschutt, of New York, N. Y.—*Improved Tongs for coal, &c.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As a new article of manufacture, the metallic tongs for coal fires, &c., constructed with fingers or curved prongs and the projections for the purpose of preventing the fingers coming too closely together, substantially as specified.

No. 22,070.—Bartholomew Essig, of Pittsburgh, Pennsylvania.—*Improved Vegetable Cutter and Coffee Mill combined.*—Patent dated November 16, 1858.—The nature of this invention consists in a novel mode of combining a rotary cutter for cutting and slicing vegetables, such as cabbage, turnips, onions, apples, and other vegetables used in cookery, with a coffee or spice mill, in such a manner that either the cutter can be operated and the mill be set out of gear, or that the mill is operated when the cutter is disengaged.

Claim.—The mode of arranging and combining a vegetable cutter and a coffee mill in such a manner that, by means of the sliding shaft B, either of the two may be set in or out of gear, substantially as set forth.

No. 20,473.—Silas M. Barrett, Rufus S. Lee, and Jabez M. Waters, of Cincinnati, Ohio.—*Improved Washboard.*—Patent dated June 8, 1858.—The nature of this invention consists in providing the edges of the sheet of metal with teeth *d d d d*, so arranged to the edges of the sheet that the width of the teeth will be parallel with the grain of the wood composing the legs A A of the board in which they are incised, and be made at the top and bottom of the corrugations of the plate, as shown in the engravings.

Claim.—The teeth *d d d d*, made and arranged, as represented, to the edges of corrugated sheets of metal for washboards, for increasing and holding the edges of the sheet of metal in and to the sides of the legs of the board, as represented, and for the purposes mentioned and described in the specification.

No. 20,644.—Joseph Keech, of Waterloo, New York.—*Improvement in Washboards.*—Patent dated June 22, 1858.—The nature of this invention consists in the construction of washboards with a convex beaded rib R running from top to bottom through the centre of the board, said rib being grooved on each side for the reception of the corrugated washing surface B, and serving the purpose of giving strength to the board.

Claim.—The combination of the central beaded rib R with the corrugated plates B B, constructed, arranged, and operating substantially as and for the purposes set forth.

No. 22,087.—John Miner and Silas Merrick, of New Brighton, Pennsylvania.—*Improved Washboard.*—Patent dated November 16, 1858.—The nature of this invention consists in so striking up from sheet metal the usual ribs of a washboard that there shall be left an entire border or narrow space upon the four sides of the corrugated metal plate that shall be plain and not corrugated, so that the groove in the wooden frame which receives the four edges of the metal plate shall be only of the same thickness as the plain part of the metal plate itself.

Claim.—We are aware that it is not new to strike up in a mould or die the metal plate of a washboard, to make raised and depressed figures in general, or even the rib work described; nor yet to make a metallic crimped plate without a support or brace in the back side thereof.

But we contend that it is new to stiffen a crimped metallic plate of a washboard by confining the crimped portion within the frame, so that the plane border only shall be received into the narrow groove of the frame, provided the corrugations or ribs be so formed as to project equally on both sides of the medial line of the plate, so that each side of the plate shall be equally braced by the crimping of the metal, and consequently be equally adapted to washing on both sides.

We disclaim the general device of making a crimped metal wash board with a plane border received into a plane groove in a frame.

But we claim so impressing the corrugations equally upon both sides of the plate that the medial or central line of the corrugated part of the plate may be in a line with the plane border *c c*, and that the ribs shall project equally on both sides, forming two equally good washing surfaces, as set forth.

No. 22,053.—John Adams, of Pittsburgh, Pennsylvania.—*Improvement in Washboards.*—Patent dated November 16, 1858.—A represents a wooden frame, which is constructed similarly to the frames of the ordinary washboards, *a a* being two side pieces, *b* b^1 b^2 are cross pieces at their upper and lower parts, and *c* a box or receptacle for soap. B is the rubber, or corrugated portion, against which the clothes are rubbed. This rubber is constructed of glass, and is pressed in a mould of proper form.

Claim.—As a new article of manufacture, a washboard having its rubber B composed of glass, as and for the purposes shown and described.

No. 20,428.—Francis W. Hamilton, of Conshohocken, Pennsylvania.—*Improved Combined Washstand and Night Stool.*—Patent dated June 1, 1858.—When a night stool is required the lid H, with its

drawer I, is raised, the door G opened, the lid F raised, and a suitable vessel placed in the opening of the seat E.

Claim.—The seat E, as enclosed within a body or casing composed of the back B, the two sides C, and the door G, in combination with the lid H and its drawer I, the whole being arranged substantially as and for the purpose specified.

No. 19,694.—CHRISTIAN GIES, of New York, N. Y.—*Improved Water-tight Washstand.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, the raised flange, ridge, elevation, or projection upon the basin *c*, in combination with the countersunk marble slab *b*, to fit such flange for the purpose set forth.

Second. I claim the cap-like attachment upon the faucet D, fitting closely over the projection upon the marble slab, through which the faucet passes, for the purpose set forth.

No. 19,037.—SAMUEL P. MECAY, of Killbourne, Ohio.—*Improved Washing Machine.*—Patent dated January 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that reciprocating washboards have been previously used, and arranged in a great variety of ways, and I therefore do not claim, separately, either of the parts shown.

I *claim* the arrangement and combination, as shown, of a lever D, washboard B, arm F, and dashboard G, so that, by the movement of lever D, the boards B G will simultaneously approach each other and act upon the clothes, each board doing its share of the work; and, by a reverse movement of lever D, the boards B G will simultaneously separate and leave an open space for the admission or removal of the clothes.

No. 19,181.—NICHOLAS BENNET, of New Lebanon, New York, assignor to DAVID PARKER, of Shaker Village, New Hampshire.—*Improved Washing Machine.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The arrangement of two or more washing chambers with a travelling frame carrying two or more rubbers, one for each chamber, said travelling frame resting on, and supported by, the sides of the washing chambers, as set forth, for the purpose of washing several kinds or qualities of clothes at the same time, without allowing the suds or water in one chamber to flow or be dashed over into the next one to it, as described.

No. 19,257.—W. W. NEAL, of Yellow Springs, Ohio.—*Improved Washing Machine.*—Patent dated February 2, 1858.—By turning the winch B a reciprocating motion is communicated to the rubber G, and, at the same time, while the front end thereof remains nearly at a constant height, the rear end is alternately raised and lowered by the direct action of the crank; thus both a rubbing action and an intermitting pressing action are produced simultaneously on the clothes—the best that can be adopted. By allowing one end of the rubber to

simply move backward and forward the position of the clothes is continually changed, so as to subject different surfaces to action.

Claim.—The arrangement and combination of the rubber G, connecting bar E, crank D, yielding standard *n*, or its equivalent, and yielding suspending rods H H, substantially in the manner and for the purposes described.

No. 19,299.—EDWARD JULIER, of McConnellsville, Ohio.—*Improved Washing Machine.*—Patent dated February 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The construction and arrangement of the sliding carriage, composed of the side pieces $q\ q\ q\ q^2\ q^2\ q^2$, the compensating yoke $y\ y$, the pressure spring piece $z\ z$, the plain roller U, the ratchet roller V V X X, the compensating roller W W, the staff rod k^2, and notched pressure beam and weight $L^2\ L^2\ n^2$, combined and operating together with the driving pitman rod $b^2\ b^2$, as set forth.

I also *claim* the jointed shoulder pieces $d^2\ d^2$, the elbow lengths $e^2\ e^2$, and forearms $f^2\ f^2$, when arranged and combined as set forth, and operated in connexion with an ordinary washtub or board.

No. 19,315.—W. H. TAMBLING, of Berlin, Wisconsin.—*Improved Washing Machine.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and illustrations.

The inventor says: I do not claim the employment or use of corrugated and plain cylinders or rollers in washing machines, for they have been previously used.

Neither do I claim placing said rollers in elastic or yielding bearings, irrespective of the arrangement shown, whereby the bearings of the cylinder B may be rendered either elastic or permanent, as desired.

But I *claim* the combination of the corrugated or fluted cylinder B, and elastic or yielding frame C, provided with rollers *l*, when the bearings *c* of the axis *a* of the cylinder B are fitted in an elastic or yielding and adjustable frame, and the whole arranged as shown, for the purpose set forth.

No. 19,474.—BENJAMIN R. SMITH, of East Whiteland, Pennsylvania, assignor to JOHN HELLINGS, of West Whiteland, Pennsylvania.—*Improved Washing Machine.*—Patent dated February 23, 1858.—By turning the lever sidewise and resting it on the queen post Q, by rasing the lever A the worker is lifted and pushed back on the guides and bearers which puts the machine out of working position, by which means the clothes and water can be put in. When done draw the lever towards you, letting the gudgeons G G drop into their proper places, which puts the machine in working order; then, by working the lever up and down the clothes are pressed, rolled and rubbed.

Claim.—The combination of the guides and bearers with the seat of the queen post, and the lever hook F, as before set forth, for the shifting of the movable worker from its concave bed.

No. 19,609.—Henry Lawrence, of Newark, Ohio, assignor to Himself and J. M. Connell, of said Newark.—*Improved Washing Machine.*—Patent dated March 9, 1858.—The nature of this improvement consists of an oscillating box B, having a curved bottom in combination with a stationary piece or frame F for securing the clothes, and a system of rubbers above this frame and moving over it by the oscillation of the box B.

The inventor says: I do not claim oscillating boxes for washing machines, broadly considered.

But I *claim* the combination as described of the stationary clothes-holder *f*, with the oscillating box B, and flexible rubbing system connected therewith, and made to pass over the said frame *f*, substantially as set forth.

No. 19,653.—James Robb, of Lewistown, N. Y.—*Improved Washing Machine.*—Patent dated March 16, 1858.—In the drawings, *a a* are the side pieces, *b b* are the cross pieces, and *c* the centre brace of the frame. Over this frame is stretched the rubber R of cloth, or the rubber R^1 of fine wire gauze. The pins *f* hold the rubber on the frame.

The inventor says: I do not claim, broadly considered, the employment of a flexible base on which to wash clothes.

But I *claim* the combination of the open frame *a b c*, with their movable flexible casing R or R^1, constructed and operating substantially as and for the purpose set forth.

No. 19,634.—Lewis Hannum, of Homer, N. Y.—*Improved Washing Machine.*—Patent dated March 16, 1858.—This invention consists in construction and arrangement within the periphery of a tub of the cross board B, through which the stem F passes for operating the rubbing disk D, said board being provided with projecting stubs or pins on the one side and a swivel bolt on the other for entering suitable recesses within the periphery of the tub.

Claim.—The employment of the projections *f f* in the bottom of the tub in combination with the knuckles on the under side of the disk, as se forth substantially in the specification.

No. 19,788.—James McVicker, of Green county, Pennsylvania.—*Improved Washing Machine.*—Patent dated March 30, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Forming a receptacle within the wash-box for containing the clothes to be steamed preparatory to their being washed by means of the ribs or slats *m*, attached to the wash-box, and the ribs or slats *r*, attached to the lid P, so that upon opening the lid of the wash-box the receptacle also is opened for the introduction or removal of the clothes, substantially as described.

No. 19,911.—Henry Cassell, of Fredericktown, Ohio.—*Improved Washing Machine.*—Patent dated April 13, 1858.—This machine is operated thus: The clothes are placed in the tub B and a requisite quantity of soap and water placed therein. The pinion *f* is thrown in gear with the teeth on the upper edge of the tub. By turning the shaft F the tub is rotated, the belt *h* rotating the pinion *f*. As the shaft rotates, the catches or pawls *w* act against the hooks *u* and draw upward or raise the pounders J J, and as the catches or pawls pass underneath the upper part of the spring M they are depressed in their grooves and the hooks *u* are liberated, the pounders being forced down upon the clothes within the tub by the springs *r*. The two pounders are raised and lowered alternately.

Claim.—The arrangement of the spring pawls *w* and grooves *v* on the shaft F, and these arranged with the hooks *u* for elevating the pounders and the spring M, for purposes mentioned in the specification

No. 20,101.—Edmund Tharp, of Cincinnati, Ohio.—*Improved Washing Machine.*—Patent dated April 27, 1858.—This invention consists in the combination of a trough of quarter spherical form with a vertical rotating disk, by means of which a gyratory motion is imparted to the materials to be washed, and all parts are successively subjected to compression and rubbing.

Claim.—The arrangement, and combination, substantially as set forth, of the vertical rotating disk D and quarter spherical trough C, for the purpose explained.

No. 20,099.—Charles M. Swany, of Richmond, Indiana.—*Improved Washing Machine.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not broadly claim either set of rubbing surfaces shown, when separately considered, as analogous devices are separately in use.

But I *claim*, first, such a construction and arrangement of the disk B and rubber case with the tub, that the disk and rubber case are free to move in opposite directions simultaneously, the above being made and fashioned substantially as shown and described.

Second. I claim the manner shown of arranging the rubbers or ribs upon the horizontal rubbing surfaces of the disk and rubber case, for the purpose of keeping the clothes in place during the process of washing.

No. 20,123.—Henry Yost, of St. Louis, Missouri.—*Improved Washing Machine.*—Patent dated April 27, 1858.—A is a tub, *j j* is the rubber rack, and *f f* are the spring bearings upon which the said rack is fixed, the said springs being coiled around, which reach through the rack, whereby it is held in a given position; *c c c* are the cross-bars composing the rack and *d* is the canvas with which it is covered. B is the revolving rubber, which is fluted and covered with canvas.

Claim.—The traversing rubber in connexion with the yielding rack *j*, over the surface of the water in the manner described.

No. 20,154.—Ashman Hall, of Dansville, New York.—*Improved Washing Machine*—Patent dated May 4, 1858.—This improvement relates to that class in which the clothes are scrubbed by being passed between two or more sets of rubbers, all of which may receive motion.

As the clothes are drawn between these rubbers they are folded or plaited longitudinally, and the rubbers press these folds down as they pass over and only rub one side; hence it is necessary to change the position of the article while being washed, and pass and repass it through the machine in order that all parts may be subjected to the direct action of the rubbers. The object of this improvement is to displace or change the position of these folds in the clothes while under the action of the rubbers, to prevent the articles from being carried toward the edge or corners of the rubbers, and also to regulate or vary the pressure of the rubbers on the clothes at the will of the attendant without leaving the position in which he operates the machine.

The inventor says: I *claim*, first, constructing the slats or bars which form the rubbers with spiral grooved and ridged surface, for the purpose described.

Second. In arranging the spiral grooves and ridges formed on the slats so that they incline in opposite directions in each succeeding slat, for the purpose set forth.

Third. The combination of the dipping scoop with the vibrating rubber arranged as described for the purpose set forth.

No. 20,244.—David E. Rohr, of Charlestown, Virginia, assignor to Himself and Thomas W. Davis, of said Charlestown—*Improved Washing Machine.*—Patent dated May 11, 1858.—The articles to be washed are placed upon the squeezer or washboards I J J, when the crank is turned, and the rotating device *a* being revolved from left to right, the flutes or beads *e e e e* come in contact with the clothes as the washboard advances towards the beads, and while the device *a* is rotating around in the direction of the arrow over and under. The device or sliding scoop *h h* moves to and fro, or reciprocates back and forth; and thus while the device *a* has a continuous motion around, the sliding scoop device *h h* has an alternating motion.

Claim.—The construction of the fluted rotating device *a b c d*, the sliding reciprocating scoop *h h*, with fluted or grooved squeezer or washing board I J J, with yoke, beam, and pendant devices K K L L *m*, arranged, combined, and operating substantially as in the manner fully described.

No. 20,230.—Miner Van Auken, of Chazy, New York.—*Improved Washing Machine.*—Patent dated May 11, 1858.—This is an improvement on that class of washing machines in which an oscillating and curved corrugated rubber is employed in a box with a corrugated bottom. The improvement is in the hanging of a rubber E, and in the employment of a board F to facilitate and aid the more perfect cleansing of the fabrics to be washed.

Claim. The adjustable stop board F, arranged at the rear end of the rubber in combination with the scroll terminating slots *i j* in the pendulous arms of the rubber E, substantially as and for the purposes set forth.

No. 20,369.—Abraham Quimby, of Terre Haute, Indiana.—*Improved Washing Machine.*—Patent dated May 25, 1858.—The nature of this

invention consists in the combination of approximating plungers with the revolving tub, whereby the clothes are subjected to a continuous rotary action.

Claim.—The combination of the approximating plungers E E with the revolving tub A, whereby the clothes are subjected to a continuous rotary action, and at intervals to a squeezing or expressing action, and thereby thoroughly washed, substantially as set forth.

No. 20,365.—F. B. Pratt and F. Tyler, of Cleveland, Ohio.—*Improved Washing Machine.*—Patent dated May 25, 1858.—The brake F is fluted, as seen at F^1, to correspond with the fluting of the roller E, and is attached to the bearings *c c* by pin joints at c^1 c^1. The apron K being in place, the clothes to be washed are placed upon it at K, and the flap L laid over them, which prevents much of the wearing of the clothes by preventing them from coming in contact with the roller B.

The inventors say: We do not claim the parts named as new, separately considered.

But we *claim* the fluted brake F when attached to yielding bearings *c c*, parallel with fluted roller E, in combination with the united open flapped and endless aprons L K, and when arranged and operating in the manner and for the purpose set forth.

No. 20,408.—J. L. Conklin, sr., and Joseph Foust, of St. Louis, Mo.—*Improved Washing Machine.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The construction and attachment of the rubber A, provided with parallel concave slats C C C, when combined and arranged with the concave provided with diagonal slats *a a a*, for the purpose of forming a washing machine, as is fully described.

No. 20,482.—Edwin B. Clement, of Barnet, Vt.—*Improvement in Washing Machines.*—Patent dated June 8, 1858.—A vibrating rubber I I I is made to work horizontally on the rollers D D D, by means of two slotted elbow brakes L L, and up and down by means of a foot brake V, which is adjustable for either foot, and spring and connecting rods U U, which enable the operator to rub hard or lightly any particular place of the article to be washed.

Claim.—The adjustable foot brake V, in combination with the slotted elbow brakes L L and connecting rods U U, the whole made and operating substantially as described, and for the purpose set forth.

No. 20,574.—Benjamin D. Morrell, of Windham, Maine.—*Improved Washing Machine.*—Patent dated June 15, 1858.—By this improvement in tub washing-machines the rubbing board can be adjusted or raised or lowered, more or less, to suit the quantity and quality or texture of the clothes to be washed, and thus either a direct action of the rubber upon the clothes or simply the motion given to the water, by the circular vibration of said rubber, can be employed for removing the dirt from the clothes.

The inventor says: I do not claim holding the rubber down by a

spring and adjusting collar, nor do I claim a socket arranged below the bottom of the tub.

But I *claim* the fitting and adjusting up and down of the rubber D[1] over and within a hollow detachable metallic socket C, projecting up from the bottom of the tub by means of a central hole *b*, a revolving spindle D, and sliding collar G H, arranged precisely as specified and shown.

No. 20,732.—PERRY C. RUDE, of Morgantown, Va.—*Improved Washing Machine.*—Patent dated June 29, 1858.—This invention consists in the manner in which is arranged and combined the concave slotted rack with the center rib stationary, and the others hinged so as to spring from the end of the wash box, the object being to admit the water behind the rack, and when the plunger comes up against it the hinged ribs shall act as valves to force the water through the openings in the stationary ribs, and thus subject the clothes to the jets or streams of water in front of them as well as by the plunger in the rear.

Claim.—In combination with the plunger G, the concave rack formed of stationary ribs *f*, and hinged ones *g*, so that the water behind the rack shall be jetted through the openings *i* in the stationary ribs into the clothes, substantially in the manner set forth.

No. 20,791.—ROBERT H. HARRISON, of Laurel, Md.—*Improved Washing Machine.*—Patent dated July 6, 1858.—The strips *b c c*, *b c c*, *b c c*, are arranged within the surrounding bottom transversely across the machine, leaving spaces or openings between as at *d d d*. The lateral or side surroundings *e e e e* are beaded, fluted, or grooved as at *f f f*, vertically or obliquely. The ends of the tub or receptacle part *a a a*, *e e e*, terminate in concave curves *g g g*. In the tub are used one or more hundred beaded, ribbed, or oval formed elastic or soft wood balls *i i i i*. The hand rocking lever *o o o* is connected at its lower extremity to the lower rail of the framing or stand K K, by a joint pin or fulcrum bolt P.

Claim.—The construction of a washing machine having a concave bottom *a a a a a*, with a secondary grating-like or fluted bottom *b c c*, *b c c*, *b c c*, the slotted rocking lever *o o o r r*, and the corrugated balls *i i i i* or their equivalents, the whole constructed, arranged, and operated substantially in the manner as set forth and described.

No. 20,872.—B. F. GHORMLEY, of New Frankfort, Ind.—*Improved Washing Machine.*—Patent dated July 13, 1858.—The nature of this improvement consists in providing the box case with projecting lugs *c c*, so that they may be entered through notches *b b*, formed in the jaws of the pedestal, and allow of a ring being placed on the axle, and then admit of the descent of the jaws by lowering the truck frame; the aforesaid lugs, by passing behind the projecting edges, formed on the parallel faces of the jaws of the pedestal, will scarcely retain the box case between the jaws (yet allow of the slight vertical movement consequent to the use of the springs) when the weight of the truck frame *c c* is thrown on the axle.

Claim.—The combination and arrangement of the fluted and grooved roller B, and the cords *a a*, and roller C, with the hinged washboard D, springs *c c*, and temper screws *d d*, all being operated and constructed in the manner and for the purpose fully described.

No. 20,932.—WILLIAM BROWN, of Duncannon, Pa.—*Improved Washing Machine.*—Patent dated July 20, 1858.—This washing machine consists of a tub with a fluted concave bottom and a fluted rubber *b b*, which is hung above and vibrates over said bottom; the clothes are attached to the rubber so as to be washed between it and the concave tub bottom. The rubber is suspended by springs, so as to allow of any desired force being applied to the clothes without the necessity of the operator being compelled to bear the labor of lifting the rubber to apply said force.

The inventor says: I *claim*, first, the manner described of hinging the forward portion *b* of the rubber to the rear portion *b* of the same, for the purposes set forth.

Second. The manner described and shown of hinging the rubber *b b* to the uprights, in combination with the manner of suspending the uprights *a a* by means of slots, pivots, and springs, for the purpose set forth.

No. 21,216.—D. C. ROOD, of Altona, Ill.—*Improved Washing Machine.*—Patent dated August 17, 1858.—This invention consists in the employment of a hollow rotating cylinder and a yielding concave placed in a suitable box, the cylinder being provided with a flap or door, a fastening or catch, and covered with an inflated belt or thick fabric of any suitable material, the whole being arranged for the ready and effectual cleansing or washing of clothes, especially those kinds which require a peculiar treatment.

The inventor says: I am aware that rotating cylinders and concaves have been previously used and arranged in various ways for washing clothes, and I therefore do not claim broadly such device separately or in itself considered.

But I *claim* having the rotating cylinder B provided with a flap or door *f* and a flap or fastening *c*, and covered by an inflated band or belt or any suitable cloth or fabric *h*, in combination with the yielding concave D, provided with the corrugated board E and rollers *j j*, the whole being placed in a proper box A, and arranged substantially as and for the purpose set forth.

No. 21,175.—DAVID ALLAN, of St. Louis, Mo.—*Improved Washing Machine.*—Patent dated August 17, 1858.—In the engravings A is the dasher or plunger inserted in the tubs B B, connected with the beam C by the pitmans D D, and worked by the handle or brake E, supported by the post F. The top of dasher G is kept in the situation shown by a key or wedge H until the clothes are put on or moved from the dasher A. When the clothes are placed on the dasher A, the top of the dasher G is brought down upon them and is there secured by the key H at the points J. The water or soapsuds being about six inches below the bottom of the dasher when the beam C is

horizontal, and the top of the dasher G being concave, as shown in the engravings.

Claim.—The air-chamber or top of the concave dasher G G, or its equivalent.

No. 21,261.—William A. Jordan, of Thibodeaux, La.—*Improved Washing Machine.*—Patent dated August 24, 1858.—This invention consists in having a vertical tube C fitted centrally in the bottom *a* of the tub A, so as to serve as a guide for the shaft F of the disk or rubber D, and at the same time serve as an eduction pipe to let off the water from the tub. The disk or rubber shaft being slotted longitudinally, and having a key or pin passing through it, which key serves to retain the shaft and allow the rubber when raised to rest on the side of the tub.

Claim.—The combination of the tube C, slotted shaft F, and pin or key G attached, respectively, to the tub A and disk or rubber D, and arranged to operate as and for the purpose set forth.

No. 21,385.—Thomas J. Tindall, of New York, N. Y.—*Improved Washing Machine.*—Patent dated August 31, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* combining with a suitable vessel for containing the clothes, &c., to be washed, and the washing liquid, an exhausting pump or equivalent therefor, communicating with the said vessel above the intended charge, substantially as described, to exhaust the said vessel above the charge and relieve the pressure to effect the circulation of the washing liquid by ebullition below the recognized boiling point, as set forth.

No. 21,477.—W. T. Armstrong, of Sandwich, Ill.—*Improved Washing Machine.*—Patent dated September 14, 1858.—This invention consists in making the yoke or shaft which supports the rubber in bearings stationary while in operation, so far as vertical motion is concerned, and allowing the necessary vertical play to accommodate the thickness of the mass of clothes which are being operated upon by means of a slide attached to the rubber and passing through the yoke, being guided by it in such a manner as to allow the rubber to rise or fall without interfering with the position or action of the bearings of the shaft.

Claim.—The combination of the rubber and the slide F, with the stationary shaft G, substantially as and for the purposes set forth.

No. 21,476.—John Allen, of Galena, Md.—*Improvement in Washing Machines.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: What I *claim* is, so dressing with zig-zag ribs F F the bottom of the tub and under surface of the rubbing disk, that the approximating angles *b*, of the ribs F, of the disk and tub shall form rhomboidal figures wherein the clothes are subjected to an angular squeezing and oblique rubbing action, and the approximating knuckle or wedged shaped ends *a* of said angles shall, when the motion

of the disk is reversed, alter the rhomboidal spaces and pummel and loosen up the clothes, so as to allow a fresh supply of cleansing water to circulate through them, and thus prepare them for a succeeding angular squeezing and oblique rubbing action, substantially as and for the purposes set forth.

No. 21,565.—Henry R. June, of Millport, N. Y.—*Improved Washing Machine.*—Patent dated September 21, 1858.—The inventor says: The arrangement of the sets of projecting slats *d d d*, alternating with the receding or depressed boards *f f*, is found to be very effective in connexion with the elastic stationary rubber E, by the alternate compressing and relieving from pressure of the clothes and the consequent alternation of their saturation with and nearly depriving of water. The various degrees of pressure which are so readily given to the stationary rubber also finely adapts to the most delicate as well as the hardest rubbing.

The inventor says: I *claim* the combination of the revolving rubber C, having alternate slats *d d d*, and receding boards *f f*, as described, with the rubber E, constructed and operating in the manner specified.

I also claim the elastic pivot rod *m*, operating in the manner and for the purpose set forth.

No. 21,665.—John Fordyce, of Morgantown, Va.—*Improved Washing Machine.*—Patent dated October 5, 1858.—This invention consists in the combination of the tipping and stationary racks with the plunger, for the purpose of loosening up, raising and turning over the clothes and preventing them from being drawn back by the plunger and off from the tipping rack.

Claim.—In combination with the reciprocating plunger D, the tipping rack, and the stationary rack teeth, the three parts operating together in the manner and for the purpose set forth.

No. 21,653.—Samuel W. Cole, of Millington, Md.—*Improved Washing Machine.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of the lever E, shaft C, and hinged levers *b b*, with each other and with the rubbers D F, for the purpose of moving said rubbers in contrary directions at the same time, and allow the upper rubber to rise and fall, to adapt itself to the clothes, the whole being arranged and operating as set forth.

No. 21,875.—Theodore G. Eiswald, of Providence, R. I.—*Improved Washing Machine.*—Patent dated October 26, 1858.—A is the outer cylinder which is made to revolve one way by a cross-belt *e*; B is the inner cylinder which is made to revolve in the opposite direction by being connected with crank *f* so that the same power applied to the crank acts upon shaft G, thus causing the two cylinders to rotate around a common center at the same time and in opposite directions.

Claim.—The washing of clothes by means of the arrangement, construction, and combination of the two cylinders A B revolving in

different directions, substantially as and for the purposes shown and described.

No. 21,867.—William T. Armstrong, of Sandwich, Ill.—*Improvement in Washing Machines.*—Patent dated October 26, 1858.—The nature of this improvement in washing machines consists in making one or more inverted curves in an arched or curved rubber, arranged to work in a vat or box, with a curved bottom, provided with ribs upon which the clothes to be washed are rolled or rubbed by said rubber, and when the clothes are opposite the inverted curve they are partially released to allow them to absorb water, which is squeezed or pressed out by the arched portion of the rubber, carrying the dirt from the clothes, which has been loosened by the rubber.

Claim.—Making one or more inverted ribbed curves (N O) in an arched or curved rubber, substantially as described.

No. 21,909.—Hamilton E. Smith, of Philadelphia, Pa.—*Improved Washing Machine.*—Patent dated October 26, 1858.—This improvement consists in placing within the vessel a valved diaphragm, and above the latter a perforated diaphragm, or its equivalent, both diaphragms being arranged to yield together to the pressure of the plunger on the clothes, and to return to their former positions on the removal of this pressure, the whole being combined with two pipes connected to any suitable heating apparatus, and communicating with the vessel one above and the other below the diaphragms, so that portions of the cooler water at the upper portion of the tub may pass into the heater, and a supply of reheated water brought to act on the clothes by the action of the plunger.

Claim.—The vessel B, with its yielding valved diaphragm J, and the perforated diaphragm I, or its equivalent, in combination with a pipe G, communicating with the vessel at a point above, and the pipe H at a point below the said diaphragms, and both pipes communicating with any suitable heating apparatus, substantially as and for the purpose set forth.

No. 21,903.—Joseph F. Pond, of Cleveland, Ohio.—*Improved Washing Machine.*—Patent dated October 26, 1858.—The nature of this invention consists in hanging the lower rollers, over which the apron passes, at opposite extremities of vibrating bars, for rendering said rollers self-adjustable.

Claim.—The suspension of the rollers R^1 R^2 upon the vibrating bars *f f* at the extremities of slide rods *b b*, in combination with the springs *d* and upper roller R, the whole constructed, arranged, and operating substantially as and for the purposes set forth.

No. 22,236.—John G. Haley, Isaac Wilson, and Jackson Lyon, of Cameron, Ill.—*Improved Washing Machine.*—Patent dated December 7, 1858.—This invention relates to that class of washing machines which are constructed with a horizontal washboard, on which a revolving rubber is operated, and consists in making the slabs or ribs on the rubber and washboard of different widths, but so as to interlock or mesh with each other, and so that the slip between them shall cause the clothes to change position whilst being acted upon by them.

Claim.—Making the spaces between the edges of the slats *a* of the washboard of a width different from that of the spaces between the edges of the slats *b* of the cylinder F, and allowing the slats of each to interlock or mesh and slip upon each other, for the purpose of causing the clothes to move or change their position in the wash box whilst they are undergoing the rubbing process, substantially in the manner and for the purpose set forth.

No. 22,227.—Jesse Bowen, of Yellow Bud, Ohio.—*Improved Washing Machine.*—Patent dated December 7, 1858.—The tub *a*, which is to contain the water and the clothes to be washed, has a vertical shaft *f* extending from its bottom downward. This shaft rests in a step upon the cross piece *y*, and has a bearing in the bridge *i i*, both pieces *y* and *i i* forming part of the frame-work of the machine. A pinion *g* is attached to the shaft *f*, and meshes with the horizontal racks *h h* sliding on and guided by the upright rails of bridge *i i*, forming part of the frame-work of the machine.

Claim.—The alternating rotation of the tub in one direction, and the similar rotation of the rubber in an opposite direction, by means of the levers, racks, and pinions, arranged and operating as set forth.

No. 22,461.—George W. Swigert, of Monmouth, Illinois.—*Washing Machine.*—Patent dated December 28, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A washing machine provided with a cylinder of brushes C, a concave J supported on springs *d*, guard K attached to rod *e*, pounders L, tappet drum M, and otherwise constructed as shown and described.

No. 21,819.—John S. Clark, of Philadelphia, Pennsylvania.—*Improved Arrangement of Means for Making Tight Joints Around the Faucets of Water Coolers.*—Patent dated October 19, 1858.—This invention relates to the making of a convenient and perfectly tight joint between the faucet, or cock, and the passage which leads to the interior of the well.

Claim.—The projection *g*, ring *h*, and cap *i*, as an arrangement of means for allowing of the making of a perfect joint, as described.

No. 19,226.—Charles S. Schleier, of Brooklyn, New York, assignor to John H. Bonn, of Weehawken, New Jersey.—*Improvement in Window-Shade Fixtures.*—Patent dated January 26, 1858.—The inventor thus describes his improvement: I attach the lower pulley A, around which the cord B of the shade passes, to the upper end of a screw rod C. The pulley A is fitted within a socket or block *a*, and this socket or block is so attached to the end of the screw rod C that it may turn freely around on it. It will therefore be seen that the pulley A is a swivel pulley.

The rod C passes through a nut D which is attached to a plate E. This plate is secured to the lower part, and on one side of the window, as usual. E is the pulley at one end of the roller G, around which pulley the cord B also passes, said roller being at the upper part of the window.

Claim.—As an improved article of manufacture, a window-shade fixture having the swivel pulley A attached to the screw rod C, which is fitted in or passes through the nut D on the plate E, substantially as described, and for the purpose set forth.

No. 19,336.—JACOB B. BAILEY, of New York, N. Y.—*Improvement in Rollers for Window Shades*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the spring F for the purpose of holding the roller in any position, as that has been before used, and patented by Purchase Miles, of Hartford, Connecticut, improvements in window-curtain rollers and fixtures, patented, respectively, March 3, 1857, and April 7, 1857.

Nor do I claim the endless band.

Nor do I claim the use of the India-rubber as new for the purpose of creating friction on a pulley, as that has been before known and used.

But I *claim* the application of an India-rubber band, or equivalent substance, on the plane of the pulley at M, in combination with the endless band or cord, for the purpose of rolling and unrolling a curtain or shade, in the manner set forth.

XVIII.—ARTS POLITE, FINE, ETC.

No. 22,199.—S. E. PETTEE, of Mansfield, Massachusetts.—*Pasting Apparatus for Bag Machines, &c.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Controlling the flow or draught of the paste when carried from a reservoir by a wheel or roll placed in the passage through the bottom of said reservoir, the roll receiving its motion from the passage of the paper under it, when said controlling is effected by means of the piece D and screw E in the manner and for the purposes set forth and described.

No. 19,046.—STEPHEN P. RUGGLES, of Boston, Massachusetts.—*Improvement in Shears for Cutting Bank Notes, &c.*—Patent dated January 5, 1858.—The nature of this invention consists in so hanging the movable blade of a pair of shears as that in the act of cutting it shall continue to be drawn close up to the stationary blade throughout its whole length, but without allowing the cutting edges to shear each other, and at the same time spread at their heels, uncontrolled by a tight rivet or screw, as in other shears.

Claim.—The keeping of the moving blade in close and equal contact with the stationary one throughout their entire length, and the allowing of the blades to separate at the heel when in the act of cutting, as described and represented.

No. 21,984.—FORREST SHEPERD, of New Haven, Connecticut.—*Combined Book and Slate.*—Patent dated November 2, 1858.—This improvement consists in so connecting the slate with the book that the slate (and its back) will form one side of the cover of the book when shut; and when it is open, the book may be opened at any desired page or portion, while the slate will be directly below it in a convenient position for use.

Claim.—The combination of the slate with the book, when so connected and arranged that the slate can be used with equal convenience and facility with each page of the book, while the page and the slate are continually before the eye of the user, as represented in figure 1, and the whole is constructed and connected substantially as described.

No. 21,759.—JOSEE JOHNSON, of New York, N. Y.—*Index for Book Marker.*—Patent dated October 12, 1858.—This invention consists in so forming the extremities of a thin strip of metal as to enable the terminating portion of one to point as an indicator or marker, while the other extends at an acute angle, more or less, therefrom, in such a manner as to form an index, which is easily attached to the edge of a sheet of paper, and capable of being raised and lowered over the same, and retained at any desired point, to indicate a line, letter, or figure.

Claim.—The clasp A made of one piece of metal, with the angle between its points for receiving the leaf, while the clasp is applied in a vertical position, or nearly so, and opening to receive the leaf as it is pressed against its edge, and firmly grasping the leaf when applied, operating as described and for the purposes set forth.

No. 21,708.—EDWARD TOWN and CALVIN E. TOWN, of Jersey City, New Jersey.—*Machine for Numbering the Pages of Books.*—Patent dated October 5, 1858.—A is the frame of the machine. On the two upper stretchers the bed pieces B B are adjustable, and may be secured at any requisite distance apart by set-screws or other device.

The bed pieces are constructed with channels, through which the type blocks C C are driven by the ratchet pawls *c c c c* affixed to the slides c^1 c^1.

The channels are covered with a sheet of brass or other metal, which, with the movable bars P P P, form the table of the machine.

The inventors say: We *claim* the use of type blocks, containing a limited number of types, constructed as above described, with the ratchet teeth at the side, or any equivalent device to secure their uniform motion.

We also claim the level bed pieces, as described, in combination with type blocks.

We further claim the mode of delivery of the type blocks by means of the discharge boxes, as described.

We further claim the general combination of these parts with each other and with the other parts of the machine.

No. 19,654.—A. C. SEMPLE, of New York, N. Y.—*Improvement in Machines for Trimming Books.*—Patent dated March 16, 1858.—The nature of this invention consists in mounting the carriage or table C which holds the books, papers, or other material to be cut, and moving it on inclined ways against the knife or cutter, by which means the necessary draw cut is produced.

Claim.—Bringing the table or carriage C which contains the books or paper to be cut to the knife by moving it up an inclined plane *a a*, by means substantially such as described.

No. 21,748.—ADOLPHE DREYSPRING, of Montgomery, Alabama.—*Improvement in Portable Boxes.*—Patent dated October 12, 1858.—In making this box, the joints at *i* and *g* are made by turning inside small portions *i v* and *g w* of the rectangles by making slight incisions. The four vertical joints thus formed are then pasted together on the inside, and the outside of said joints are covered with and pasted to linen, cotton, cloth, or other suitable material, for the purpose of preventing the breaking of the joints by frequent folding and unfolding of the box.

Claim.—Constructing boxes capable of being folded and unfolded without thereby impairing their shape or their usefulness, substantially as described.

No 21,381.—FRANCIS M. SWEET, of Syracuse, N. Y.—*Improvement in Bracelets.*—Patent dated August 31, 1858.—The nature of this invention consists in providing hollow metallic bracelets with an elastic connexion of rubber or metal spring, so arranged as to admit of the enlargement of the bracelet to pass over the hand, and closing the same upon the wrist and holding the parts together by the contraction of the rubber or spring.

Claim.—The employment of the elastic rubber or spring connexion between the two parts of the bracelet, operating substantially as described, and when the parts F and C are furnished with guides, in the manner and for the purpose set forth.

No. 21,208.—JOHN MCELHERAN, of Brooklyn, N. Y.—*Feed Motion for Cerotypography.*—Patent dated August 17, 1858.—In the engravings the waxed matrix A is shown to slide in direction of the length of a feeding bar *a*, on or across an under sliding plate B, which traverses at right angles to the upper plate A on and along a bed plate C. These right angled movements are for the purpose of giving the necessary feed or adjustment to the plastic surface plate or matrix A for impression of the type thereon at suitable distances apart, as in printing by type in lines; the lower sliding plate B, which may be adjusted by a screw *b*, serving to give the "line" feed at intervals to the matrix A, and the type serving in a novel manner to adjust, by

the act of impression, the matrix each succeeding letter, character, or sign that is made in the same line.

Claim.—The manner described of causing the type, by their insertion in an adjustable type socket or its equivalent, to regulate their own required position relatively to the impression surface, substantially as specified.

No. 20,183.—JAMES LANCELOTT, of Cranston, R. I., assignor to SACKETT, DAVIS & Co., of Providence, R. I.—*Improvement in Sheet Metal Chains*—Patent dated May 4, 1858.—The nature of this improvement will be understood by referring to the claim and engravings.

The inventor says: I do not claim the making of an ornamental chain from steel metal; neither do I claim the weaving of a chain by turning over the arms of each link upon the body of the next link without the use of solder.

But I *claim* the forming of the body of each link into a dome disk or cap, so as to admit of the projecting arms of each link being bent at a very acute angle against the sides of the dome or cap of the next succeeding link, for the purposes specified.

No. 21,456.—WILLIAM VAN ANDEN, of Poughkeepsie, N. Y.—*Improvement in Portable Copying Apparatus.*—Patent dated September 7, 1858.—The nature of this improvement in the manufacture of portable copying books or presses consists in the method of uniting a cylindrical removable back or holder with a copying book by means of a concave channel or groove cut longitudinally in the face or surface of the cylinder, so that the book can be slid into and out of the groove almost instantly, and at the same time, when adjusted in the groove, firmly held in its place during the operation of rolling on the cylinder to take a copy in the book.

The inventor says: I *claim* the improved method of uniting a cylindrical removable back or holder with a copying book by means of a concave or tubular channel cut longitudinally with the face of the cylindrical back or holder, for the purposes and substantially in the manner set forth.

No. 20,436.—EDWARD G. KINSLEY and SAMUEL A. W. PARKER, jr., of Stoughton, Mass.—*Hinge for Daguerreotype and other Cases.*—Patent dated June 1, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim a hinge of common construction, or one having each of its leaves bent at a right angle in order that it may be inserted in a mortise made in the side of a case or box.

Nor do we claim so applying a hinge to a daguerreotype or picture case moulded of a plastic material or made of frangible substance or substances, that such hinge may have each of its leaves bent twice, and so applied to the halves of the box as to embrace two contiguous sides of them, and be independent thereof, or not to have any tenon

or projection to enter the same, but extend or lap over, and be fastened to the top and bottom plates of the said box.

But we *claim* our improved mode of arranging and applying the hinge with reference to the side and end, or the end and the bottom of either half of the box; that is, extending the hinge leaf through the side of the half, and against the inner surface of its end or the same, and the inner surface of the bottom, and fastening such leaf to the end, or to the end and bottom, the whole serving to attain advantages as specified.

No. 20,718.—CHARLES KETCHAM, of Penn Yan, New York.—*Improvement in Machines for Cleaning Daguerreotype Plates.*—Patent dated June 29, 1858.—E E are the main plates of the cleaners, and may be made of tin, brass, wood, or iron, to which parts J are attached, or they may be perforated so that the parts J may be inserted. F is a clasp surrounding the plate E, and is used to hold the cloth or other substance that may be used to cover the parts J. I I I I are springing braces that serve to hold the cleaners in position. G is a bar extending from one cleaner to the other; its use is to prevent the cleaners from revolving with the shafts D D.

Claim.—Cleaners made as specified, with the projections J, as set forth; also the means for holding them in position with respect to each other, and the means for giving motion to the cleaners, when arranged as specified.

No. 19,770.—LUDWIG GREINER, of Philadelphia, Pennsylvania.—*Improvement in Constructing Dolls Heads.*—Patent dated March 30, 1858.—The claim will explain the nature of this invention.

Claim.—Strengthening the seams and protecting the exposed parts of doll heads, by cementing or pasting on those parts muslin, linen, silk, or other equivalent material, in the manner and for the purpose set forth.

No. 21,336.—ISSACHAR P. HANSELL, of Springfield, Illinois.—*Improvement in Drawing Boards.*—Patent dated August 31, 1858.—This invention consists in having an adjustable curved strip fitted in each side of the board, the outer edges of the strips being the curved parts and forming guides for the square, the curves being struck or formed from the vanishing point, or point of distance of the object to be drawn, and determining the proper angle at any point of their curved surface for the vanishing lines. The board has also straight guides at each side, in order that the square, when required, may be adjusted parallel with the base of the board.

Claim.—The strips B B placed at each side of the board A, and having their outer edges curved, or made of concave form, in the manner described, and used in connexion with the square, having its blade C and head D arranged relatively with respect to each other as set forth, the whole being for the purpose specified.

No. 19,602.—CHARLES M. ZIMMERMANN, of Philadelphia, Pennsylvania.—*Improvement in the Construction of Military Drums.*—Patent

dated March 9, 1858.—A are the hoops forming the ends of the drum; *b b b b* are pulleys fastened to the hoops A A; c^1 c^1 c^1 c^1 is the rope passing over the pulleys; *d d d d* are leather slides for tightening the ropes; F F F F show parts of the metal shell bent over the hoops A A for the drum to rest or stand on; *k* is the back of the metal shell clasping the hoops securing the pulleys in their proper position.

The inventor says: I do not claim tightening the ends of military drums by a rope passing through holes made in the hoops, and over the same, as this is in common use.

But I *claim* arranging and adapting a series of pulleys *b b b b* to the sides of drum hoops, for the purpose set forth.

No. 21,509.—HENRY LOVEJOY and ROBERT WHEELER, of Brooklyn, New York.—*Machine for Coating Electrotype Moulds.*—Patent dated September 14, 1858.—This invention consists in giving to the brush of the machine a peculiar motion by which its operation is rendered more thorough and perfect, and in combining with the operation of the brush a wind-blast for the removal from the mould of the superfluous coating material.

The inventors say: We do not claim operating a brush by mechanical means to coat electrotype moulds with coating material.

But we *claim*, first, suspending the brush bar I by the crank J at one end, and attaching it to and operating it by the crank of the crank-shaft E at the other end, in the manner and for the purpose set forth.

Second. The combination of the brush H and bed C with the blower S and wind-chest V, in the manner and for the purpose described.

No. 20,711.—THOMAS R. HOPKINS, of Petersburg, Va.—*Ring Clamp for Engravers, &c.*—Patent dated June 29, 1858.—This invention consists in an adjustable ring clamp or hand tool for jewelers or engravers' use, its office being to hold and firmly clasp rings of different diameters during the operation of filing out and engraving names or devices on the inner side of the same. It also answers for holding a watch while cutting out the open spaces between the rim and centre to form the arms.

Claim.—The adjustable encircling spring D arranged in the end of the stock A C and attached to an adjustable rod E, substantially as and for the purposes set forth.

No. 19,607.—JOHN HOPE, of Providence, R. I., assignor to Himself and THOMAS HOPE, of said Providence.—*Improved Device for Pentagraphic Engraving Machines.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Combining with the main tracer of a pentagraphic engraving machine a grooved tablet A or its equivalent, and an arm D and secondary tracer or guide E, to run or work in the grooves of the tablet, and to govern the direction of the movements of the main

tracer in producing the grounded lines of the engraved figures, as specified.

I also claim combining with the tracer B th erest G so as to operate therewith, as specified.

No. 20,528.—JOHN HOPE, of Providence, R. I., assignor to Himself and THOMAS HOPE, of said Providence.—*Apparatus for Supporting and Adjusting Gravers for Engraving Machines.*—Patent dated June 8 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* the curved arm or bar B and the graver carriage D, as combined, together and with the graver lever E, and made to operate therewith, substantially as specified.

I also claim the adjustable weighted arm F, in combination with the balanced tracer arm or graver E.

I also claim constructing the tracer carriage D in two parts *b c*, substantially as described, in order that the tracer or graver may be adjusted in a vertical direction to cylinders or rollers of different sizes.

I also claim making the arm H and stop L adjustable on their shaft and rod, as described, in order to bring them into proper positions to cause the elevation of the graver under any situation of it on the surface of the cylinder, and when the lever S is moved backward.

I also claim making the weight G in two parts *l m*, for the purpose specified.

No. 20,087.—CHARLES PHELPS, of Salem, Mass.—*Improvement in Envelopes for Letters, &c.*—Patent dated April 27, 1858.—This invention consists of a piece of cord ofany suitable size and material laid in parallel with and attached to one of the creases formed by the folding of the envelope, and of such length that it shall fill the said crease and project beyond far enough to be readily seized when its use is required.

Claim.—The application to a letter envelope of an opener therefore; said opener to be attached to and from part of said envelope, and to be attached and operated substantially in the manner set forth and described.

No. 22,405.—JAMES G. ARNOLD, of Worcester, Mass.—*Letter Envelope.*—Patent dated December 28, 1858.—The nature of this invention consists in so shaping the pattern that when one piece is cut from the roller or continuous sheet the end of the sheet is left in the right form to use; and also in making the adhering parts that close the ends or sides to consist of narrow folds or laps that shall come inside or between the face and back.

The inventor says: I *claim*, as a new article of manufacture, making letter envelopes by cutting, folding, and pasting the paper, substantially in the manner and for the purposes set forth and described.

I also claim narrow folds at the ends or sides, so as to come inside between the face and back, in the manner and for the purposes substantially as set forth and described.

No. 22,149.—MILTON G. PUFFER, of Rockville, Conn., assignor to CYRUS WHITE and LEWIS A. CORBIN, of said Rockville.—*Improved Machine for Making Envelopes.*—Patent dated November 23, 1858.—The nature of this improvement consists in so constructing a self-feeding machine that when motion is given it will take one sheet of paper at a time, paste, carry it forward, fold, press, and deliver it in the required number for a package, separated from the others.

The inventor says: I *claim* the shape essentially of the cams Nos. 1 2 3 4 5 6 7 8 9, for the purpose set forth.

The employment of the jack F, arm *c*, operating as described, to paste and lift the paper, and the fly *b* to separate it therefrom on the carrier H, as described.

The carrier H, shaft *o*, fingers *n*, arm *w*, stud *p*, catches *m*, and arms *j*, for the purpose as described.

The combined action bed N with the plunger R, for the purpose as described; also, the employment of the springs in the plunger R, for the purpose as described.

I claim the folding flaps *o* projecting from the centre, or nearly so, from the end of a shaft or shafts, and having their bearings on one end or on each end thereof, whether with or without the half circle *x x*, substantially as shown and described.

The construction and arrangement of the catch-wheel *t*, with a long tooth *q* and guard *y*, for the purpose as described.

The arrangement of the nippers T^1, operated in the manner and for the purpose described.

No. 21,430.—ROBERT J. MARCHER, of New York, N. Y.—*Apparatus for Preparing Elliptical Frames for Gilding.*—Patent dated September 7, 1858.—This invention consists in a peculiar arrangement and adaptation of the well known trammel for the purpose of giving a position or arbitrary elliptical movement to a tool, said movement corresponding with the shape of the frame to be operated upon, so that the tool may traverse over the frame and properly distribute the compound or substance thereon which receives the gold leaf.

Claim.—The inventor says: I am aware that a bar provided with pins, and fitted in slots or recesses crossing each other at right angles, forms an old and well known implement termed a "trammel," for drawing ovals, and such implement has been arranged and adapted in various ways for various purposes. But I am not aware that the implement above named has been arranged as shown, and used in connexion with a foot piece or rest.

I do not claim, therefore, broadly, and irrespective of construction and arrangement, a trammel, that is to say, a bar provided with pins, which are fitted in cross slots or grooves.

But I *claim* providing the bar D with a foot or support E and sliding plate or tool F, when the bar D is arranged relatively with its upright grooved or slotted bar C and the frame B, substantially as and for the purpose shown and described.

No. 21,173. JAMES W. CAMPBELL, of New York, N. Y.—*Machine for Preparing Frames for Gilding.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim the lathe C¹, for this is a well known device, and in common use for turning oval and circular frames; but

I *claim* the inclined lathe C in combination with the inclined tool F, when said tool is arranged substantially as shown, so as to be rendered capable of being adjusted to the frame D by the treadle frame G, and at the same time allowed a lateral movement or play, to conform to any irregular movement of the frame due to an imperfect centring of the same on the plate *b* of the lathe, for the purpose specified.

No. 20,078.—PETER V. MATHEWS, of Philadelphia, Pa.—*Mode for Protecting Gilding on Glass.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim anything described in such devices, nor confine my claim to the use of any particular kind of adhesive substance or sizing for causing either the gilding or the metallic backing to adhere to the glass or to each other, as described.

But I *claim* the use of the tin foil, or other thinly laminated or rolled metal, as a backing for the gilded letters, figures, &c., which are generally required on the inner surfaces of the panes of glass or windows, transoms, and doors of stores, &c., for the purpose of securing and protecting the said letters, figures, &c., from being damaged and described, and without obstructing the free passage of the rays of light through the immediately surrounding parts of the glass from either side of the same, as described.

No. 21,896.—JASPER S. MILES, of Ann Arbor, Mich.—*Improvement in Ornamenting Glass.*—Patent dated October 26, 1858.—The inventor says: The coral glass is produced by applying paint to one of the surfaces of each of two plates of glass, and treating the paint and glass in a peculiar manner.

The colors to be used for the paint may be various, but I propose generally to use zinc white, vermilion, Paris green, and ultramarine blue. These are ground very fine and mixed for use with equal quantities of boiled linseed oil and Demar varnish much thicker than for common painting, viz., of about the consistency of cold tar. The glass may be common window glass.

Claim.—The said manufacture produced by combining two plates of glass with coloring matters by a process like that specified.

No. 19,707.—JOHN MCELHERAN, of Brooklyn, N. Y.—*Improvement in Graphotype.*—Patent dated March 23, 1858.—This invention relates to a new method of producing picturetypes or other raised surfaces to be printed from, and consists in the process of electrotyping applied to and in combination with the method of producing moulds, matrices, or reversed copies of such objects wherein the metal is by electrical action directly deposited.

Claim.—The method described of producing the mould or matrix, wherein the metal is deposited by electrical action to form picture-types or their equivalents of wax, applied to and in combination with a hard, transparent, smooth, and level plate, substantially in the manner set forth.

No. 20,512.—ALEXANDER SCHIMMELFENNIG and JULIUS ENDE, of Washington, D. C.—*Improvement in Ink-Rollers.*—Patent dated June 8, 1858.—The inventors say: A very soft and elastic roller being desired, the juice is used as it flows from the tree, or we apply solvents in order to bring the cakes of gum into a plastic flowing state. The substance is then filtered and spread over an even plane, in a horizontal position; it is laid on equally thick and evaporates equally. When the layer of gum has nearly become dry, it is rolled upon the required axis as soon as the particles become adhesive, and the whole forms one sheet. When a hard roller is required, we roll upon an axis a sheet of caoutchouc which is of equal thickness, and fasten the end of the sheet to the surface of the roller by means of a fresh cut. The sheet is then rolled upon the axis, and, if necessary, it is provided with a cover of dry caoutchouc or gutta-percha.

Claim.—To manufacture ink-rollers out of elastic gums, such as caoutchouc or gutta-percha, or of compounds of the latter, in the modes described in the specification, or in any similar modes.

No. 20,710.—ALPHEUS A. HANSCOM, of Saco, Maine.—*Improvement in Ink-Rollers.*—Patent dated June 29, 1858.—In the operation of this roller the wheels *e e* roll upon the frame in which the form is placed. And the inking roller, being provided with ink, is lowered by means of nuts *c c* on to the type, and by taking hold of the handles *g g* the carriage C may be rolled backward and forward over the type.

The inventor says: I *claim*, first, the employment of the several parts specified for the purpose of adapting the carriage to different sized forms, as set forth.

Second. Suspending the ink-roller B in the rolling carriage C, constructed in the manner set forth, and regulating and stationing said roller by means of screws *a a* and nuts *c c*, for the purpose of making an adjustable hand roller for inking type, the peculiarities and advantages of which are fully described.

No. 19,613.—LUCIEN E. HICKS, of Boston, Mass., assignor to DAVID C. FIELD, of Brooklyn, N. Y.—*Improvement in Inkstands.*—Patent dated March 9, 1858.—In the centre of the top *a* there is a female screw or nut for the reception of the screw *e* on the tube *d*; *c* is the basin or bowl united to the tube *d*; it is formed of metal or glass, and provided with a considerable shoulder-flange, for the purpose of making a good air joint when secured in the nut.

Claim.—The employment of the bottom *b* of a flexible inkstand, constructed substantially in the manner set forth, for the purpose of serving as a valve in its use with the tube *d*, operating in the manner and for the purposes set forth in the foregoing specification.

No. 20,028.—JOHN M. BATCHELDER, of Cambridge, Mass.—*Improvement in Inkstands.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—An inkstand having a central dipping-cup, with an exterior screw, by which it is raised and depressed, causing a corresponding rise and fall of the ink in the stand as the plunger enters and leaves it, the combined screw, dipping-cup, and plunger being made in one piece.

No. 21,395 —VALENTINE FOGERTY, of Cambridgeport, Mass., assignor to FRANCIS HOUGHTON, of Somerville, Mass.—*Improvement in Inkstands.*—Patent dated August 31, 1858.—The nature or main feature of this invention consists in a combination of a common ink-reservoir or vessel, and an auxiliary pan or dipper applied to operate therewith.

The inventor says: I *claim*, in combination with an inkstand or ink-reservoir and its mouth, a dipper or vessel so applied within said reservoir as to be capable of being within it, and towards and away from said mouth, substantially in the manner and for the purpose of taking up ink or a liquid from the reservoir, as specified.

I also claim the application of the dipper to the movable cap of the mouth of the reservoir, so as to be operated by the said cap, in manner substantially as explained.

No. 21,554.—SAMUEL DARLING, of Bangor, Maine.—*Improvement in Inkstands.*—Patent dated September 21, 1858.—This improved inkstand differs from all others in having a pen-cup or dipping-cup, the ink in which cannot be made to communicate with the ink in the reservoir while the stand is in its proper position, and yet being so constructed that the ink can readily be supplied to the cup when necessary.

Claim.—An inkstand, with a dipping-cup and reservoir, arranged and constructed substantially as described.

No. 22,123.—ORLANDO H. JADWIN, of Carbondale, Penn.—*Improvement in Inkstands.*—Patent dated November 23, 1858.—This invention consists in combining with a hollow plunger for forcing up the ink from the bowl, a cup which will receive and retain such ink without any liability of its flowing back into the reservoir.

Claim.—In combination with a hollow plunger for raising the ink in an independent cup for holding said ink, and from which it cannot, by the ordinary want of tightness, flow back into the reservoir, substantially as described.

No. 22,429.—THOMAS S. HUDSON, of East Cambridge, Mass.—*Inkstand.*—Patent dated December 28, 1858.—The nature of this improvement consists in the application of a vent-hole within the flexible diaphragm, and with respect to the ink-receiver in such manner that when the latter is in its highest position, or covered, the air within the reservoir may have free communication with that outside of the reservoir; and when the ink-receiver is depressed it will serve as a valve to cover the vent-hole and prevent any communication between the air within and that without the reservoir.

Claim.—The arrangement of the vent-hole *i* within the flexible elastic diaphragm C, and with respect to the ink-receiver B, essentially in manner and to operate as described and for the purpose before explained.

No. 19,497.—CHARLES W. DICKINSON, of Newark, New Jersey.—*Improvement in Loop Chains for Jewelry.*—Patent dated March 2, 1858.—The outer rings *a a* are flat hoop or band rings, and are connected together by the two cross-bars *c c*, by soldering the bars to the inside of the rings. The inner rings *e e e* are the loops which embrace the bars and give flexibility to the chain. These loops are "rounded up," or made concavo-convex, so as to present the convexity outside. They are made from flat strips of metal struck or rolled up into the required form, and when bent or curled into rings they are "soldered up," and thus complete the loop.

Claim.—The concavo-convex links made entire, as set forth.

No. 19,783.—HYMEN L. LIPMAN, of Philadelphia, Pennsylvania.—*Combination of Lead Pencil and Eraser.*—Patent dated March 30, 1858.—This invention consists of a lead pencil made in the usual manner, with a groove A in one end, in which is inserted a piece of prepared rubber, secured by glue at one edge. On cutting, one end is the lead B, and in the other is a piece of rubber C, which can be pointed for use.

The inventor says: I do not claim the use of a lead pencil with a piece of India-rubber or other erasing material attached at one end for the purpose of erasing marks.

But I *claim* the combination of the lead and India-rubber, or other erasing substance, in the holder of a drawing pencil, the whole being constructed and arranged substantially in the manner and for the purpose set forth.

No. 19,624.—ALMIRA M. COLE, of Windham, Maine.—*Improvement in Mounting Fluid Lenses.*—Patent dated March 16, 1858.—The nature of this invention consists in providing a fluid lens with a shade A, and placing said lens and shade between two upright studs B B, and made to slide with ease upon the same, for the purpose of elevating and depressing the shade and lens to conform to the different height of tapers that may be placed in the rear of the lens.

Claim —The appendage to the shade of a fluid lens a woman's sewing utensils, as described.

No. 22,089.—ISAAC REHN, of Philadelphia, Pennsylvania.—*Improvement in Melodeons.*—Patent dated November 16, 1858.—This invention consists in the employment of independent wind chests, and in a peculiar arrangement of valves between the said chest and the bellows, and the appliances for operating the same.

The inventor says: I *claim*, first, the employment of independent wind chests in melodeons, harmoneums, and other similar reed instru-

ments, in combination with the suction bellows, for the purpose specified.

Second. The introduction of the stop valves between the independent wind chests and the bellows, in combination with the appliances described, or their equivalents, for operating the said valves, when the said appliances are situated within the bellows, as set forth.

No. 21,262.—EDWIN LEACH, of Norwich, Connecticut.—*Improved Music Stool.*—Patent dated August 24, 1858.—The nature of this invention consists in constructing a stool of metal in a novel way, whereby a strong, light, ornamental, and econominal stool is obtained.

Claim.—The rods B, annular or serpentine case A, boss C, nut D, and screw E, when arranged or disposed substantially as shown, for the purpose set forth.

No. 19,296.—URELI C. HILL, of Jersey City, New Jersey, and CHARLES F. HILL, of New York, N. Y.—*Improvement in Musical Instruments.*—Patent dated February 9, 1858 —The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We do not claim the cells as agents, in conjunction with forks, to produce a musical instrument, nor forms, nor modes of constructing cells.

But we *claim*, first, the wing and hammer wire to fork prongs, as used in this instrument.

Second. The placing of keys, action, and cells in lateral or oblique ranges, the cells and keys crossing each other at right angles, and the manner of suspending cells.

Third. The yoke, and method of holding the fork to the cell.

Fourth. The arrangement of dampers and damper levers to the keys and forks, so as to damp the forks on their edges.

Fifth. The transverse upright action for the movement of hammers across instead of parallel with the keys, all substantially as shown and described.

No. 20,397.—JOHN D. AKIN, of Spartansburg, Pennsylvania.—*Musical Instrument.*—Patent dated June 1, 1858.—Between the two rows of violins is a narrow piece of wood or metal B B, and on this is a number of small pulleys; S S S S are cords, one end of each of which is attached to the violins, and passing over the side pulleys is attached to the keys 13 41 15 16 17 18 19 20 by passing around the pins 21 21 by which the length of said cords can be adjusted.

Claim.—The construction of the violins suspended on pins *w* and by cords S S S S S attached to keys, so that they may be brought in contact with the bows by depressing the keys in the manner described, or any other substantially the same, and which will produce the same results.

No. 19,345.—DERWIN E. BUTLER, of Chesterfield, Ohio.—*Machine for Cutting Key-Boards, &c., for Musical Instruments.*—Patent dated February 16, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

The inventor says: I do not claim to have invented the mode of making uniform and equal or unequal divisions by the intervention of a spacing or "dial plate," with holes or notches corresponding with the required divisions, as gearing is cut, and many similar operations performed through its instrumentality.

But I *claim* the use of the spacing plate H with ranges of holes h^1 h^2 h^3, and others if necessary; but one range of which shall conform to and correspond with the musical chromatic scale, and the other with the mechanical divisions of the key-board and its frame, in combination with the carriage and platform, the oscillating frame F and tool mandrel C, and the vertical bar F^1, (said carriage having a longitudinal and transverse motion,) and the whole operated in the manner and for the purposes as set forth by the mechanical devices described, or their equivalents.

No. 22,139.—CORNELIUS J. VAN OECKLEN, of New York, N. Y.—*Improvement in Wind Musical Instruments.*—Patent dated November 23, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: First, I *claim* the application to a musical instrument of several different rows of reeds combined in such manner that each key of the instrument can produce several different sounds, by causing one or several reeds to vibrate according to the pleasure of the performer, preserving always, nevertheless, the proper musical expression of the note, in the manner substantially as described.

Second. The arrangement of the several parts in such an instrument by which the power is obtained of causing each note to vibrate on itself, and independently of all others, in the manner substantially as described.

Third. The application to a musical instrument, the sounds of which are produced by the vibration of the reeds of several rows of valves, so arranged as to act one upon the other, and that the valves of the different rows thus connected can be opened either altogether or only one or more at a time, by touching the same key of the instrument, at the pleasure of the performer, preserving always, nevertheless, the proper musical expression of the note, in the manner substantially as described.

No. 19,187.—CHRISTIAN H. EISENBRANDT, of Baltimore, Maryland.—*Improvement in Musical Wind Instruments.*—Patent dated January 26, 1858.—The nature of this improvement consists in constructing a wind instrument possessing within itself the inherent quality of instantaneous transposition from one tone or key note into that of another note, and *vice versa*, at the will of the performer, without removing the instrument from his mouth.

Claim.—The construction and arrangement of wind musical instruments by the addition of compensation sliding extension crooks or curved tubes D E F G, the auxiliary transition valve H, the key-bar L L, the secondary keys M N, the connexion actuating rods and arms O P Q R S T U V together, and in combination with the valves, tubes, and pipes, substantially as set forth, shown, and described.

No. 19,814.—JULES MONESTIER, of St. Denis, near Paris, France, assignor to R. F. SPANGENBERG, of Brooklyn, N. Y.—*Hand Exercises for Musicians.*—Patent dated March 30, 1858.—The nature of this invention consists in applying weights to the wrist or fingers in such a manner that while the free movements of the joints are not obstructed, the fingers and wrists are strengthened by the exercise in moving said weights, the blow or force of the fingers on the instrument is increased, and the hand is rendered supple and capable of greater freedom of movement.

The inventor says: I do not limit myself to any particular size or weight of my "*agili-main*," nor to the manner of fastening the same in place, although I believe that shown to be the best.

But I *claim* the manner described of giving agility and suppleness to the fingers, hand, and wrist of musicians by the exercise induced by the application of my "*agili-main*," substantially as and for the purposes specified.

No. 19,312.—THOMAS ROBJOHN, of New York, N. Y.—*Improvement in Pedals for Organs, &c.*—Patent dated February 9, 1858.—A is the pedal frame, placed as usual in front of the key-board, and beneath the organist's seat, which will be above and rest upon the platform B. The other ends are hinged beneath the platform in the usual manner, as shown at C. They extend from B in a somewhat fan-shaped arrangement. Their surface is concave, as shown by the curve of the cross-rail D.

Claim.—The described arrangement of organ pedals in the radial and concave form, to facilitate the performance thereon, as set forth.

No. 20,480 —WILLIAM B. CARPENTER, of Brooklyn, N. Y.—*Method of Attaching Ornaments to the Ear.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The mode of attaching ornaments to the ear without boring or piercing holes therein by the use of the hooked-shaped wire B, in connexion with the wire A and the spring C, substantially as and for the purpose as described.

No. 19,316.—HORACE THAYER and LEVI L. MARTIN, of Warsaw, N. Y.—*Painting and Varnishing Machine.*—Patent dated February 9, 1858.—The nature of this invention will be understood by examining the claim and engravings.

Claim.—The mode of flowing paint, size, varnish, or any liquid substance, on articles of wood or iron, by passing them horizontally, or otherwise, through holes cut in two sides of any vessel, while said vessel is filled with the liquid substance, to be used as represented, said holes to be cut directly opposite each other, and to be appropriately packed with flannel, fulled cloth, or any other appropriate packing, as described by the letters X X X, and figure I I, and to correspond in shape with the articles to be run through, as set forth.

We also claim the funnel-shaped India-rubber tube, with its packing, as represented, and its application to painting, sizing, and varnishing articles that diminish in size from one end to the other, or that vary in diameter.

We also claim the hollow brush *k*, standing on the further side of the chamber from the operator, and its adaptation, as described.

No. 20,111.—C. A. WATERBURY, of New York, N. Y.—*Improved Apparatus for Damping Paper.*—Patent dated April 27, 1858.—The nature of this invention consists, in part, in keeping copying tablets, used for the purpose of copying letters, immersed in water, thereby avoiding the cutting of the leaves of the copy book, and also, by means of such immersed tablets, two, four, or more letters, with duplicates or both sides of a written sheet, can be copied at the same time.

The inventor says: I am aware that tablets are in use made of wood and metal, for copying letters, which are dampened by means of a brush or substitute, and also by dampening the leaves of the book with a brush or substitute before the letters are put therein, I disclaim the use of any such process.

But I *claim*, first, the application of one or more tablets, when kept in a wet state, for the purpose of taking copies of written letters and other documents, substantially as described in the specification.

Second. I claim the use of wood or other substances, when used as copying tablets. for the purposes in manner and form substantially as aforesaid.

Third. I claim the use of the case or substitute, which contains the water and tablets, when used in connexion, for the purposes substantially as aforesaid.

No. 19,506.—JACOB KELLER, of Fairview Township, York Co., Pa.—*Machine for Making Paper Bags.*—Patent dated March 2, 1858.—The manner of operating this machine is as follows: The paper being laid smooth and flat on the top, the operator presses upon the treadle B, and the flanged wheel D is partly revolved until its pin I raises the spring catch P, at the same time fly lid W falls down upon the paper at top, the movable frame S is thrown forward and the paste roller L deposits the paste on the front edge of the paper. The short lever T then operates on the long lever R, and the movable frame S is thrown back with its paste roller L, and the spiral spring F brings the devices of the machine back to their places.

Claim.—The treadle B, shaft C, wheels D G, roller H, lever J, roller L, folders N O, and the devices P Q R S T, as arranged in combination, substantially as described, for the purpose of making paper bags.

No. 20,838.—FRANCIS WOLLE, of Bethlehem, Pa.—*Improvement in Machines for Making Paper Bags.*—Patent dated July 6, 1858.—By this invention in preparing a piece of paper for making a bag it is lapped over so that when the piece is doubled the strip B B comes between the two sides of the bag. This is performed by what is called a lapping apparatus, consisting of three principal parts, namely, the shear D D, the creaser C, and the lapper F G.

The inventor says: I *claim*, first, the combination of the creaser C and lapper F G, arranged and operating substantially in the manner and for the purpose described and set forth.

Second. The revolving lapper shaft *u* in combination with the creaser *v s*, the feed roller M and apron *u*, substantially as described, the creaser being brought into operation on the bags during the intermission in the motion of the feed rollers.

No. 21,657.—HENRY R. DAVID, of New York, N. Y.—*Improvement in Knives to cut Paper Bags, &c.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim a serrated edge knife in itself, as the same has been used with a reciprocating motion for cutting the edges of books, &c.

Neither do I claim a serrated shear or blade for cutting paper, as this has before been used.

I *claim* the serrated knife *a*, having a vertical movement, in combination with the narrow slot in the bed plate *f* for sustaining the paper, while several thicknesses are being cut for bags or other irregular forms, as set forth.

I also claim forming said serrated knife with alternate long and short serrations, for piercing and cutting several thicknesses of paper, in substantially the manner and for the purposes specified.

No. 21,775.—ARNOLD PALMER, of Lee, Mass.—*Improvement in Paper Clamps.*—Patent dated October 12, 1858.—This implement is used as follows: The bar D is adjusted to the lever C so that when the lever I is fully depressed the box E will be at such a height to receive the pile of sheets K to be trimmed. The pile of sheets is then placed under the box and the lever I depressed by the hand of the operator. This movement of lever I forces the box down firmly on the sheets, and the operator then adjusts the box to the reciprocating knife arranged in the usual way, said knife cutting successively the edges of the sheet at the sides of the box E which serves as a guide or pattern, the paper being cut the exact size of the box.

Claim.—The pressure box E, placed over the bed F, and attached to the lever I, through the medium of the bar D, lever C, and adjusting rods G H, actuated by the nut or tube *f*, the above parts being arranged to operate as shown, and with or without the spring catch *i*, for the purpose set forth.

No. 19,748.—W. Z. W. CHAPMAN, of New York, N. Y.—*Improvement in Paper Files.*—Patent dated March 30, 1858.—This invention consists in one or more wires *c* extending along the rod or shaft *a* in a groove. The upper ends of the wires are bent into a hook c^1, and when the wires are brought into place each one enters into a notch in lock plate *f*. Around the outside of plate *f* there is one or more rings *i;* these rings have an opening *k* cut through them, which permit the wire to be drawn out for releasing or inserting a paper.

The inventor says: I *claim* the combination and arrangement of two or more wires or their equivalents, on a rod, or its equivalent, substantially in the manner and for the purposes set forth.

I also claim the combination of the ring or rings *i* and lock plate *f*, for securing the ends of the wires, as set forth.

No. 22,363.—EDWARD K. GODFREY, of New York, N. Y.—*Improvement in Paper Files.*—Patent dated December 21, 1858.—The nature of this invention consists in the method of combining with the back or steadying weight the hooks or wires C and *d*, by forming a groove or channel in the lower surface of the back or steadying weight, so that when the ends of the hooks or wires are bent down in the groove and united by a small touch of solder, they are more securely and firmly held from turning in the holes b^1 b^2, to prevent dropping the files of papers, than by any other means equally cheap or lasting, and at the same time allowing the back or steadying weight to be set down flat upon the table, so as to give firmness and steadiness to it when overhauling the files of papers on the hooks.

Claim.—The method of securing and transferring hooks *c* and *d* to the back or steadying weight *a* by folding and uniting their ends down the entire length of the channel or groove in the lower surface of the back, so as to prevent them from twisting and dropping the file of papers, as would be the case if the ends of the wires were simply riveted into the back.

No. 20,965.—T. VAN DEVENTER, of New Brunswick, N. J.—*Improvement in Apparatus for hanging up and carrying-off Paper Hangings.*—Patent dated July 20, 1858.—This invention consists in a certain arrangement of belts for carrying the laths on which the paper is hung and carried off, whereby, as the paper is formed into festoons, the sides of the festoons are prevented from striking each other and smearing or otherwise injuring the wet impression or coating. It further consists in the application of springs to the lath-feeding box, to permit laths of varying thickness to be used, and also to permit laths that may be warped to pass out from the box, and yet to prevent the passage out of more than one lath at a time.

The inventor says: I *claim*, first, the employment of the intermediate bands l^1 l^1, in combination with the hanging-up belts *c* c^1 and carrying-off bands t^1 t^1, substantially as described, the whole operating as set forth.

Second. The springs 5 5 applied to the lath-box E, to operate substantially as and for the purpose set forth.

No. 21,710.—JOHN WAUGH, of New York, N. Y.—*Improvement in Machines for Trimming the Edges of Paper Hangings.*—Patent dated October 5, 1858.—The nature of this invention consists in providing paper hangers and others with a machine to trim the edges or slit roll paper, either in a right or waved line, as circumstances may require.

Claim.—Rotating, concave, self-sharpening circular knives, whose shafts do not revolve in the same line, but at an angle to each other, giving the knives a pressure against each other at the point of contact only; the reverse sliding motion of hopper and reel spindle in combination with wooden roller I, pulleys U S T, and band and hand crank *z*, in the manner and for the purpose substantially set forth.

No. 20,858.—MILTON B. BIGELOW, of Boston, Mass.—*Improvemen in Machines for Cutting Paper.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not confine myself to the precise mechanical devices described, as they are susceptible of various modifications.

It is very obvious, for instance, that V-shaped rails might be employed for sustaining and directing the sliding carriage and cutting-board in their movements; also that a short shaft with a crank and pinion on it might be attached to the frame, said pinion being made to engage in a gear wheel affixed to the rock-shaft O, for the purpose of moving the cutting-board and paper.

But I *claim* the described mechanism, or any other essentially the same, by means of which the cutting-board is prevented from moving in any other direction than a straight line, in its horizontal motions, said mechanism consisting of the guide-rails *y y* and the sliding carriage *v v*, constructed and operating in the manner substantially as and for the purpose specified.

I also claim actuating the sliding carriage *v v*, and with it the cutting-board *x*, by means of the mechanism described, or any other essentially the same, said mechanism consisting of the levers *q* and *r*, the rock-shaft *o*, and the straight lever *p*, connected and operating in the manner substantially as and for the purpose specified.

No. 21,172.—JOHN NORTH, of Middletown, Conn., assignor to STEUBEN T. BACON, of Boston, Mass.—*Machine for Folding Paper.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* placing the sheet direct in register upon the knife to receive its first fold, in the manner and for the purpose above described.

Second. Folding paper by means of a straight edge or knife O and reciprocating rollers 3 3, 4 4, 6 6 and 7 7.

Third. Hanging the frame *m m*, with reciprocating rollers and folding knife E attached, to remove and reciprocate in the arc of a circle.

Fourth. Causing the rollers to rotate and change their motion alternately, for the purpose specified.

Fifth. Cutting off the inset for the 12-mo folding, at the same time it is being folded.

No. 21,411.—J. C. FORMAN, of Cleveland, Ohio.—*Machine for Ruling Paper.*—Patent dated September 7, 1858.—This invention relates to a machine for ruling paper with parallel lines bounded by curved or semi-circular ends forming borders for cards, checks, bill-heads and the like.

The invention consists in giving a bed on which the paper is placed a movement below the pens corresponding to the form of the border to be ruled, so that the desired lines will be drawn on the paper, the bed having a frisket attached and so arranged that the paper may be readily shifted on the bed and the machine generally manipulated with facility.

Claim.—The inventor says: I claim the moveable bed F, operated through the medium of the rack D and grooved plate E, in connexion with the gearing *c d* C or its equivalent, as and for the purpose set forth.

I also claim the frisket G, when arranged as shown, to wit: the frisket being attached to the bar *k* provided with the bar *q*, and used in connexion with the bar J on the pen beam I, for the purpose specified.

No. 20,077.—JOHN A. LYNCH, of Boston, Mass.—*Machine for Wetting Paper.*—Patent dated April 27, 1858.—This apparatus consists of a hollow perforated cylinder E covered with cloth and containing water, and a second cylinder covered with blotting paper, the two cylinders being connected by a handle I and revolving in a frame G, whereby the sheet upon which the impression is to be made will be dampened by the water cylinder and the superfluous moisture absorbed by the second cylinder at one operation, by passing the machine once over the sheet.

The inventor says: I do not claim a hollow perforated cylinder through which water oozes, as a similar device has been used for coating the inking roller of a printing press.

But I *claim* the combination of the wetting cylinder E, handle I, and roller H, as described, the whole constituting a new implement or machine by which the sheet on which the impression is to be taken can be dampened, and its superfluous moisture absorbed by passing the apparatus once over the sheet.

No. 22,009.—MOSES S. BEACH, of Brooklyn, N. Y.—*Apparatus for Wetting Paper.*—Patent dated November 9, 1858.—The object of this invention is to wet paper in rolls, or endless sheets, for use in printing presses in which the paper is supplied from such rolls or endless sheets.

The operation of the machine consists in winding the paper off from roller A on to roller C, the water passing by capillary attraction through the flannel and depositing itself upon the paper while it is passing the roller B. The quantity of water is regulated by elevating or depressing the lip attached to the tank D.

Claim.—The employment of the cloth, arranged and operated substantially as and for the purposes described

No. 21,584.—CHARLES WILLIAMS, of Philadelphia, Pa.—*Apparatus for Coloring Paper, &c.*—Patent dated September 21, 1858.—This invention consists in providing an apparatus to be used in connexion with the usual "trough," or with a support of the paper, whereby the color is taken up and discharged, or distributed automatically upon the surface of the gum water or paper in such a manner as to produce a perfect uniformity in the design on the several sheets, whether the said spots or figures of the design be either of regular or irregular size and arrangement.

Claim.—Distributing or laying the color in the process of marbling or coloring paper, by means of an apparatus constructed so as to operate substantially in the manner and for the purpose described.

No. 19,831.—JOHN COCKBURN, of New York, N. Y.—*Improvement in Pen and Pencil Cases.*—Patent dated April 6, 1858.—This invention consists in the arrangement of means for operating the pen and pencil whereby the pen and pencil are pushed in and out of the case at the same end.

The inventor says: I do not claim, separately, operating the pencil tube C by means of the spirally slotted tube D, for this has been previously done.

But I *claim* the arrangement and combination, as shown and described, of a pen slide H, which girdles the tube G with a boss *b*, which latter girdles its tube B, for the purposes set forth.

No. 20,065.—THOMAS S. HUDSON, of Boston, Mass.—*Pen Cleaner and Holder.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* forming the inside of the stand with a tapering or bevelled-shaped neck, through which a bunch of bristles is drawn, as described, whereby, when the bristles are fastened at their lower ends with cement or glue, they are so rigidly held as to prevent their being drawn out or displaced.

I also claim, in combination with the above, the use of a hollow stand, the lower portion or base of which is fitted with plaster of Paris or other non-conductor of heat, whereby the cement or pitch in which the bottom of the bristles is embedded, is protected and prevented from being softened or melted by heat, as set forth.

No. 20,741.—SUSAN E. TAYLOR, of East Cambridge, Mass.—*Improvement in Fountain Pens.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a pen combined or provided with a fountain or reservoir stationary within the handle or penholder, and having a conduit leading from it in a manner so as to conduct ink from the fountain to the pen; nor do I claim providing such fountain or reservoir conduit and pen with a piston to move in the reservoir; nor do I claim furnishing the fountain with a stop cock arranged in the conduit and to regulate the supply of fluid to the pen; nor do I claim providing the upper end of the reservoir or fountain with a screw cap, one or more air holes so arranged as to be covered by the screw cap.

But I *claim* an improved fountain pen, made with a penholder and a separate adjustable fountain *d*, applied so as to be movable with the holder, substantially as and for the purpose as described.

I also claim when the tubular reservoir is provided with a piston *f*, as described, arranging a small air hole *g* through the side of the reservoir, so that the piston, besides being able to perform the office of elevating the ink into the fountain, may be made to cover the air hole more or less and to operate as a valve to it, substantially in the manner and for the purpose as described.

No. 21,881.—JOSEE JOHNSON, of New York, N. Y.—*Improvement in Pen Fountains.*—Patent dated October 26, 1858.—The nature of this invention consists of the construction of a spiral spring fountain, attaching it to a pen or penholder as an adjustable and movable fountain, for the purpose of rendering it a fountain pen.

Claim.—The application to the ordinary pen of a spiral spring fountain A, when constructed with an adjustable band B, in the manner described, and for the purpose set forth.

No. 22,017.—JOHN S. CUTTS, of Philadelphia, Pa.—*Pen Fountain.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The elastic tubular fountain D, open at both ends, and so combined with the pen that the fountain may be filled with ink through its upper open end by dipping the pen, as set forth.

No. 21,758.—JOSEE JOHNSON, of New York, N. Y.—*Penholder.*—Patent dated October 12, 1858.—The nature of this invention consists in making penholders of seamless thimbles formed with one solid or closed end, the solid end being perforated so as to form a suitable incision in the reception of the pen; the incision is cut in such a manner as to allow the pen to pass against the inner side of the thimbles, between the thimble and pen stock, or any other suitable substance in the thimble; in this manner the pen is conveniently attached or detached, and is held sufficiently firm by coming in contact with the end of the pen stock, or some elastic substance that may be placed in the thimble for that purpose.

Claim —The thimble A, with incision C, when formed of one piece of metal and applied to tne pen stock B as a penholder, operating as described and for the purposes set forth.

No. 20,056.—WALTER K. FOSTER, of Bangor, Me.—*Pencil Sharpener.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—As an improved article of manufacture, a pencil sharpener, made substantially as described, that is, of a steel or cutting blade and a cast metal body as specified, cast or founded on the said blade, so as not only to confine it in its proper place with respect to the conical cavity of the body or holder, but so that the metal of the body or holder shall embrace opposite sides and the back of the blade and terminate at or near the cutting edge of the blade, by a surface made to stand at a right angle or thereabouts to the outer surface of the knife, the same when the instrument is in use, serving not only to support the knife under pressure against its inner surface and cutting edge, but also to turn a chip or shaving so as to enable the sharpener to operate to great advantage on the lead and wood of the pencil, particularly when the wood is cross-grained.

No. 20,262.—WALTER K. FOSTER, of Bangor, Maine.—*Improvement in Pencil Sharpeners.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim* making the pencil sharpener with a space *e*, or its equivalent, so arranged beyond the inner end of the blade C as to cause the pencil lead to be turned or reduced cylindrically while passing beyond the inner or upper end of the knife.

I also claim the arrangement of the space *e* with reference to the handle, that is, so as to be separated therefrom or not open into the space or opening *f* thereof, the same being for the purpose as set forth.

I also claim making the body A of the pencil sharpener with a light port or opening *i* arranged opposite to the chip throat, and for the purpose described.

I also claim arranging the auxiliary chamber *e*, or its side *h*, with respect to the conical chamber *a*, so that while the lead is being cut by the knife the lead may not touch the side of the auxiliary chamber or be so near it as to be ground or injured by particles of lead which may adhere to the sides of the auxiliary chamber.

No. 21,649.—WILLIAM BURNET, of New York, N. Y.—*Slate Pencil Sharpener.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The manufacture of a pencil sharpener made of inclined cylindrical rods having raised teeth upon them, either in the form of screw threads or sharp parallel ridges, and the attachment of these to any suitable plate or framework of metal for securing the cylindrical bars or rods in their proper position, and for securing the whole to the framework of the slate, made and arranged substantially as described.

No. 19,191.—WALTER K. FOSTER, of Bangor, Maine.—*Improvement in making Blades for Pencil Sharpeners.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

Claim.—For supporting small pieces of metal and aiding in their reduction to wedges or knife blades under the action of a grinder or grinding wheel, a gauge bed plate or holder constructed with recesses made so as to operate substantially as described, such bed being moved along under the grinder, or the grinder moved over it in such a manner as to successively reduce each of the blanks that may be within its recesses.

No. 20,219.—GERARD SICKELS, of Brooklyn, New York.—*Instrument for Sharpening Slate Pencils.*—Patent dated May 11, 1858.—This invention consists in a plate of steel having its transverse section formed with a concave arch for the greater portion of its length, and having float or file-like teeth on its concave arched face and eyes at its ends, which admit of tacks or screws to attach it to the frame of a slate. The pencil is held in proper position and scraped along it, and the teeth cut it to a point.

Claim.—The instrument consisting, as described, of a piece of steel, with an arched concave surface, on which teeth are cut, and with eyes at its ends to attach it to the slate frame or other foundation.

No. 21,679.—BERNHARD HUFNAGLE, of New York, N. Y.—*Improvement in Photographic Baths.*—Patent dated October 5, 1858.—The nature of this invention consists in the construction of silver baths, principally of the largest size, which shall require the smallest quantity of solution of silver and at the same time preserve said solution from all foreign action, so as to be able to use the same a great number of times until the silver is all absorbed.

Claim.—The construction of a silver bath for photographic and ambrotype purposes, made out of two plates of glass, with india rubber between, and fastened together between wooden or other framework, in the manner described and for the purpose substantially as specified.

No. 21,470.—CHARLES C. HARRISON and JOSEPH SCHNITZER, of New York, N. Y., assignors to CHARLES C. HARRISON, aforesaid.—*Diaphragm for Photographic Cameras.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the adjustable diaphragm or stop described, composed of overlapping plates operating concentrically by the ring D, or its equivalent, said ring being operated from the outside of the tube by means of a lever or arm E, or other appropriate device, substantially as described for the purposes set forth.

No. 19,252.—WILLIAM LEWIS and WILLIAM H. LEWIS, of New York, N. Y.—*Improvement in Plate Frames for Photographic Cameras.*—Patent dated February 2, 1858.—The nature of this improvement consists in the use of a strip or bar of glass *g* in combination with a spring *h* in such a manner that the strip or bar will spring into the opening and cut off rays of light when the slide is withdrawn. There is attached to the frame corners of glass *e e* in such a manner as to hold them firmly in their place, which receive the surface and edges of the glass or other photographic plate.

The inventors say: We *claim* the cut-off *g* of opaque glass or equivalent material, in combination with a suitable spring, by which said cut-off is made to close the aperture through which the slide passes, substantially as and for the purposes specified.

We also claim securing the corners *e* of glass or equivalent material into the frame by means of the rib and groove, substantially as specified.

No. 20,401.—AREND D. BOLLENS, of Newburg, N. Y.—*Improvement in Plate Holders for Photographic Cameras.*—Patent dated June 1, 1858.—This invention consists in a novel method of constructing a continuous glass lining, and fitting and securing the same in the frame of the plate holder to form a seat for the glass or other plate to prevent the chemicals with which said plate is prepared from coming in contact with the wood or other material of which the frame is made.

Claim.—The continuous glass lining *a a b b* of the frame, constructed and fitted, and secured in the frame, in the manner substantially as specified.

No. 22,158.—HENRY BRYANT and R. D. O. SMITH, of Washington, D. C.—*Photographic Plate Shield.*—Patent dated November 30, 1858.—In operating this device the outer end of the wire is drawn

from the camera to clear the ring from its slot, and then moved forward, the door being drawn open by the corresponding motion of the inner end of the wire A.

The inventors say: We do not claim the application of the door to the plate shield, for that has been used before.

But we *claim* the application of the bent wire or its equivalent, substantially for the purpose of opening and closing the door on the inside of the camera, in the manner and for the purpose described.

No. 21,829.—EBENEZER GORDON, of New York, N. Y.—*Photographic Shield.*—Patent dated October 19, 1858.—The interior of this frame forms a square opening of a little more than the longest length of the plate to be used therein. *d d* are the improved corners that are formed of suitable material, and each corner piece has two recesses for receiving the glass or other plate; the recesses 1 1 sustaining the same when the longest sides of the plate are vertical, and the recesses 2 2 receiving the plate when in position for a landscape or similar picture.

Claim.—The corners *d d*, formed with two recesses, and applied at the angles of a square frame, to receive the photographic plate or its equivalent in a horizontal or vertical position, as set forth.

No. 20,213.—THOMAS MILTENBERGER, of Bellefontaine, Ohio.—*Improvement in Compound Photographs.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The production of a compound photograph, or the taking of separate distinct photographic impressions on each side of a glass plate or transparent tablet, and producing thereby a compound relievo or double stereoscopic effect on a single or simple plane or flat surface, in combination with a totally black back ground, through which solely is produced a transparent collodion film, in the manner substantially as set forth and described.

No. 19,626.—JAMES A. CUTTING and L. H. BRADFORD, of Boston, Mass.—*Improvement in Photolithography.*—Patent dated March 16, 1858.—The stone is first prepared, and after which has the following solution applied to its surface: Water, 1 quart; gum arabic, 4 oz.; sugar, 160 grains; bichromate potassa, 160 grains. The stone thus prepared is preserved in the dark until required, and when the coating is dried it may be exposed in the camera a suitable length of time to fix the gum upon those parts of the picture where the lights are to appear. After it is thus "lighted" the stone is washed with a solution of soap (½ lb. of soap to 6 quarts of water) which attacks the stone, removing the coating and fixing itself upon the surface in place of the coating removed.

The inventors say: We *claim* the employment of gum arabic deprived of its power of intimate union with the stone by means of sugar or its equivalent, as set forth.

And in combination with the above we claim the use of soap as set forth, for the purpose of readily removing the unlighted portions of gum, and of forming the printing surface, as described.

No. 19,081.—SPENCER B. DRIGGS, of New York, N. Y.—*Improvement in Piano-fortes.*—Patent dated January 12, 1858.—This improvement is intended to assist the vibration of the ordinary sound-board and increase the power of the instrument and the volume of its tone. The whole of the interior of the instrument below the usual sound board, by this improvement constitutes a sound chamber similar in character to the interior of a violin.

The inventor says: I do not claim generally the employment of two sound-boards in a piano-forte, as I am aware that they have been employed in two different ways, viz: in one mode both of them having been arranged within or above the bottom of the case, and in the other mode one having been employed in the usual position, and the other below the usual solid bottom of the instrument, and connected with the first named one by a sound-post passing through a hole in the solid bottom of the case.

But I *claim* so applying a second sound-board in addition to the ordinary sound-board upon which the strings rest, that such additional sound-board shall constitute a bottom, and the only bottom, to the case, and produce results substantially as described.

No. 19,857.—HENRY A. LEAMAN, of New York, N. Y.—*Improvement in Piano-forte Action.*—Patent dated April 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the attachment of the hammer of an upright piano-forte action to the rear extremity of the key, and the arrangement of the notch *d* in the back side of the butt B of such hammer, so that the working face of the notch will operate substantially as described, in contact with the edge of a stationary bar *f*, and by such operation cause the hammer to move back to strike the string when the front end of the key is depressed.

Second. In combination with the attachment of the hammer to the rear extremity of the key, I claim the attachment of the damper to the hammer butt below the pivot *b* which attaches the hammer to the key substantially as herein specified, whereby it is made to serve as a stop to the hammer or means of regulating the length of stroke of the hammer, and depth or level of the key, substantially as described.

Third. I claim the application of the regulating screw *c* in the rear end of the key to operate in combination with a portion B^1, of the hammer butt extended below the pivot, which attaches the butt to the key, substantially as described.

Fourth. I claim the arrangement of the damper-lever C behind the downwardly extended portion B^1, of the hammer butt, substantially as and for the purpose specified.

No. 20,500.—JOHN V. MARSHALL, of Albany, New York.—*Piano-forte Action.*—Patent dated June 8, 1858.—A is the key; B the jack, with its base or socket *o*; D the flange upon which is pivoted the butt E of the hammer H; J the rest; and K the back check. The faintly shaded parts show the key when untouched and the corresponding position of the machinery, with the exception of the hammer H and butt E.

The inventor says: I am aware of the existence of the patent issued to James A. Gray, March, 1857, for an action intended to effect a movement of the hammer somewhat similar to that described in my specification; but I expressly disclaim the use of mechanism, like that set forth in his specification as constituting his claim, to make an action such as I produce upon the hammers of a piano-forte.

What I *claim* is the formation and position of the butt, as described and for the purposes set forth.

I further claim the combination of the butt spring S and back check, substantially as arranged and for the purpose set forth.

No. 20,595.—HENRY STEINWAY, of New York, N. Y.—*Improvement in Piano-forte Actions.*—Patent dated June 15, 1858.—The object of this invention is to provide for the instantaneous return of the jack to its notch in the hammer butt after the hammer has struck the string, for the purpose of enabling a quick repetition of the blow to be given.

Claim.—The spring *e* attached to an arm *j* at the back of the jack, and arranged relatively to the hammer, substantially as described for the purpose set forth, and in combination with the spring thus arranged and applied, I claim the hooked screw *k* applied to the arm *j*, as described, to adjust the spring relatively to the hammer and confine it laterally in a proper position.

No. 21,990.—WILLIAM B. STETSON, of Taylor, New York.—*Pedal Attachment for Pianos.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The construction and arrangement of the pedal chord bars *b b b* connecting suspension rods *c c c c c c*, and upper bars *f f f*, and finger rods *i i i i i i*, and operated as described, in combination with key-board instruments, and whereby the corresponding harmony of any melody or air is produced simultaneously therewith by the performer, through the agency of the feet, substantially as set forth.

No. 21,192.—WILLIAM GARDNER, of New York, N. Y.—*Improvement in Machinery for preparing Oval Picture Frames.*—Patent dated August 17, 1858.—The claim and engravings explain the nature of this invention.

Claim.—A lathe with a face plate E revolving in an oval path, in combination with a scraper L, adapted to the form of the desired moulding of the oval frame, when the said scraper is so arranged as to be self adjusting laterally with the said moulding, substantially as and for the purpose set forth.

No. 20,670.—PETER W. TOY, of New York, N. Y.—*Portfolio File.*—Patent dated June 22, 1858.—The nature of this invention consists in combining, with a portfolio and file for music, papers, &c., a contrivance for holding down the leaves of music while playing, and a device for converting the portfolio into a perfect bound book when full.

The inventor says: I do not claim separately the sides and back A B, or the mode of filing by the cords D D and rod C.

But I do *claim* separately the elastic bands E E and the loops F F, arranged and operating as described.

I also claim the combination of the portfolio cover with the file, loop, and bands, substantially as described, as forming a new, convenient, and useful article.

No. 21,902.—EDWIN PLATT and JACOB B. PLATT, of Clarke county, Georgia.—*Improved Copying Press.*—Patent dated October 26, 1858.—The nature of this invention consists in the manner in which the follower is made at pleasure to maintain a variable mean distance from the bed-plate, and in such an arrangement of the different parts of the press as that they can be easily separated from each other, and packed in a manner convenient for transportation.

The inventors say: We *claim* the stirrup F and its plates, arranged and operating substantially as set forth and described.

We also claim the frame A A^1 A^{11}, in combination with its levers, so arranged with the bed-plate and follower as that they can be easily separated from each other, and then packed to form a portable copying press.

No. 21,997.—DANIEL ZUERN and L. L. BEVAN, of Shamokin, Pennsylvania.—*Self-Inking Hand Press.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the combination of the arm or lever G, with the shaft H, the crank I, and the vertical revolving shaft J, and the connexion of shaft J with the revolving arm K, thereby accomplishing a double action, viz: first upon the ink roller D, second upon the movable bed E for reception of card or paper to be stamped or printed. By down vertical pressure of lever A, roller D moves horizontally over ink sponge F, and in contact with it.

We also claim the combination of finger *d* with hook *e* on movable bed-plate, with the mode of adjustment and disconnexion, for the purpose of effecting movement of movable bed-plate E, and also the movable bed-plate E, for the purpose substantially as set forth.

But we do not claim any other part or portion of the machine as new or of our invention.

No. 21,976.—JOHN NAGELE, of Altoona, Pennsylvania.—*Improvement in Presses for Embossing and Figuring Velvet, &c.*—Patent dated November 2, 1858.—This machine is operated in the following manner: As motion is given to the roller A by the wheels *a* and *b*, the chain *h* communicates this motion to the rollers B B, and the pulley on lever H H keeps the chain tight by means of the weight *w* attached to said lever. The lever L is provided with a weight R, which slides on the lever L by means of the slide *y*, which is moved by the wire-rope X by means of the wheel *n* and shafts G *g*. By these means any required pressure can be applied without necessitating the lifting or the changing of a series of weights. As the wheel *n* is turned to the right or to the left the weight R moves to or recedes from the end of the lever, thus causing an increase or decrease of pressure on the rollers.

The inventor says: I *claim*, first, the application of steam to presses for figuring silks, velvets, and similar materials, substantially as described.

Second. The combination of rollers A B B C, with the wheels *r r* and chains *z*.

Third. The double lever H H, in combination with the chain H and weight W.

Fourth. The movable guide N, in combination with the rollers, all in the manner and for the purpose substantially as described.

No. 20,276.—G. H. KORFF, of Hoboken, New Jersey.—*Improvement in Presses for Zincographic Printing.*—Patent dated May 18, 1858.—The nature of this invention will be understood from the claim and engravings.

The inventor says: I *claim*, first, the cylinder B, in combination with the inking rollers J J^1 and moistening rollers K K^1, when arranged as shown, namely, the rollers J K having their bearings connected with rods L, and used in connexion with the adjustable rings L^1, so that either of the rollers J K may be moved out free from the cylinder B, or all moved simultaneously as may be desired.

Second. In combination with the cylinder B and rollers J J^1, K K^1, I claim the pressure rollers C D, in connexion with the bars *k k* and shaft E, provided with projections *l l*, for the purpose of producing the "bite," or subjecting the paper to the proper pressure between the cylinder B and roller C.

Third. The feed-rollers F H, fitted in elastic bearings G *o*, and arranged relatively with each other, the pressure roller C, feed-board M, and cylinder B, as described, whereby with the aid of the curved rods N on the cylinder B the blank sheets are fed between the cylinder B and roller C.

Fourth. I claim the peculiar construction of the cylinder B and rollers J J^1, K K, as shown and described, viz: having plaster of Paris *d* moulded around tubes *e*, so as to obtain the necessary strength and inflexibility with a requisite degree of lightness.

No. 21,321.—ALEXANDER CALHOUN, of Hartford, Conn.—*Improvement in Printers' Composing Sticks.*—Patent dated August 31, 1858.—The nature of this invention consists in the application of a clasping band, attached and combined with the sliding knee bracket to prevent springing back by the pressure of tight spacing or long continued use.

Claim.—The application of the band B, in the manner and for the purpose substantially as set forth and described.

No. 20,714.—WILLIAM A. HUNTER, of Bryan, Ohio.—*Improved Type Case for Printers.*—Patent dated June 29, 1858.—The nature of this invention consists in the peculiar construction of the type case, whereby it is kept constantly clear from the dust resulting from the abrasion of the types, and in collecting the dust on a shelf or drawer, whence it can be removed when required.

The inventor says: I *claim* making the bottom of a type case of a metallic screen or other perforated material, substantially in the manner and for the purpose described.

I also claim the sliding shaft C, in combination with the perforated bottom B of a type case, substantially in the manner and for the purpose described.

No. 21,429.—JAMES LORD, of Pawtucket, Mass.—*Machine for Printing Addresses on Newspapers, &c.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, 1st. Imprinting the name and addresses of subscribers and others on newspapers, envelopes, &c., by inserting type expressing such name and address in boxes secured spirally on the periphery of a revolving cylinder, and causing the said newspapers or envelops to be successively pressed against the type in the boxes by means of a platen or follower *x*, which is made to act in concert with the cylinder, in the manner described.

2d. I claim the combination and arrangement of the connecting rod *z*, vibrating lever p^1, pawl *r*, ratchet *s*, and screw shaft M, for giving the required revolving motion to the printing cylinder B, and longitudinal motion to the platen *x*, and receiving, conducting, and distributing rollers *b h i*, in the manner and for the purpose described.

3d. I claim the combination and arrangement of the eccentric cams *u*, longitudinal shaft Y, and upright rod *m* for raising the platen or follower *x*, to produce the required impression upon the paper, as described.

4th. I claim the combination and arrangement of the cima-reversa-formed slots n^1 in the ears *n*, and ends of the branch rods k^1, of the curved bars *k*, with the distributing and conducting ink rollers *h i*, in the manner and for the purpose set forth.

5th. I claim the combination of the adjustable plate *d*, oscillating bar c^1, and plate between which it is secured, and graduating thumb screws *f*, with the ink receiving roller *b*, as described.

No. 21,418.—GEORGE I. HILL, of Buffalo, N. Y.—*Printing and Numbering Press.*—Patent dated September 7, 1858.—By this invention the printing press is operated in a common manner. The numbering machine is connected to the bed plate and moves with it. As the bed plate is moved inwardly, the spring pall F catches into the teeth of the ratchet I, and causes the proper movement of the required number. B represents a numbering machine, and 1 2 3 4 the numbering wheels, each wheel containing all the numerals, so arranged as to form any required combination. Each wheel has the nine numerals and cypher thereon. In this operation the first card or ticket printed will be numbered at the same time the second card or ticket is printed and so on through the whole operation. The wheels can be set so as to commence with any desired number.

The inventor says: I *claim*, 1st. Having a shaft *c* extended from one end of the seat to the other, when said shaft is furnished at one end with a crank E, and at each end with a pinion or friction roller D, and said pinion or friction rollers work in connexion with large spur wheels or large friction rollers F F, which have the arms G G of

the back *d*, or the arms H H, of the foot board *c*, pivoted eccentrically to them, substantially as and for the purposes set forth.

2d. Attaching the arms of the foot board *c* to the lower spur wheel or friction rollers F F, by means of turning pivots and hinge joints *i* and *k*, in combination with attaching the suspension rods of the foot boards by loose eyes *h*, to long staples or brackets *g g*, substantially as and for the purposes set forth.

No. 21,723.—JOHN HOPE, of Providence, Rhode Island, assignor to Himself and THOMAS HOPE, of said Providence.—*Improvement in Rollers for Calico Printing.*—Patent dated October 5, 1858.—The mandrel connexion *c* is generally made from vulcanized caoutchouc composition, which, when cold, becomes solidified or indurated, such composition being composed of coal tar, pitch, sulphur, and caoutchouc, either alone or with other matter, and being that from which combs, walking canes, toys, &c., are now made and on sale in the market. This composition can be softened by heat or applied around a mandrel and vulcanized thereon.

Claim.—I am aware of the jeweller's roller which forms the substance of the United States patent No. 21,039. My invention differs essentially therefrom, because the outer shell of my roller is not to be hardened by being heated and afterwards suddenly cooled on its cast iron carrier or cylinder encompassing the arbor or shaft, for the great heat of the outer shell would so heat the shaft connexion, composition, or shell as to either injuriously soften or melt it. Furthermore, another material difference is in the nature and character of the shaft connexion, as well as in the mode of effecting the same, it being not only formed by the process of casting it within a shell or tube, and around a grooved and slightly tapering cylindrical shaft, but made of a caoutchouc composition, or a material suitable for the purpose, and such as will admit of being cast or moulded between the arbor and tube, so as to form a proper connexion therefor of the kind described.

I claim my said new manufacture of calico printing roller made substantially as described, viz: of the copper shell *a*, cast metal foundation tube *b*, and with a mandrel connexion cast in the metallic shell or tube, and on an arbor or mandrel in manner and of a material substantially as described.

No. 19,797.—GEORGE SCHAUB, of Hamburgh.—*Improvement in Casting Types for Printing.*—Patent dated March 30, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

The inventor says: I wish it to be understood that I do not limit myself to the precise details described and represented, as the same may be varied without departing from the nature of my said invention.

But I *claim* the new or improved manufacture of types for printing before described, and illustrated by the accompanying drawing, that is to say, manufacturing types for printing by casting the stems or bodies of the types at the back of a sheet of type heads, and finishing the same as described; also the manufacture of spaces used in setting

up printing types by the use of the movable frame described and represented.

No. 21,148.—ELISHA PRATT, of Salem, Massachusetts.—*Improvement in Printing-Ink Rollers.*—Patent dated August 10, 1858.—The following are the ingredients used in making these improved ink-rollers: Four pounds of glue, two ounces of gum shellac, in a sufficient quantity of alcohol to dissolve it, and one table spoonful of saleratus or sal soda.

The inventor says: I *claim* the employment of an alkali in the manufacture of inking rollers, in the manner and for the purpose substantially as set forth.

I also claim the use of rosin oil, rosin and shellac, in combination with the other materials employed, in the manner set forth, for the purpose specified.

No. 22,136.—JAMES SPENCER, of Toronto, Canada.—*Improvement for Printing Names or Directions on Packages, &c.*—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The application of common type, arranged in a form upon a plane bed, to the printing of successive names, numbers, or addresses, one at a time, upon papers, pages, books, tickets, or other articles requiring to be printed, marked, or addressed, and the construction of the machinery as described, or any other similar combination of machinery for producing the same motions, causing the bed to traverse, so as to bring all the names, numbers, or addresses in the form successively under the aperture in the tympan, and causing the matter placed under the platen to receive the desired impression.

No. 19,672.—HENRY A. BILLS, of West Winsted, Connecticut, and STEPHEN W. WOOD, of Cornwall, New York.—*Printing Press.*—Patent dated March 23, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventors say: We *claim*, first, setting a form of type upon flat rotating forms or beds in separate and independent columns *c* arranged alternately upon the peripheries of cylinders, with corresponding cylinders upon whose peripheries are segments of impression cylinders, the whole arranged substantially as described.

Second. Grooving or notching types, and keying them by independent keys *a e* to a bed or form, in the manner and for the purpose substantially as set forth.

No. 19,758.—G. W. DAVIS, of Seneca Falls, N. Y.—*Improvement in Printing Presses.*—Patent dated March 30, 1858.—By raising and lowering the outer end of the lever G, the platen E will be swung or moved up and down, and a reciprocating motion also given the bed C. The form D is inked as it passes under the lower rollers L L, and the blank sheets are laid upon the frisket K^1, which, when the plate descends or is depressed, yields or gives to its pressure in consequence of its elasticity in connexion with its spring bearings *n n r*, so that

the sheet will be pressed down upon the form D by the platen and receive the impression.

Claim.—The arrangement of the double-armed lever G, plate E, bed C, and the adjustable spring frisket K^1, as and for the purposes shown and described.

No. 20,090.—Thomas S. Reynolds, of Athens, Georgia.—*Printing Press.*—Patent dated April 27, 1858.—The nature of this invention is described by the claim and engravings: I *claim*, first, the rotating segment D, in combination with the intermittingly rocking bed Y, when constructed and arranged to operate as described, to wit: the segment having a continuous rotary movement while the bed rocks to and from the segment, and remaining, while in a vertical or nearly vertical position, stationary a sufficient length of time to have the form properly inked.

Second. The inking device, formed of the fountain J and the roller K L N O *t t*, operated by the cams S T, levers U V, bar W, and the frame M, with the weight *h* and cam *e*, arranged to operate conjointly with the segment D and bed Y, so that the form will be properly inked during the "dwell," or the cessation of the movement of the bed, as described.

Third. The counterpoises Z Z, when used in connexion with the springs o^1, as shown, whereby the counterpoises may be graduated as circumstances may require.

Fourth. The frame F^1 attached to the shaft D^1, which is fitted in the bars E^1, and having the spring u^1 and rod w^1 attached, substantially as described, and for the purpose set forth.

No. 20,204.—George P. Gordon and F. O. Degener, of New York, N. Y.—*Improvement in Printing Presses.*—Patent dated May 11, 1858.—This invention relates to an improvement in that class of printing presses in which a continuous rotating cylinder that receives the sheet to be printed is used in connexion with a reciprocating bed K, on which the form is placed. The object of this invention is to simplify the construction of such presses, and also to give a positive or arbitrary movement to the cylinder and bed relatively with each other at the time the impression is given to the sheet.

The inventors say: We do not claim the peculiar manner of hanging or arranging the reciprocating bed K, for that is already patented, as previously stated.

Nor do we claim broadly giving a continuous rotary motion to a cylinder, when used with a reciprocating bed, as this has been previously done, and is common to many cylinder presses in use.

But we *claim* communicating motion to the cylinder at the time of giving the impression by and through the motion of the bed, while the revolution of the cylinder shall be perfected by or through ordinary gearing, or other means entirely independent of the motion of the bed, thus alternating from one of these means to the other to give a full revolution to the cylinder.

No. 20,874.—George P. Gordon, of New York, N. Y.—*Improvement in Printing Presses.*—Patent dated July 13, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I *claim*, first, one or more sets of gripers or nippers, independent in themselves, which shall revolve upon their axes, and carry the sheet from its point of feeding to its place of deposit, whether operated in the precise manner described or in some equivalent way.

Second. I claim the "stop," or its equivalent, for holding the said gripers, or their equivalent, in the desired position, for the purpose of insuring an exact and regular feeding, registering, and delivering of the sheet, as fully set forth.

Third. I claim one or more sets of gripers, (which revolve upon their axes) having a movable base, with fingers to close upon said base and hold the sheet, whether constructed in this precise manner, or in some equivalent way, to produce a like result.

Fourth. I claim the combined action of said gripers and the vibrating springs, strips or frisket, for the purpose of conveying the sheet to and receiving and holding it in the proper position for the reception of the impression, and insuring its proper, delivery after it shall have been printed.

Fifth. I claim the vibrating double cam for throwing off and on the impression.

Sixth. I claim two or more distributing rollers, having a lateral motion upon a main distributor, which shall move independent of and in opposite direction to each other, and thus alternately cross and recross each other's distribution, for the purpose of giving an uniform inking.

Seventh. I claim the relative arrangement of the feed table, the fly-board, the platen and the bed, substantially as described, in combination with the revolving gripers.

Eighth. I claim the two distributions given to the inking rollers upon one cylinder for each impression, (heretofore patented by me,) in combination with the rotating reciprocating bed with its spring extensions, as fully set forth.

Ninth. I claim the fly-board with its adjustable ledge in combination with the gripers, to insure the even piling of the sheet, whatever its size may be.

No. 21,080.—Frederick B. Nichols, of Morrisania, N. Y.—*Improvement in Printing Presses.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the employment of the polished metallic roller K, arranged immediately in front of the inking roller H, and made adjustable by set-screws, so as to enable its smooth periphery to be pressed against the periphery of the printing cylinder on a line parallel with the axis of both, and with such force as to prevent any ink on the engraved surface of the printing cylinder from passing between the two, and thereby removing the excess of ink from the smooth portions of the electrotype or thin plate, and causing the same

to descend over the rising side of the said polished roller K into the ink trough M, as described.

Second. I claim arranging the rollers P P¹, and endless band R over the same, in front of and in such relation to the periphery of the printing cylinder C, as to cause the descending portion of the endless band R to extend from the same tangential to a circle smaller than it in diameter, and to bear upon a portion of the periphery with an equal degree of tension over every part which it touches, and giving to the said part of the endless band a zigzag movement by means of the zigzag grooved drum Y and lug or arm *b*, in the manner and for the purpose set forth.

No. 21,154.—E. Edward Sneider, of New York, N. Y.—*Improvement in Printing Presses.*—Patent dated August 10, 1858.—This invention consists in the employment of a revolving segment frame which receives the blank sheets of paper, and serves at the same time to carry and support the inking rollers and to communicate motion to the same; in the employment of a rocking bed, on which the form is placed, and between which and the segments the impression is given, said rocking bed being worked likewise from the segment frame and provided with suitable ways on its under side passing over rollers to produce the required impression; and also in the employment of a novel fly-motion by which the printed sheets are brought upon the fly-board.

The inventor says: I *claim*, first, the revolving double segment frame, with segments balancing each other, in combination with a rocking type-bed T, operated through the segment frames, substantially as described.

Second. I claim the rocking type-frame T, with eccentric ways W attached, working over fixed rollers, in the manner and for the purpose described.

Third. I claim the arrangement and the manner of operating the distributing cylinder E, supported between the segment frames C upon the shaft B, to which the segment frames are attached, said cylinder being made to revolve in the opposite direction to the motion of the shaft, and having at the same time a side motion communicated to the said cylinder for the purpose of distributing the ink upon the inking rollers, as described, in connexion with an arrangement of inking rollers operated in the manner substantially as specified.

Fourth. I claim the arrangement and construction of the fly-motion in the manner and for the purpose as described, operating in connexion with the nipper 8 substantially as specified.

No. 21,228.—Daniel Wolfe, of Dixon, Ohio.—*Improvement in Printing Presses.*—Patent dated August 17, 1858.—The machine being set in motion for inking the type, the sheet to be printed is laid upon the frame *x* and friskets *u u*; the rollers being inked, crank *f* is turned until the platen is raised, then crank *f* remains stationary and crank *g* is turned, running the carriage under the platen until the sheet stands directly under the platen, between it and the type; then the carriage stands still, and, by turning the crank *f*, driving

wheel C operates upon wheel D, the shaft of which operates pitman *n*, which draws toward the centre of the machine straightening bars M M¹, and M bearing upon the frame *e* to which the platen is secured, the platen is brought down upon the sheet, pressing it against the type, thus making the impression.

Claim.—The inventor says: I *claim* the self-emptying spring friskets *u u*, arranged with the springing frames *x x* in the manner set forth, and these in arrangement with the stationary bed plate, falling platen frame L, bars M and M¹, and lever *p*, when all are combined and constructed in the manner and for the purpose set forth.

No. 21,528.—Ervin B. Tripp, of New York, N. Y.—*Printing Presses.*—Patent dated September 14, 1858.—This invention consists, first, in attaching to and combining with the type cylinder of a rotary printing press a flattened plate or type bed which contains the type and revolves with the cylinder, and is so attached to it as to move over the impression cylinder in a circular line or in the arc of a circle; second, in a feeding roller, operated by a positive movement derived from some of the rotating parts of the press, which can be adjusted in its movements to feed the paper to be impressed by the type at such given portion of the movement of the type cylinder as may be required to give the paper the requisite amount of magin; and third, in a feeding guide, up to and against which the paper to be printed is fed, and which is governed in its movements by the movements of the feeding roll, so that it is elevated to allow the paper to pass it, when the feeding roll is depressed and brought in contact with the paper to feed the paper to the press, and is depressed when the feeding roll is elevated and raised from the feeding table.

The inventor says: I do not claim producing a printed impression from type attached to and revolving with a type cylinder.

But I *claim*, first, the employment, in connexion with the type cylinder D, of a cylinder or rotary printing press, of a flattened plate or type bed H, in which the type to produce the printed impression upon the paper are placed, which plate or type bed is revolved with that cylinder, and is so connected with and attached to it as to have the face of the type contained in it move over the impression roller I in the arc of a circle, as and for the purposes set forth.

Second. The feeding roll L, operated by a positive motion, as specified, when combined with and elevated and depressed by the arms M and cams N, in the manner and for the purpose described.

Third. The feeding guide *o*, operated in connexion with the feeding roll L, as and for the purpose set forth.

No. 21,484.—James A. Campbell, of New Orleans, Louisiana.—*Improvement in Printing Presses*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the teeth placed on a portion of the perimeter of the roller M for the purpose of pushing the card through the opening above the perpendicular grooves *c c*, by the operation of these teeth on the surface presented by the front card of the pack, in combination with the rollers *f f*, substantially as specified.

Also, the adjustable plates *g g*, as specified, for the purpose of regulating the opening through which the cards have to pass, to the thickness of the card.

Also, the combination of the stationary arm T, ball and socket Z, rod U, short arm V, and the working joint Y, for the purpose of giving the inking cylinder a lateral motion.

No. 22,027.—CHARLES MONTAGUE, of Hartford, Connecticut.—*Improvement in Printing Presses.*—Patent dated November 9, 1858.—The nature of this invention consists in such an arrangement of a horizontal reciprocating bed and revolving cylinder for impression that the surface of the bed or form placed upon it shall always travel in correspondence with the surface of the cylinder, and the cylinder is made to complete its revolution by other means independent of the motion imparted to it by the bed after the impression is given.

Claim.—Communicating motion to the cylinder at the time of giving the impressions by and through the motion of the bed, while the revolution of the cylinder shall be perfected by or through ordinary gearing, or other means entirely independent of the motion of the bed, thus alternating from one of these means to the other to give a full revolution to the cylinder, in the manner substantially as set forth.

No. 22,010.—MOSES S. BEACH, of Brooklyn, N. Y.—*Improvement in Printing Presses.*—Patent dated November 9, 1858.—The object of this invention is to dispense with the use of tapes in throwing the sheet out from the impression cylinder of a printing press after it has received its impression. The engravings represent its application to an eight-cylinder type-revolving press constructed for printing the sheet on both sides at one operation, in accordance with the improvements patented by this inventor in 1856.

Claim.—Producing intermittent blasts of air by means of the revolving hollow core A, having openings *d d*, and the stationary box B, having openings *e e*, arranged and operating substantially as shown and described.

No. 22,181.—DAVID E. JAMES, of Utica, N. Y.—*Printing Press.*—Patent dated November 30, 1858.—The plan of this press is designed to furnish the means by which one person may, by a continuous operation, place the cards to be printed upon the press, print and remove them; inking the type by the same movement which carries and returns the paper, and the whole work completely and rapidly.

The inventor says: I *claim* the arrangement and combination of the leverage, as described, through which the operations of the press are performed, including the use of the spring S which permits the extension of the lever *q* while the carriage is at rest, as described.

I also claim, in combination with the said arrangement of leverage, the swinging post V and its connexion with the lever O, as described; the whole being arranged and operating substantially in the manner set forth.

No. 22,414.—S. R. COTTON, of Green Bay, Wisconsin.—*Printing Press.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* operating the form-bed J from the pressure-cylinder B by means of the cam, or eccentric *m*, provided with the pins *o*; rack-bar D, provided with the projection *p* and roller *n*; the pinions E G on the shaft F, with or without the pinion H; slide-bar L and springs *s*, and the rack-bar I; the whole being arranged to operate as and for the purposes set forth.

I also claim the toothed sector x^1 which gears into the pinion *y* of roller a^1, and is connected with the rack-bar and the arm *w* of the sector provided with the pin *o*, the rod c^1 attached to the arm d^1, the pawl i^1 attached to the arm d^1, and the ratchet h^1 attached to the roller g^1; the whole being arranged, as shown and described, so that the inking device will be operated automatically from the pressure of the roller.

I further claim having the bearings *b b* of the pressure-cylinder attached to the rods *d d* which are connected by tension-nuts *e e* to straps *f* that encompass the eccentrics *g* of the shaft *h*, for the purpose of readily raising when necessary the cylinder B and regulating its pressure.

No. 21,591.—WILLIAM BULLOCK, of Newark, New Jersey, assignor to GEORGE W. TAYLOR, of said Newark.—*Automatic Paper-Feeder for Printing Presses.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* operating the hands, or their equivalents, which effect the feeding of the sheet of paper in manner substantially as set forth, so that they have a greater capacity for moving the sheet than is necessary for the purpose.

I also claim controlling the operation of the hands, or their equivalents, upon the sheets of paper by mechanism, whose operation is dependent upon the position of the sheet being fed, so that the length of time during which the hands, or their equivalents, are permitted to act upon each sheet of paper does not bear any fixed relation to the movements of the other parts of the printing press.

I also claim intermitting the operation of the hands, or their equivalents, upon the paper while the latter is being drawn into the press by mechanism, acting substantially as set forth.

I also claim effecting the progressive movement of the pile of paper by mechanism whose operation is dependent upon the position of the pile, substantially as set forth.

I also claim the combination of the flap-guides and nozzles, or their equivalents, for stopping the movement of the forward edge of the sheet and for releasing the same in the manner described.

I also claim moving sheets of paper by automatic rubbing-hands, or their equivalents, constructed substantially as set forth.

I also claim operating the stop-cocks of the air-cylinder and the flap-guides by a cam, or its equivalent, whose movement is coincident with or bears a fixed relation to the movement of the fingers which draw the paper into the press.

No. 20,039.—WILLIAM W. CLARKSON, of Baltimore, Md.—*Card Printing Press.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination, by the peculiar arrangement of mechanism specified, of the slide D, which feeds the cards singly from the card-box; the bed-plate B, which supports and carries the impression form; and the inking-roller C, which inks said form, substantially as and for the purposes set forth.

Second. The combination of the vibrating slide D, which feeds the cards singly with the groove-guide F F, which receive and retain the cards below the platen, and directly above the impression form while being printed, substantially as and for the purposes set forth.

Third. The peculiar manner of adapting the card-box F^1 for cards of different widths, lengths, and thicknesses, to wit: by having its side front and back boards or strips adjustable laterally, perpendicularly, and longitudinally, by means of slots and set-screws, substantially as and for the purposes set forth.

No. 22,011.—MOSES S. BEACH, of Brooklyn, N. Y.—*Improvement in Feeding out Paper from Printing Presses.*—Patent dated November 9, 1858.—The object of this invention is to conduct sheets of paper from more than one impression cylinder or source of supply into a single set of guide-tapes, and also to count them in desired quantities.

The inventor says: I *claim*, first, the stationary guides M S, and the arrangement of the rollers E R G, or their equivalents, by which sheets coming from different directions are conducted into a single set of guide-tapes or strings, in the manner substantially as shown and described.

Second. Counting sheets into desired quantities by a counting-table, consisting of an endless belt having an intermittent motion, arranged and operating substantially as shown and described.

No. 20,556.—CHARLES A. HASKINS, of New York, N. Y.—*Improvement in Hand Printing Presses.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The application of the ink reservoir G with the plunger or gate F of gutta-percha, or its equivalent, for letting down the ink, in combination with the spring bed plate J and the inking roller E, which is accommodated to the face of the type in the process of inking by means of slots in the arm N and spiral springs attached to the same, substantially as described.

No. 21,980.—JAMES N. PHELPS, of New York, N. Y.—*Improved Hand Printing Presses.*—Patent dated November 2, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I *claim*, first, the combination and arrangement of the radial pins T, on the transverse shaft and shoulder cams *s*, on the sides of the lever N, oscillating arms J, spiral springs U, for moving the same automatically, and spiral springs M, for pressing the inking roller in contact with the printing rollers Q R, when receiving the ink from the same, and in contact with the face of the type in the form secured to the under part of the platen G, substantially in the manner and for the purpose described.

Second. I claim arranging the inking rollers Q R in the relation to each other and to the inking roller K, at the lower end of the bars or arms J, and the lower surface of the platen G, when raised as described, and in combination therewith.

Third. I claim the segmental shield or plate P, so arranged in relation to them and the corresponding segmental formed arm or support C, as to thoroughly protect the sheets of paper being imprinted from contact with the said inking rollers, and enable its edges to be moved upward in the space between the shield or plate P and arm or support C, substantially in the manner as described.

No. 21,859.—LEMUEL T. WELLS, of Cincinnati, Ohio.—*Paper Feeder for Printing Presses.*—Patent dated October 19, 1858.—This invention consists in mounting the nippers on a frame having a limited motion concentric with, but independent of, the cylinder 1, the object being to insure a more perfect feed by causing the nippers to seize the paper while in a quiescent state, or moving in an opposite direction to the cylinder.

Claim.—In the described connexion with the cylinder of a printing press, the vibrating frame A, bearing the nippers 10 and opposing bar A^1, and operated substantially in the manner and for the purpose set forth.

No. 20,179.—L. T. WELLS, of Cincinnati, Ohio.—*Improvement in Tympans for Printing Presses.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Attaching the cloth or parchment B to the frame A of the tympan by means of the leather strips *c* provided with eyelets *d*, said strips *c* being fitted in grooves or rebates in the frame, and the cloth or parchment attached to the strip of the lace C, substantially as described.

No. 19,881.—BENJAMIN B. STANTON, of New York, N. Y.—*Hand Printing Stamp.*—Patent dated April 6, 1858.—The nature of this invention consists in the arrangement and operation of the printing die, it being so constructed as to move readily from the ink pad to the printing pad, which are both placed in line upon a base of cast iron, or any other suitable material, and the printing die moving from one to the other in a straight line. To accomplish this movement, the stamping rod, to which the die is attached, passes freely through a spool having a square form, which slides freely backward and forward between two guides, and upon a plane bed arranged for that purpose upon a stationary arm over the inking and printing pads.

The inventor says: I am aware that hand stamps for printing have long been made with a movable die, for the purpose of first being brought in contact with the inking pad, and then with the printing pad. I do not claim such movable die.

But I do *claim* moving the die from the inking pad to the printing pad and backwards by means of the spool A A through which the

stamping rod passes, operating in a straight line between parallel guides arranged for that purpose upon a stationary arm over the inking and printing pads.

I also claim, in combination with the sliding spool A A, the catch F, when arranged and operated in the manner and for the purpose specified.

No. 22,358.—Samuel Friend and George Seiler, of New York, N. Y.—*Extension Finger Ring.*—Patent dated December 21, 1858.—The nature of this invention consists in the use of a divided spring ring with the ends connected together by folding bars, which both form an ornamental connexion, or carry ornaments of stones or other setting, and attach the ends of said spring ring to each other.

Claim.—The combination of the spring ring and folding bars, substantially as and for the purposes specified.

No. 20,273.—James Harrison, of Albany, N. Y.—*Improvement in Signs* —Patent dated May 18, 1858.—The claim and engraving will explain the nature of this invention.

Claim.—The construction of block letters, figures, and other devices, with an interstitial surface of carved ornamental work, with which a colored or illuminated back ground may be employed for rendering signs clearly perceptible at a great distance when viewed obliquely, substantially as set forth.

No. 19,970.—John T. Wellman, of Lowell, Mass., assignor to Charles O. Thompson, of said Lowell.—*Improvement in Signs, Door-Plates, &c* —Patent dated April 13, 1858.—The nature of this improvement in door-plates and signs consists in covering the leather, cloth, or paper, or other material which is to form the foundation of a sign, with a coat of Japan varnish, and drying them in a high heat and rubbing the glass off with rotten stone or similar powder; then pressing the gold, silver, or other kind of leaf on the varnished surface with heated types, rollers, or other tools; then laying the material with the varnished or gilded surface on the glass which is to form the covering for it, and heating the glass and the varnished surface, and then applying pressure at the same time until the varnished surface adheres to the glass, making a water-proof plate adapted to in-door and outdoor service.

Claim.—The new manufacture of door-plate or sign described, to wit, a transparent plate having a backing containing the name or device affixed to said backing, and the backing affixed to the plate, as described.

No. 21,798.—Samuel L. Hill, of New York, N. Y., assignor to *Spelling Block.*—Patent dated October 12, 1858.—The nature of this invention consists in preparing a series of wooden blocks of any required number, each block having placed upon it certain letters of the alphabet, for the purpose of spelling. The object of this invention is to place in the hands of children a useful and instructive recreation.

Albert Palmer, Himself, and A. Sidney Doane, of said New York.—

The inventor says: I *claim* the arrangement of letters on any number of six-sided blocks, in the manner described and for the purpose specified.

Second. I claim giving to and placing upon each block its proper numerical figure, for the purpose specified.

No. 20,922.—William Morse and John Hughes, of Boston, Massachusetts, assignor to George H. Devereux, A. F. Devereux, O. W. Barrett, and E. E. Barrett, of Salem, Massachusetts.—*Improvement in Hand Stamps.*—Patent dated July 13, 1858.---The nature of this invention consists in combining with the bed and stamp, or printing mechanism, a "letter cast-off," or device or mechanism for discharging a letter, or its equivalent, from over the bed after such letter may have been stamped.

The inventors say: We *claim* combining with the stamping mechanism a cast-off mechanism for discharging the letter or article to be stamped from the bed or the cast-off over the same.

We also claim combining the pad or cushion *h* with, or arranging it directly upon, the cast-off or plate K thereof, substantially as specified.

We also claim the combination for operating the cast-off, the same consisting of the arm *r*, the tripper n^1, the arm, the shaft L, and the spring *k*, the same being arranged and made to act together essentially as specified.

No. 20,217.—S. E. Pettee, of Mansfield, Massachusetts, and Elias G. Cobb, of Foxborough, Massachusetts.—*Improvement in Self-Inking Hand Stamps* ---Patent dated May 11, 1858.---The nature of this invention will be understood by reference to the claim and engravings.

Claim.---The hand stamp, the roller Q or its equivalent on the lever H, working against the curve R or its equivalent on the lever N, to operate said lever and carry the inking roller on, across, and off of the type parallel or nearly parallel with the face of the type, so as to ink them uniformly and evenly to make a fair impression.

No. 22,272.---Robert A. Adams, of St. Louis, Missouri.---*Improvement in Stencil.*---Patent dated December 14, 1858.---The body of the stencil is of paper, or its equivalent, which is first soaked in shellac and oil, the proportions of which must be regulated by the amount of stiffening required in the stencil. After the stencil blank has been thus soaked in shellac and oil the back of it is coated with glue, to which a coating of sand or emery is applied, after which it is allowed to dry, which complets the stencil blank.

Claim.---The preparation of the "stencil" blank in the manner described, to wit: in oil, shellac, and glue, applied as set forth; and I also claim the application of the sand or emery to the back of the "stencil," in the manner described, for the purpose specified.

No. 19,943.---Joseph H. Merriam, of Boston, Massachusetts.---*Stencil Pallet.*—Patent dated April 13, 1858.---*a a* exhibits a flat, flexible, or elastic plate, made of tinned iron or other suitable mate-

rial, and forming the top of a narrow reservoir *b* which, if desirable, may be provided with a handle *c*. Such reservoir should have a filling hole or mouth *d*, furnished with a stopple *e*, which may screw into it or be otherwise applied so as to fit closely and be air-tight.

Claim.—As a new manufacture, a stencil maker's pallet or pot, constructed substantially as described.

No. 20,081.—JOHN MCELHERAN, of Brooklyn, New York.—*Method of Preparing Stereotype Plates.*—Patent dated April 27, 1858.—The nature of this invention consists in using letter dies for the purpose of impressing them into the surface of a plate, the plate, or material with which the plate is covered, being softer than the material of which the dies are made; the arrangement being such that the letters will all be sunk to a uniform depth, in order that a cast or electrotype may be taken of said plate, for the purpose of printing the former on a letter press.

Claim.—The method described of producing a plate of fixed metallic types for printing from, by stamping letter dies in succession to each other into a plate made of or coated with such a substance as will readily take and preserve their impressions, and allow a stereotype or electrotype to be made thereof, either directly or by means of an intermediate plaster cast, whereby the ordinary process of setting and distributing the type is dispensed with, and but one set of types is used, substantially as set forth.

No. 21,341.—IRA A. IVES, of New York, N. Y.—*Lock-Joint Fastener for Studs, &c.*—Patent dated August 31, 1858.—The object of this invention is so to arrange and connect a pin, either with a shirt button, stud, or breastpin, or any like article, that when once secured to the clothes it shall not become unfastened, either by pulling or by accident. And this invention consists in connecting the pin to any article, such as a shirt stud, &c., by means of a spring joint in combination with a recess so arranged and situated that the pin when drawn in by the tension of the spring shall have its point below the projections forming the said recess, and thereby prevent the pin from being drawn out of the clothes.

The inventor says: I do not wish to be understood as limiting any claim of invention to the two special modes of application described, as, no doubt, other modes of applying the principle of my invention may be devised.

What I *claim* is the spring-hinged pin, in combination with the recess, substantially as described, and for the purpose specified.

No. 19,645.—JOHN MCELHERAN, of Brooklyn, N. Y—*Improvement in Picturetypes.*—Patent dated March 16, 1858.—A smooth and level plate of glass is covered with a thin layer of beeswax. The original drawing is then placed under the glass, and its lines, seen through the glass and wax, are to be followed and engraved through the wax by means of engraver's tools. A plaster cast is next taken, which when dry is to be varnished with cement. Fine silex powder-ground

glass, sand, or the like, is then thickly put on the varnished parts; when dry and hard the loose grains are to be brushed off.

Claim.—The mode described of preparing the picturetypes to be printed from granulated surfaces, producing various shades and effects, for the purposes specified.

No. 22,423.—HENRY HARGER, of Delhi, Iowa.—*Mechanical Typographer.*—Patent dated December 28, 1858.—This invention consists in an improved arrangement of means for actuating type, feeding thereto the article or substance to receive the impressions, and also for keeping the parts properly adjusted relatively with each other, so that the desired work, viz: printing direct from the type, may be performed with great facility.

The inventor says: I *claim*, first, the employment or use of the bed piece B, frames D and C, and type frame formed of the plates E E, arranged substantially as and for the purposes set forth.

Second. The particular means employed for feeding the frame C, and paper or wax to the type, to wit: the bent lever G connected with the hand lever F, the ratchet H, and cords or chains *o* attached to the frame C.

Third. Regulating the feed movement of the frame C, by having the types *h* made of varying heights or lengths, so as to give corresponding lengths of vibration to the lever F, substantially as described.

XIX.—FIRE-ARMS.

No. 21,219.—RUFUS SIBLEY, of Greenville, Conn.—*Improvement in Bomb Lance.*—Patent dated August 17, 1858.—This invention consists, first, in making the shank or guiding part of the projectile in skeleton, and this whether the connexions be made by solid bars or tubes. Secondly, the confining of the fuse in the fuse tube, by compressing the end of the fuse tube after the fuse is inserted; and thirdly, the construction of the guiding wings and their location, so as to be closed upon the skeleton shank.

The inventor says: I *claim*, first, uniting the front and base of the bomb or projectile by tubes or bars in skeleton, substantially as set forth.

I also claim confining the fuse in the fuse tube, by drawing down the end of the tube upon the fuse after it is placed therein, for the purpose set forth.

I also claim, in combination with the skeleton shank or connexion, the wings $g\ g^1$, whether used in pairs or single, but so that they may be pressed down into and singly fit the spaces between the skeleton ribs, tubes, or bars, and be thrown out when the bomb is projected, as set forth.

No. 22,054.—A. F. Andrews and J. H. Andrews, of Avon, Conn.—*Improvement in Bomb Lance.*—Patent dated November 16, 1858.—A is a cylindrical tube of cast metal, and having a conical or pointed front end *a*. B is a plug which is screwed into the back end of the tube A, and has a recess *b* formed in it. The plug B may be partially or wholly formed of soft metal, such as lead or Babbit's metal, and an annular groove b^1 is made in its back end. In the tube A two grooves are made circumferentially, in which soft metal bands *d* are placed, the bands *d* projecting somewhat beyond the periphery of the tube, as shown in the engraving.

Claim.—The employment of the independent movable fuse tube D, arranged within a bomb lance, substantially as shown and described, so that the fuse will be ignited by the motion of the missile.

No. 21,463.—Calvin Young, of Auburn, N. Y.—*Improvement in Bullet Machine.*—Patent dated September 7, 1858.—This invention relates to the mode of constructing machines for the manufacture of bullets from cold lead by pressure, in respect to which a caveat was filed by said Calvin Young in the month of April, 1857.

The claim and engravings give an idea of the nature of this invention.

The inventor says: I *claim*, first, the application of elastic rolls, for the purpose of feeding lead wire into the machine, substantially as described.

Second. The application of the arrangement or device for gauging, cutting, and depositing the lead into the dies by the same instrument, and the manner of constructing and operating this portion of the machine, substantially as described.

Third. The application of the arrangement or device of lateral punches for removing the bullet from the dies, substantially as described.

The above is a full description of improvements in the mode of constructing machines for the manufacture of bullets from cold lead by pressure, in respect to which a caveat was filed by said Calvin Young in the month of April, 1857, in the secret archives of the Patent Office.

No. 21,505.—John Aris Knight, of St. Louis, Mo.—*Improvement in Bullet Machine.*—Patent dated September 14, 1858.—This machine is composed of one or more stationary and one or more swinging mould bars arranged in pairs, and containing the halves of a number of moulds combined with a sliding pouring trough or plate, which constitutes at the same time a series of cutters, and with proper mechanism for operating the said swinging bar or bars and pouring trough or plate.

The inventor says: I do not claim the combination of the stationary and swinging mould bars.

But I *claim*, first, arranging the movable mould bars, so that in opening the moulds they move not only away from the stationary mould bar, but to some extent in a direction transverse to the said stationary bars, as set forth and illustrated in fig. 1, to produce the dragging

action described, for the purpose of loosening the bullets from both parts of the moulds.

Second. Arranging the said swinging mould bars between centre screws I I, applied in such manner as to provide for their adjustment longitudinally, to obtain a perfect registration of the two halves of the several moulds.

No. 22,286.—Richard Gornall, of Baltimore, Md.—*Improvement in Machine for Making Hollow Bullets.*—Patent dated December 14, 1858.—The claim and engraving explain the nature of this invention.

The inventor says: I do not confine myself to the use of a single core, as a series of cores may be arranged on a revolving or reciprocating plate operated to carry them alternately, first into positions to combine with the dies, and afterwards into proper positions relatively to a cutter or cutters to turn the bullets; nor do I confine myself to the use of a core of any particular form, nor to the manufacture of any particular form of bullet, nor to the use of any particular contrivances for giving motion to the several parts of the machine.

But I *claim*, first, the employment, in combination with a punch and a set of dies, or their equivalent, for pressing blanks or pieces of lead into a form approximating more or less to the desired form for hollow bullets of a revolving core, serving, firstly, to produce the cavities in the bullets, and, secondly, as a mandrel to revolve them, for the purpose of finishing their exteriors by turning them substantially as specified.

Second. The employment, in combination with the revolving core, of a turning cutter operating automically, substantially as specified.

Third. The employment, in combination with the revolving core and turning cutter, of a female centre, operating substantially as described, for the purpose of securing the bullets on the core during the turning operation, and liberating them after such operation.

No. 20,608.—James H. Murrill, of Baltimore, Md., assignor to Himself, James Flynn, and Peter Emrich, of said Baltimore.—*Improvement in Breech-Loading Cannon.*—Patent dated June 15, 1858.—The nature of this improvement consists in the construction of the breech portion of the gun, in which a slot or pocket G is formed for the reception of the charge, combined with devices by which the breech is more perfectly closed than heretofore, so that all escape of gas on firing is prevented, and fouling of the gun is obviated.

The inventor says: I *claim* the employment of the slot G, serving as a pocket for the reception of the charge in a proper position for entering the bore J, when arranged in combination with the packing *a*, operated in the manner and for the purposes as set forth.

I claim the employment of the screw B, in combination with the packing *a*, operating in the manner as described, for the purpose of closing the chamber and ramming the charge at the same operation, substantially as set forth.

No. 22,299.—Edward Marshall, of New York, N. Y.—*Improvement in Breech-Loading Cannon.*—Patent dated December 14, 1858.—

The nature of this invention consists in the arrangement of the chucks, the cams, and the breech-pin with the cannon, the same being constructed for the purpose of making a breech-loading cannon which may be reloaded without waiting for the recoil of the gun.

The inventor says: I *claim*, first, the employment of the adjustable chucks *c c*, constructed, arranged, and operated substantially in the manner and for the purpose set forth.

Second. I claim the recesses E E, made from the outside of the gun into the bore, for the purpose of containing and concealing the chucks *c c*, as is set forth.

Third. I claim the combination of the chucks *c c* with the pin F, constructed substantially in the manner described.

Fourth. I claim the arrangement of the pin F, the collar G, and the screw H, substantially in the manner and for the purpose specified.

Fifth. I claim the employment of projections I, for the purpose of securing and concealing the handles of the cam, as is fully set forth.

No. 22,325.—Edward S. Wright and Theodore P. Gould, of Buffalo, N. Y.—*Improvement in Breech-Loading Cannon.*—Patent dated December 14, 1858.—The nature of this invention relates to making an opening, or mortise, transversely through the breech of a cannon, and in the construction and use of a sliding abutment in combination therewith. Also, in the construction and use of an expansive chamber, which contains the cartridge, and which expands when the cannon is discharged, and fills the bore so perfectly as to prevent "windage," and which also absorbs a greater portion of the heat, and has the effect to keep the cannon cool. And it also consists in the application of a wrought-iron band, shrunk around the breech of a cannon, when the same is combined with an opening, or mortise, and sliding abutment.

The inventors say: We *claim* a mortise made through the breech of a cannon, in combination with the sliding abutment D, for the purposes and substantially as set forth.

Second. We claim the expansive chamber H or its equivalent, in combination with the cannon A and sliding abutment D, for the purposes and substantially as described.

Third. We claim the application of a wrought-iron band shrunk around the breech of a cannon, when the same is combined with a mortise and sliding abutment, as set forth.

No. 22,427.—John W. Hollensbury, of Alexandria, Va.—*Improvement in Breech-Loading Cannon.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* a breech-loading cannon formed in two parts and secured together by means of a frame, substantially as described.

Second. In combination with the two divisions of the cannon, as described, I claim the frame D E F G, fitting closely up against the breech A, and capable of being elevated or depressed; the whole constructed and operated substantially as and for the purpose set forth.

Third. In combination with the two divisions of the gun, I also claim the band or circular wedge W, constructed and operated substantially as described.

No. 20,727.—George W. Morse, of Baton Rouge, La.—*Improvement in Cartridges.*—Patent dated June 29, 1858.—This invention consists in the mode of providing the metallic case with a tige, secured in the interior of the same, and extending towards the rear of the cartridge, so as to serve as a means of exploding the percussion cap, when it is struck by the hammer of the gun. It also consists in the combination and arrangement of the cap with a perforated disk of some elastic material, whereby the contents of the cartridge case are secured against moisture, and the cap protected from accidental explosion.

The inventor says: I *claim* the tige secured in the cartridge case in either of the modes described, and all equivalents thereto for the purpose mentioned.

I also claim the combination and arrangement of the percussion cap and perforated disk as described, and for the purpose mentioned, and any and all equivalents thereto.

No. 20,214.—George W. Morse, of Baton Rouge, La.—*Improved Cartridge Case.*—Patent dated May 11, 1858.—In the engravings A is the tubular case or body of the cartridge open at both ends, and with an annular shoulder *a a* extending around its head, B is an expansible head made of thin metal; it is so constructed as to fit into the rear end of the case A. In the case A is a furcated tige C, which consists of a wire bent and having two of its prongs *b b* soldered to the internal surface of the case A.

Claim.—The improved cartridge case, as constructed with a tige C, an annular shoulder *a*, and an expansible cartridge closer B, arranged within the body A of the cartridge, and made to slide longitudinally therein, and to operate in other respects substantially as above specified.

No. 21,253.—Edwin Gomez and William Mills, of New York, N. Y.—*Improvement in Cartridge for Fire-Arms.*—Patent dated August 24, 1858.—This invention consists in a means for distributing the force of an explosive compound over a sufficient extent of surface to prevent the arm from exploding. It relates also to a means for removing the paper or case of a cartridge from the barrel of the fire-arm.

Claim.—The manner specified of forming cartridges for fire-arms and other purposes, by alternate layers of explosive material and paper or similar substance, for the purposes as specified; also the winding of string or equivalent material attaching the case to the base of the ball, for the purpose of removing said case and any refuse matter from the barrel, as described and shown.

No. 19,327.—Frederick D. Newbury, of Albany, New York, assignor to Richard Varick De Witt, jr., of said Albany.—*Improvement in Fire-Arms.*—Patent dated February 9, 1858.—The nature of

this invention will be understood by examining the claim and illustrations.

Claim.—The main-spring S, arranged, as described, to operate the hammer and trigger simultaneously, where the hammer is cocked by the trigger.

I further claim the ratchet wheel, lever, and pin in combination, arranged as described, so as to revolve the cylinder, and to hold it firmly in the act of firing.

I further claim the combination of the main spring, trigger, ratchet wheel, lever, and pin, for the purpose of cocking the piece, revolving the cylinder, holding it in place, and firing the piece by one movement of the finger upon the trigger, substantially as set forth in the specification.

No. 20,041.—Calvin Cox, of Coxville, North Carolina.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated April 27, 1858.—The nature of this invention consists in the arrangement of a blade or cutter in the rear part of the breech of the fire-arm, for use in combination with a bored sliding cartridge carrier and cartridge magazine. It is designed to render practicable the firing of common paper cartridges.

The inventor says: I do not claim the magazine, neither do I claim a sliding carrier, nor do I claim the combination of both.

But I *claim* the arrangement of a blade or cutter K in the rear part of the breech of the fire-arm, for use in combination with a bored sliding cartridge carrier and cartridge magazine, the whole constructed, arranged, and operating in the manner specified.

No. 20,073.—Thomas Lee, of New York, N. Y.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated April 27, 1858.—The nature of this invention consists in a peculiar arrangement of devices for opening and closing the breech of the fire-arm; also in a manner of delivering pillets or capsules of detonating material as the hammer is discharged for firing the piece.

The inventor says: I *claim*, first, the breech piece *d* on its centre pin 1, in combination with the lever *e*, blocking piece *f*, and cam-shaped end 4, the whole constructed and acting substantially as specified.

Second. I claim the manner described of delivering the detonating pillets, and shutting off fire from the same by the use of the inclined ended rods 8 and 10 and shield *n*, constructed and operating substantially as specified.

No. 20,503.—George W. Morse, of Baton Rouge, Louisiana.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated June 8, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: First. I *claim* the percussion rod in a movable breech-piece, in combination with the sliding bolt E, when so arranged that the lock in the act of firing shall both make fast the breech-piece and fire the charge.

Second. I claim the construction and use of the globular surface on the front end of the movable breech-piece, in combination with the end of the cylindrical cartridge case, for the purpose of more effectually preventing the escape of gas at the joint.

Third. I claim the construction and use of the lever H *o l*, when arranged substantially as described, for the purpose of retracting the carriage case.

No. 20,825.—George H. Soule, of Jersey City, New Jersey.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated July 6, 1858.—The nature of this invention consists in the mode of constructing the breech so as to insert the cartridge, and by means of the lever which acts on the plunger to force it tight on the bore.

The inventor says: I *claim* the peculiar construction and mode of operating the plunger E and securing it to its place while the gun is being discharged. Also the brace C, and the connexion of the breech piece B, and the lever D. Also the cams (*i*) (*i*), as applied to raising the brace, and any similar device by which the same results as are set forth are substantially obtained.

No. 20,776.—Enoch Brooks and George Walker, of Philadelphia, Pennsylvania.—*Improvement in Breech-Loading Fire-Arm.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim the faucet-like construction and manner of applying the movable breech.

But we *claim*, first, the attachment of the hammer to an arm I having a curved back, to which the main-spring *k* is applied, to operate in the manner substantially as described.

Second. The arrangement of the cocking lever J, the sere O, and trigger *r*, as applied in combination with the main-spring R and hammer arm I, substantially as set forth.

Third. Combining the cocking lever J with the breech by means of a slider S, rod *v*, and wrist pin *u*, applied as described, to cock the lock by the movement given to the breech, to permit the loading.

No. 20,954.—James H. Merrill, of Baltimore, Maryland.—*Improvement in Breech-Loading Fire-Arm.*—Patent dated July 20, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Converting what is known as the "Jenks' carbine" from a loose powder and ball loader to a cartridge loader, viz: by plugging up the vertical opening through which that gun was loaded, cutting away in rear of the barrel B, so as to load at the rear end of the bore, and allowing the lever A, toggle, and piston to come far enough back to admit a cartridge to be dropped in behind the bore, and then run up into the chamber, with a groove and pin to guide the toggle and piston, as set forth.

No. 21,523.—E. T. Starr, of New York, N. Y.—*Improvement in Fire-Arms.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Opening and closing the rear end of the barrel, to insert and enclose the charge by a plate *a* turning on an axis below, and in the plane of the rear face of the barrel, substantially as specified, when this is connected and combined with a wedge *h*, or its equivalent, operated by a lever below, substantially as specified, so that in the act of drawing out the wedge to the breech plate *c*, the rear end of the barrel shall be opened to receive a charge, and by the act of lifting or forcing up the wedge, the charge shall be enclosed, and the breech piece secured, while at the same time all the injurious effects of expansion and contraction and of fouling are avoided, as set forth.

No. 21,802.—John P. Schenkl, of Worcester, Massachusetts, assignor to Himself and Edward .A Dana, of Boston, Massachusetts.—*Improvement in Breech-Loading Fire-Arm.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, in combination with the bore or chamber of a fire-arm, or piece of ordnance, a secondary and smaller fire-arm or barrel arranged within it, substantially in manner and to operate as described.

I do not claim a conical tige, as used in the "carabine à tige," and for the purpose of spreading a ball.

But I claim the conical or tapering spreader, or end of the tige, in connexion or combination with the chamber within the tige, and to operate in the manner as specified.

I also claim the improvement of the chambered tige or secondary barrel, as made with a cutting front end, and particularly as made with a serrated end, as specified.

I also claim the arrangement of the touch-hole of the hollow tige in the breech screw thereof, in such manner that when the breech screw is in place in the main barrel, not only shall its touch-hole communicate with that of the main barrel, but the breech screw shall intercept all communication of the touch-hole of the main barrel with the bore or chamber of such main barrel, except through the touch-hole and bore of the secondary barrel.

I also claim the improved combination of tige, that is with the base of the spreader made of greater diameter than the neck or part of the tige which is immediately below it, the same being for the purpose as set forth.

No. 22,094.—John Cleves Symmes, of Watertown Arsenal, Massachusetts.—*Improvement in Breech-Loading Fire-Arms.*—Patent dated November 16, 1858.—The nature of this invention consists in making the surfaces of the breech or barrel, where they lie together, of such shape that the effort of the gas under compression shall be, in general, not to push these two surfaces apart so much as to push the inner against the outer, and thus close together against the passage of gas between them.

Claim.—The elastic flexible lip, substantially as described, however it may be applied to checking the escape of gas from the breech of breech-loading guns.

No. 22,348.—E. Claude, of New York, N. Y.—*Improvement in Breech-Loading Revolving Fire-Arm.*—Patent dated December 21, 1858.—The nature of this invention will be understood by an examination of the claim and engravings.

Claim.—Making the arm U, between the barrel and exterior shaft, the bearing for the cylinder by a shaft on the forward end of the cylinder, passing through and secured to the arm, substantially as described, when the said parts are combined with breech-piece and stock, so that the cylinder is rotated and stopped, and the discharge effected, substantially as set forth.

No. 20,129.—Daniel G. Rollin, of New York, N. Y., assignor to George G. Martin, of Brooklyn, N. Y.—*Improvement in Continuous Priming for Fire-Arms.*—Patent dated April 27, 1858.—The inventor says: I form the compound when properly mixed and in a plastic state into short sticks, an inch or two, more or less, and about the sixteenth of an inch in diameter, the figure being cylindrical, prismatic, or other convenient form, as seen at *a b c*. This priming is used for fire-arms by cutting off a small portion thereof, and exploding at the vent of the arm by any convenient apparatus for the purpose.

Claim.—The continuous priming, formed as set forth, to be combined with and operating in fire-arms by means of an independent cut-off as specified.

No. 19,213.—David W. Smith, of Boston, Mass.—*Improvement in Nipple-Guard of Fire-Arms.*—Patent dated January 26, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not claim applying a cover-guard to the percussion nipple.

Nor do I claim applying the cover-guard directly to the lock so as to turn on a pin or fulcrum projecting therefrom, and operating and throwing up the said guard by a lever separate from it, and actuated or moved by a cam on the lower part of the hammer or cock.

But I *claim* applying the cover-guard to the lock in manner, and operating it by means, substantially as described, that is to say, by joining the cover-guard directly to the lever *e*, and operating the said guard by means of the tongue *k* and the lever, in connexion with the arm *d* or its equivalent, extending from the cock or hammer, substantially as described.

No. 19,387.—Charles C. Terrel, of Shullsburgh, Wisconsin.—*Improvement in Repeating Fire-Arms.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the invention of a double chambered slide, when each chamber is furnished with a solid or permanent breech.

But I *claim*, first, the employment of a double sliding charge-holder C, having openings *b* b^1 right through it, in combination with a breech-screw D arranged opposite the bore of the barrel, so that the said breech-screw makes a complete chamber of either opening *b* or b^1, which is in line with the barrel, and at the same time makes a

tight joint between the chamber and barrel, while the opening is in condition to receive a cartridge through its rear from a magazine in the stock of the gun, and easily detached.

Second. In combination with the use of two magazines, arranged as described, I claim combining the double sliding charge-holder C and the hammer, with the lever E under the stock, by means of the bevel gearing E^1 F, and the eccentric pin *d*, and wrist pin *w*, substantially as described, so that by moving the lever in either direction the charge-holder has imparted to it the necessary movement to receive a new cartridge from one of the magazines, and present another cartridge in line with the barrel, and the hammer is cocked, thus enabling the gun to be fired twice with one movement of the lever back and forth.

Third. Combining the hammer with the breech screw so that the cocking and letting off of the former will draw back and drive up the latter by means of the fork 15, 16, the slide Q with its finger 11, and the spiral groove 12 in the head of the breech-screw, the whole operating substantially as described.

No. 19,553.—Alexes C. Faivre, of Meadville, Pa.—*Improvement in Repeating Fire-Arm.*—Patent dated March 9, 1858.—In fig. 1, A represents the stock of the gun, B is the barrel, and C is the powder magazine. D is a box in the stock that contains the ball, in the bottom of the box is a spiral spring like a watch spring, one end of which is attached to the wood of the gun-stock under the bottom of the box, and the other end is attached to an axle *n*. This axle is made square so that it can be turned with a key similar to a watch key, so as to wind up the spring. On the top of this spring is the box which holds the balls. This box has a spiral partition coiled around in it so as to form a spiral tube, and to connect with the tube E E, through which the balls pass to the ball chamber F.

The inventor says: I *claim*, first, the screw valve or cut-off J, in combination with the lever *i* and cover 4, constructed as described.

Second. I claim the concave 7, with the ball-chamber F and the powder-chamber T, in combination with the lever H and ramrod *z*, constructed as described.

Third. I claim the cylinder 6, constructed as described, with the charge chamber and ball tube in combination with the box D and the concave 7, all constructed as described, or any other construction substantially the same, and which will produce the same results.

No. 21,149.—Franklin B. Prindle, of New Haven, Conn.—*Improvement in Repeating Fire-Arm.*—Patent dated August 10, 1858.—The claim and engravings explain the nature of the invention.

The inventor says: I am aware that many pistols, &c., are cocked by pulling the trigger, and that the charge has been carried to the rear end of the barrel by pulling a separate trigger, and that a tube has been used to contain the charges, and a spring to force them to the rear end of the tube.

And that pistols, &c., have been charged and discharged by the same trigger, as is seen in the patent issued to Lewis Jennings, December 25, 1849; and that two charge tubes have been used under the barrel, as is seen in the application of Frederick Newbury, rejected and withdrawn, February, 1856. I therefore do not claim either of these as such as my invention.

But I do *claim* the use of two charge tubes B C, (one of which to contain the balls, and the other the cartridges,) in combination with the two chargers and ramrod, when constructed, arranged, and made to receive the charge and deposit it in the barrel simply by pulling the trigger, substantially as set forth.

Second. I claim the combination of the hammer G and sectors *n* with the chargers and ramrod (so that I may charge, cock, and fire by simply pulling the trigger L,) when the whole is constructed, arranged, and made to operate substantially as described.

No. 19,739.—Frederick D. Newbury, of Albany, N. Y., assignor to R. V. De Witt, jr., of said Albany.—*Improvement in Revolving Fire-Arm.*—Patent dated March 23, 1858.—The claim and engravings will explain the nature of this invention. A full description would require too much space to be given here.

The inventor says: I *claim* the lever I, formed and fitted as described, for the purpose of cocking the hammer, holding the same when it has been cocked by hand, rotating the cylinder, and holding the cylinder firmly in the act of firing.

I also claim the hammer, with its pin *b*, in combination with lever I, for cocking by hand. The combination of hammer, lever, ratchet wheel, and trigger, arranged substantially as and for the purposes set forth.

No. 19,961.—Rollin White, of Hartford, Conn.—*Improvement in Repeating Fire-Arms.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I do not here intend to claim extending the chambers right through the rear of the rotating cylinder, as that forms part of the subject matter of letters patent of the United States obtained by me, dated April 3, 1855.

But I *claim*, first, the enlargement of the chambers in the rotating cylinder, or in a position thereof in a rearward direction, when such cylinder or portion thereof is detached from the breech and thereby rendered capable, by such enlargement, of being driven forward, substantially as described, into contact with the stationary barrel, for the purpose of preventing windage.

Second. Making the detached breech of the rotating chambered cylinder rotate with the cylinder, substantially as and for the purpose set forth.

Third. Constructing the breech of the revolving cylinder with a recess *i* in its face at the back of each chamber, and a notch *j* in its periphery, meeting the said recess substantially as described, so that the hammer H, swinging in the manner most common to fire-arms, may strike into the chambers and cut or tear, and thereby explode the cartridge.

Fourth. The fitting of the hammer to close that portion of the breech which is left open by the notches *j j*.

No. 20,160.—Benjamin F. Joslyn, of Worcester, Mass.—*Improvement in Revolving Fire-Arm.*—Patent dated May 4, 1858.—The nature of this invention consists in combining and arranging a series of parts in such relation to the hammer shaft as to enable it to operate upon the same in such a manner as to not only revolve the required distance by the act of cocking the hammer, but also secure them firmly while in communication with the stationary barrel; and also in making the ramrod susceptible of being increased or diminished in length, and operating it by a duplex motion.

Claim.—Revolving the cylinder B by means of a slotted spring clutch cylinder D, operated by a lever G, as described.

No. 20,144.—Samuel Colt, of Hartford, Conn.—*Improvement in Revolving Fire-Arm.*—Patent dated May 4, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—In combination with a central pin which is inserted from behind, to admit of readily taking out and replacing the rotating breech, and which is feathered or otherwise fitted to the central bore of the rotating breech so as to turn therewith, and which passes entirely through the central bore of the said rotating breech, and into the framing in front for support, the making of the rear end or head of the said central pins with ratchet teeth, or the equivalent thereof, to be acted upon by the mechanism for turning and holding the rotating breech, all substantially as and for the purpose described.

No. 20,496.—Moses Kinsey, of Newark, N. J.—*Improvement in Revolving Fire-Arm.*—Patent dated June 8, 1858.—The dog G which is attached to the hammer is furnished with an additional tooth K, so arranged relatively to the tooth which rotates the chambered cylinder C, and to the ratchet wheel D of the cylinder, as to act as a stop in combination with one of the teeth of the cylinder, to prevent the latter from being rotated beyond the proper distance, the teeth of the ratchet wheel being properly formed for this purpose.

Claim.—Furnishing the dog G with the additional tooth K, arranged to operate in combination with square or equivalently formed bottom parts of the backs of the teeth of the ratchet wheel D, in the manner and for the purpose described.

No. 20,607.—Francis H. Harrington, of Springfield, Massachusetts, assignor to Horace Smith and Daniel B. Wesson.—*Improvement in Revolving Fire-Arm.*—Patent dated June 15, 1858.—In cocking the pistol the jointed thumb-piece C moves first, and, before raising the hammer, disengages the catch of the stop bolt D and allows the cylinder to revolve, so that as the hammer is drawn back to its position for firing, the cylinder, by the action of the lever F, is carried one step forward in its circle, and another chamber is brought in the line of the barrel.

Claim.—The combination of the stop bolt D and the jointed thumb-piece C of the hammer with the revolving cylinder, substantially in the manner and for the purpose specified.

No. 20,765.—Frederick D. Newbury, of Albany, N. Y., assignor to Richard Varick DeWitt, jr., of said Albany.—*Improvement in Revolving Fire-Arm.*—Patent dated June 29, 1858.—The trigger T is pivoted to the frame at *e* near its top, and has projecting from it forwards a limb *a*, which is fitted to conform to the spaces between the teeth of the wheel *r*. The limb *x* operates the hammer H by means of a pin *b* inserted into its side above its axis, the upper edge of the limb lying under the pin before the trigger is drawn.

The inventor says: I *claim*, first, the trigger T, formed, fitted and operating as described, for the purpose of cocking the hammer, revolving the cylinder, holding the cylinder in the act of firing, and firing the piece.

Second. The combination of hammer, its pin *b*, the trigger, and the ratchet wheel, formed and arranged substantially as and for the purposes set forth in this specification.

No. 21,054.—Edward A. Raymond and Charles Robitaile, of Brooklyn, N. Y., assignors to Themselves, John B. Richards, and Thomas K. Austin, of Brooklyn aforesaid.—*Improvement in Revolving Fire-Arm.*—Patent dated July 27, 1858.—This is an improvement on the invention of C. F. Pettengill, patented July 22, 1856, and relates to a manner of working the main-spring and lever so as to perform all the functions required of them; also, to a manner of causing the end of the lever itself to lock and hold the chambers with the proper one exactly on the line of the barrel, thereby dispensing with the hinged locking-pin of Pettengill.

The inventors say: We do not claim any part of the invention of Pettengill secured by patent.

But we *claim*, first, the manner specified of controlling the motions of the lever *h* and spring *i*, by means of the spring *m*, roller *q*, and incline 10, as and for the purposes described and shown.

Second. We claim locking the chambers *d* by the end of the lever *h*, taking the triangular recesses 8, in the rear of the chambers, as said lever completes its upward movement, for the purpose as specified.

No. 21,215.—Joseph Rider, of Newark, Ohio.—*Improvement in Revolving Fire-Arm.*—Patent dated August 17, 1858.—This invention consists in a certain mode of combining the several parts of the lock whereby a single spring is made to serve, in a very effective manner, the purposes of a main-spring and trigger-spring, and for keeping in its operative position the dog through which the rotation of the cylinder is effected by the cocking of the hammer, and also for operating the stop which locks the cylinder while the hammer is cocked.

The inventor says: I *claim*, first, combining the springs with the hammer, the rotating dog *b*, and the peculiarly constructed notched trigger, by means of the reacher *f*, constructed, applied, and operating substantially as described, to make the single spring serve the purposes of main-spring, dog-spring, and trigger-spring.

Second. The combination of the stop lever *l m* with the notched trigger and the reacher, by which the said stop is brought by the

single spring S into operation on the cylinder as the cocking takes place.

No. 21,188.—W. H. Elliot, of Plattsburgh, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated August 17, 1858.—The object of this invention is to produce a very much more compact, safe, and convenient repeating pocket pistol than has heretofore been made. The claim and engravings show the nature of the invention.

The inventor says: I *claim*, first, extending the frame of the breech forward of the supporting point of the cutter pin, and placing in the part so extended the cock *c* and trigger *d*, when these devices are arranged in relation to the several revolving barrels as specified.

Second. The arrangement of lever *o* and trigger *d*, in advance of dog *p* and ratchet *y*, by which the barrels are revolved, as and for the purpose specified.

Third. The method of operating the cock *c* by means of fly *g*, the same being hinged at or near the centre of motion of the cock, and moving independently of the cock in one direction but not in the other, as and for the purpose specified.

Fourth. The employment of wings a^1, when so constructed as to serve the double purpose of bracing the support of the centre pin, and of protecting the hands from injury by the discharge of gases and pieces of caps from the nipples, and being a portion of the frame of the breech, as set forth.

No. 21,400.—Ethan Allen, of Worcester, Mass.—*Improvement in Revolving Fire-Arm.*—Patent dated September 7, 1858.—That part of the pin C that projects in front of the cylinder A is formed of such a shape as to present a projecting angle O toward the junction of the barrel B and cylinder, so that the gas or smoke that is directed down against the pin will be divided by the angle O and deflected off laterally instead of back and front, and thus be prevented from being forced into the hole around the pin C.

The inventor says: I do not mean to be understood as confining myself to any particular angle on that part of the pin, or to the precise form of the guards given.

But, first, I *claim* constructing that part of the pin C that projects in front of the cylinder so as to produce a projecting angle towards the junction of the barrel and chamber that is being discharged, for the purpose set forth.

Second. I claim the guards D and E when constructed and operating as described.

No. 21,478.—Fordyce Beals, of New Haven, Conn.—*Improvement in Revolving Fire-Arm.*—Patent dated September 14, 1858.—This invention consists in so constructing, applying, and arranging the centre pin on which the cylinder rotates and the lever which operates the rammer, that the said pin is secured in place by a shoulder provided for the purpose on said lever, when said lever is brought to a position close under the barrel, and that said pin can be withdrawn to allow the cylinder to be taken out when the lever is moved down

to a position far enough from the barrel to let the rammer interfere with the cylinder.

Claim.—Constructing, applying, and arranging the centre pin F and the rammer lever H substantially as described, so that the former is locked in place by the latter, when the latter is close to the barrel, and that the former is permitted to be withdrawn by bringing the latter to a position in which the rammer will not interfere with the cylinder.

No. 21,623.—William Palmer, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated September 28, 1858.—The claim and engravings explain the nature of this invention,

Claim.—The combination of the trigger *g*, hammer *e*, sere or hair trigger *k*, and slotted plate *h*, or its equivalent, substantially as specified, whereby the hammer is cocked by the pull of the trigger *g*, and then disconnected therefrom, so that the strain is transferred from the trigger *g* to the hair trigger *k*, and then the latter is disconnected by the further pull of the trigger *g*, as set forth.

No. 21,730.—Thomas K. Austin, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated October 12, 1858.—The nature of this invention consists, first, in a manner of applying the main-spring on or as a part of the trigger. Second, in an arrangement of sliding centre pin, latch, and toggle joint, whereby the chambers are successively pressed to and withdrawn from the rear end of the barrel. Third, in the arrangement of a double-acting return spring to cock the hammer and restore the parts to their previous position.

The inventor says: I *claim*, first, the main-spring J attached to or formed on the trigger A, substantially as specified, whereby the pull on said trigger strains the main-spring, as set forth.

Second. I claim the sliding centre pin I, shield H, pin H^1, and toggle joints G G^1, when combined with the latch o^1 for disconnecting the pin I, as described and shown.

Third. I claim the double acting spring N, fitted and acting as specified, to return the sere L, and trigger A, and parts attached, to their quiescent position, as set forth.

No. 22,005.—Ethan Allen, of Worcester, Mass.—*Improvement in Revolving Fire-Arms.*—Patent dated November 9, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, forming the stud or pin to support the tumbler and hammer solid with the case or frame, when the hammer is placed outside the case and constructed and operating substantially as described.

Second. The cam surfaces of the tumbler and piece L or their equivalents, to rotate the cylinder by means of the piece M, substantially in the manner and for the purposes set forth.

No. 22,412.—John W. Cochran, of New York, N. Y.—*Improvement in Revolving Fire-Arm.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the hinged or jointed thumb-piece of the hammer or cock, constructed and arranged and having the functions substantially as set forth.

Second. I claim the worm-wheels upon the cylinder shaft and the tumbler shaft or hammer shaft, combined and operated as and for the purposes described.

Third. I claim the means, substantially as set forth, for allowing the cylinder to be rotated within its frame independent of the shaft of the hammer or tumbler, and also allowing of the detaching of the cylinder and its shaft from the frame and from the means for rotation.

No. 19,868.—HENRY S. NORTH, of Middletown, Connecticut.—*Improvement in Removable Rammer of Revolving Fire-Arms.*—Patent dated April 6, 1858.—This invention relates to that description of revolver whose chambered cylinder rotates on an axis parallel with the bore of the barrel. It consists in a new method of applying a rammer to ram the charges into the chamber of the cylinder.

Claim.—Having the rack *d* and passage or chamber *b* made in the head of the base pin B, substantially as described, thus rendering the rammer independent of every other part, and facilitating its removal and construction as set forth.

No. 19,328.—JOHN F. THOMAS, of Ilion, New York, assignor to Himself and SAMUEL REMINGTON, of said Ilion.—*Improvement in Cane Gun.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, connecting the case A and barrel B by means of the hammer and its rod F, and the trigger-block and trigger, as set forth.

I also claim, in combination with the case and barrel, the catch-spring *e*, for holding the case and hammer when the arm is cocked, as set forth.

I also claim the continuous grooves or shoulder around the end of the rod F, so that the said rod may turn in its bearings without preventing the sere from catching it, whenever drawn back past it, as described.

I also claim the combination of the trigger-block G, trigger I, with its sere 3, and springs 4, and the hammer and its rod, substantially in the manner and for the purpose set forth.

No. 20,597.—GERSHOM J. VAN BRUNT, of Dedham, Massachusetts.—*Improvement in Gun Carriage.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim a friction apparatus and a tapering bed or tongue applied to a gun-carriage, so as to arrest the rearward motion of the gun and carriage after a discharge of the piece, although I believe myself to have been the original and first inventor of the same.

But I *claim* the application of friction apparatus, substantially as described, to the gun-carriage and tongue in such manner that, when the carriage is being retracted or under recoil, it shall be elevated in a manner to raise its wheels off the deck or floor under it, and cause the whole weight of the gun and carriage, or that of the latter, to be borne by the tongue or friction apparatus, and in a manner to increase the friction and pressure of the friction bearers or the tongue on their supporting surface, substantially as described.

I also claim the arrangement of the shaft E, the friction bearers C C, and their eccentrics D D and straps E^1 E^1, or equivalents, with reference to the gun-carriage A and the tongue B thereof.

I also claim the combination of the tripper H with the tongue and friction apparatus, the same being for the purpose and to operate as specified.

I also claim the combination of the adjustable spring-stop K with the gun-carriage A and the lever F of the friction apparatus.

No. 22,377.—DAVID D. PORTER, of United States Navy.—*Improvement in Quoins for Gun Carriages.*—Patent dated December 21, 1858.—The mechanism consisting of the wedge F and bed E, and termed a quoin and bed, is to be used on a gun carriage, and for supporting the breech of a cannon and imparting to it such an elevation as circumstances may require.

The inventor says: I *claim* the combination and arrangement of the degree rack or racks, the axle thereof, the T-bolt, and its groove, with the bed and wedge, substantially as and for the purpose as described.

I do not claim the mere use of raised projections for indicating numbers by the touch of the figures, as I am aware that such is not new.

But I claim the combination and arrangement of the tangible scale and axle with the degree rack and the wedge, so that by the application of the finger to both scale and axle at one and the same time, and during the night or otherwise, the proper position of the wedge may be determined for any desirable elevation of the gun.

No. 21,109.—C. B. THAYER, of Boston, Mass., assignor to Himself and CHARLES ROBINSON, of Cambridgeport, Mass.—*Improvement in Centrifugal Gun.*—Patent dated August 3, 1858.—The principal parts of this new machine for throwing projectiles by centrifugal force are a strong ring or short cylinder A mounted on a suitable base B, and a revolving thrower *c* mounted on a shaft G, by the rapid revolutions and consequently swift motions of which the required velocity is imparted to the projectiles.

The inventor says: I *claim* the spiral groove *d*, arranged substantially as specified.

In combination with the spiral groove *d*, I also claim the space *g* and heel *h* at the extremity of each arm or aperture of the thrower, arranged and operating substantially in the manner and for the purpose set forth.

No. 20,757.—ELIAS BREY, of Pennsburgh, Pa., assignor to Himself and J. S. SWARTLEY, of said Pennsburgh.—*Improvement in Double-Acting Gun Lock.*—Patent dated June 29, 1858.—The hammer H is attached to the head of the tumbler T by a pin *a*, about which it is capable of moving. The amplitude of this movement is such that the

hammer head shall, in each of its extreme positions, be over the vent tubes of the barrels. This is determined by the length of a pin C passing through tongue *b* of the hammer, and piece C connecting the hammer with main-spring S.

Claim.—The swivel hammer H in combination with the centre swell pin C, or its equivalent, constructed, arranged, and operating substantially as and for the purpose set forth.

No. 19,121.—Henry Barnes, of Wilson, N. C.—*Improvement in Lock of Double-Barreled Guns.*—Patent dated January 19, 1858.—The nature of this invention consists in placing upon the ordinary trigger-plate of a gun lock but one trigger on a double-barrelled gun, which, when pulled, will fire one or both barrels as may be desired.

Claim.—The placing a projection upon the trigger-plate, a corresponding one on the trigger, and fly-lever with a projection of a similar kind, and a concave groove, substantially arranged so as to form a permanent hinge, for the uses and purposes set forth in the specification.

No. 19,068.—William Burghart, of Lawrence, Mass.—*Improvement in Needle Guns.*—Patent dated January 12, 1858.—The nature of this invention is described by the claim and engravings.

The inventor says: I am aware that darting needles with coiled springs, casings, and carriers have been used before for the purpose of loading and firing of guns.

I am also aware that breech-loading guns have been constructed, in which the drawing back and the elevating of the chambers is effected by means of lever and cam attachment. I therefore do not claim either of these devices as my invention.

Neither do I claim the operation of the spring E on the chamber, nor the construction of the principal casing, nor the construction of the darting needle.

But I *claim*, first, elevating the chamber, drawing back the darting needle, and pressing back the coiled spring simultaneously by one and the same movement of the lever, as described.

Second. The chain *g* with its pin N, and also their combination with the cam, pivot, and carrier, as described.

Third. Connecting the tubular casing P with the chamber D, as described.

Fourth. The peculiar construction of the carrier in combination with the chain, the trigger, and the coiled spring casing, as described.

No. 19,086.—Albert Gernunder, of Springfield, Mass.—*Improvement in Spring Guns.*—Patent dated January 12, 1858.—This invention consists in attaching to the muzzle of a gun or pistol barrel a cylindrical cap fitting upon the barrel like the ring of a bayonet. To the outer extremity of this cylinder a strong spiral wire is attached in the manner indicated at *a*, the end being sharpened to a point, so that it may penetrate and be screwed into the meat or other bait by which the game is to be attracted. The barrel is furnished with a cone, on which the percussion cap is placed.

Claim.—First. The cylindrical cap, with its spiral wire for attaching the bait, and with its parts and adjustments substantially as described and shown.

Second. The use of the cylindrical cap, in combination with the other parts of the gun, for the purpose of sustaining the bait, and of discharging the gun by means of the discharging rod and lever, substantially as described and as shown.

No. 19,674.—Robert R. Beckwith, of New York, N. Y.—*Improvement in Walking-Stick Gun.*—Patent dated March 23, 1858.—To charge the barrel, the tube D is drawn off, and the charge and ball inserted at the muzzle of the barrel, after which the tube D is replaced. The sleeve H is slid forward to uncover the opening *e* in the tube A, and the cap is introduced through the opening, after which the sleeve is drawn back. The sleeve F is drawn back by hand till the hole *j* arrives over the catch pin *g*, which is forced by the spring *i* through the hole *j*, and thus cocks the hammer and keeps it cocked till the pin is withdrawn.

Claim.—The combination of the hammer E, pin C, sleeve F, and the locking lever I, as and for the purposes set forth.

No. 21,773.—Lorenzo B. Olmstead, of Binghamton, New York.—*Improvement in Compound Shell for Ordnance.*—Patent dated October 12, 1858.—This invention consists in the employment of a shell composed of an inner cast-iron bursting shell, which serves also as a nucleus or core upon which is constructed a second shell or outer coating in sections.

These sections form, also, a series of independent chambers to be charged with explosive material and projectiles.

Claim.—Surrounding an explosive shell with a number of chambered segments, each charged with cartridges or other projectiles, and discharged by fuses properly connected with the inner exploding shell, the whole forming a second or outer spherical shell arranged in the manner set forth.

No. 20,229.—Grey Utley, of Louisburg, North Carolina.—*Improvement in Repeating Ordnance.*—Patent dated May 11, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The shaft S, with cams D and *f*, as described, in combination with the reciprocating hammer *h*, the laterally moving toothed wheel *m*, and the detent g^1, said parts being connected and operating with a many chambered breech piece having a rectilinear movement, substantially as and for the purposes before set forth.

No. 19,342.—J. H. Breckenridge, of Meriden, Connecticut.—*Improvement in Powder Flasks.*—Patent dated February 16, 1858.—The cut-off A in the engravings is composed of metal, and contains a chamber B large enough to hold the charge of powder; the chamber is divided into three divisions by means of the partitions *e e*; this chambered cut-off slides between two plates D and E; D separates

it from the flask F; and E has secured to it a tube G, through which the powder is poured into the fire-arm.

Claim.—The combination of a chambered cut-off, constructed and operating substantially as set forth, with a reeceptacl or flask and a delivery tube; the whole constituting an apparatus for charging fire-arms.

No. 20,315.—Charles W. Alexander, of Moorefield, Vermont.—*Improvement in Breech-Loading Rifle.*—Patent dated May 25, 1858.—The nature of this invention consists in providing a rifled cylinder E containing load and cap, and which is forced laterally to a point corresponding exactly with the rifled bore of the barrel, by being introduced at the front of a revolving chamber D, in which chamber it is kept from turning by means of the point of a screw fitting exactly into a notch in the hinder end of the cylinder E, and to which revolving chamber is attached a lever or handle by which it is forced to revolve, and is kept in its place by means of a spring H.

Claim.—The replaceable rifled cylinder, with its dovetail for cap, and notch for holding it in its place, in combination with the revolving chamber that bears it and holds it to its place.

No. 21,924.—Lucius Gibbs, of New York, N. Y., assignor to The Gibbs Arms Company, of said New York.—*Improvement in Patching Balls for Breech-Loading Rifles.*—Patent dated October 26, 1858.—This invention has for its object the employment of a patch for the "picket" or conical ball, now generally preferred, whereby a patched ball may be used with breech-loading arms to as much advantage as is realized by the ordinary mode of patching for muzzle-loading guns, and it consists in a method of so constructing the patch and the ball, and affixing the said patch upon the ball, that the patch will not cover any portion of the ball, except that part which would otherwise be in contact with the bore.

Claim.—The method of patching a rifle ball, substantially as is set forth.

No. 19,505.—William H. Hubbell, of Philadelphia, Pa.—*Improvement in Eccentric Explosive Shells.*—Patent dated March 2, 1858.—The nature of this invention consists in the manner of arranging the metal of the shell so as to obtain the combined results of reinforcing the maximum point of resistance to the action of the cartridge, making the shell light and very strong, maintaining in proportion to the strength and weight the largest amount of powder space, diminishing the weight of the shell in proportion to its strength, diminishing thereby the strain on the gun in discharging the shell, and causing it to fly with a higher velocity than a heavier shell of the same strength, describe a less curvature in its flight, and be therefore more liable to strike and not overshoot an enemy's vessel in an action.

Claim.—The combination of the flat-based segment or bridge piece behind, the flat-based reinforce around the fuze-hole, and the thinner sides or walls of the shell, with the external surface of the shell smooth and spherical, as described.

No. 20,250.—Alfred Booth, of New York, N. Y.—*Improvement in Making Shot.*—Patent dated May 18, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Filling a chamber with spray and dropping melted lead through it to facilitate the cooling of the shot, constructed and arranged substantially as set forth.

XX.—SURGICAL INSTRUMENTS.

No. 22,293.—N. Jensen, of Washington, District of Columbia.—*Improvement in Bandages.*—Patent dated December 14, 1858.—This invention consists of a steel wire spring *a*, a bag *b* which contains raw cotton or a sponge *y*, and a waistband c, to which are attached three elastic straps *d e f*, whose other ends are fastened to the steel spring *a*. The bag *b* is fitted to a second wire spring *g*, which is hinged to the wire spring *a* at *x x*, and has at its rear end a little hook *h*, which latter, when placed over the rear portion of spring *a*, will keep the two springs in close contact, and thus hold the bag up the same as if it were fitted to the main spring *a*.

Claim.—Forming instruments of two wire springs *a* and *g*, the spring *g*, which supports the bag, being hinged and hooked to the other spring *a*, for the purposes as set forth.

No. 22,298.—Joseph Mansfield, of Jefferson, Wisconsin.—*Improvement in Shower Baths.*—Patent dated December 14, 1858.—A represents an upright sheet metal cylindrical chamber, which is divided by horizontal partitions *a* into four compartments or chambers B C D E. The chambers B C E are about of equal dimensions, and the upper one B is open at the top. The chambers B C are connected at their lower ends by a tube F which is provided with a cock *b*, and the chambers B E are connected at their lower ends with a tube G which is provided with a cock *c*.

The chambers C D are connected by an air tube H, the lower end of which communicates with the upper part of E, and the upper part passes vertically up into the chamber C within a short distance of its top. I is a pipe, one end of which passes into the chamber C and nearly reaches its bottom; the opposite end projects out from the cylinder A, and has a horizontal rose J attached to it.

Claim.—An improved article of manufacture, a shower bath having chambers B C, tubes F G H I, and stop-cocks D C, substantially as shown and described.

No. 21,138.—Frederick Kraemer, of Brooklyn, New York.—*Improvement in Bathing Apparatus.*—Patent dated August 10, 1858.—The object of this invention is to obtain, within reasonable dimensions,

a bathing device whereby a complete bath may be taken or the body completely immersed equally as well as in large bathing tubs or houses. The invention is designed to be used in private houses, and to be a portable affair that may be moved from place to place with facility, and fitted up as occasion may require.

Claim.—The tub A, constructed of two semi-cylindrical portions *a b*, connected together as shown, in connexion with the steps *c*, supply cocks *h h*, and discharge valves B; the whole forming a new and improved article or apparatus for the purpose specified.

No. 22,080.—Thomas Lewis, of Malden, Massachusetts.—*Improvement in Breast Pipes.*—Patent dated November 16, 1858.—This invention consists in so combining a nipple shell of the ordinary construction with a breast pipe that the two shall constitute but one instrument, and shall take up the room usually occupied by the ordinary nipple shell, at the same time it shall always be ready to be used as a breast pipe or pump.

Claim.—The described combined nipple shell and breast pipe, constructed by the attachment of a neck and pipe to an ordinary nipple shell, as set forth, for the purpose described.

No. 21,790.—Corydon Wheat, of Geneva, New York.—*Improvement in Corn Eradicators.*—Patent dated October 12, 1858.—This device is simply the combination of an elastic band with the pad or cushion, so as to enable the wearer to readily slip it on to the spot required, where it will be steadily and firmly held, can be easily and speedily removed and replaced, and is always ready for use without further adjustment.

Claim.—The corn eradicator constructed as described, as an article of manufacture, substantially in the manner and for the purposes set forth.

No. 19,858.—Morris Levett, of New York, N. Y.—*Improvement in Atmospheric Pressure Dental Plates.*—Patent dated April 6, 1858.—*A* is the plate, to which the artificial teeth *b* are to be attached in any of the usual modes. Said plate is to be shaped so as to fit the mouth of the person wearing the same. Through this plate elliptical openings 1 1 are made, to the under side of which cap plates 2 2 are attached, so as to form the desired number of cavities around the ridge of the gums. The plate containing the artificial teeth is caused to adhere to the gums by drawing the air out of the cavities by producing a partial vacuum in the mouth by the tongue.

The inventor says: I do not claim retaining the plates of artificial teeth in place by means of atmospheric pressure, as the same has been applied both to the roof of the mouth and also at the alveolar ridge.

But I *claim* the manner herein described of attaching the plates of artificial teeth by means of separate cells or cavities acting upon the alveolar ridge, substantially in the manner and for the purposes specified.

No. 21,562.—Alexander M. Holmes, of Morrisville, New York.—*Improvement in Dentists' Chairs.*—Patent dated September 21, 1858.—This invention consists in having the chair provided with an adjustable

foot-rest, an adjustable head-rest, and supplemental back, the whole being arranged so that the body of the chair may be rotated and also inclined in any direction and secured in varying positions, so that the operator may, with facility, place the occupant of the chair in positions most favorable for his comfort and for the successful and ready performance of the operation.

The inventor says: I *claim*, first, the foot-rest O, arranged with the slides *j j*, racks *n*, pinions *m*, and pawls *o*, substantially as described.

Second. The supplemental back P attached to links *q* which are fitted in the slot *p* of the back *c*, and actuated by the set-screw *s*, substantially as set forth.

Third. The adjustable head-rest formed of the slide *u*, pinion *w*, plates Q R and a^1 b^1, arranged relatively to each other and applied to the back *c*, substantially as set forth.

No. 19,052.—George W. Tripp, of Auburn, N. Y.—*Improvement in Dentists' Operating Chairs*—Patent dated January 5, 1858.—This invention consists, first, in arranging the handles of the holding and releasing catches of the adjusting mechanism, so that the operator from the rear of the chair, and without stooping, has entire control of all the adjusting mechanism, enabling him while operating to adjust and regulate the chair as he pleases.

Second. In arranging the adjustable rods for regulating the height and inclination of the chair, so that one set is made the fulcrum on which the chair turns and is steadied, while the other set is being raised or depressed; and the chair itself forms a strong bent lever by which the operator is enabled to make the adjustment from the rear while the patient is in it.

Claim.—First, the arrangement of the holding and releasing catches and of the adjusting mechanism as described, so that all the adjustments can be made from the rear of the chair without stooping.

Second. The combination of supporting rods *l* with the inclining link *r*, arranged as described, for the purpose set forth.

No. 22,063.—James J. Clark, of Philadelphia, Pa.—*Improvement in the Mode of Connecting Electro-Magnetic Apparatus with Tooth Forceps.*—Patent dated November 16, 1858.—This invention consists in the interposition of a foot key in the course of one of the wires composing the circuit, so that the dentist can have the circuit open or incomplete until the proper moment, and then with his foot close it, thus preserving the free use of his hands.

Claim.—The employment of the foot key K or its equivalent, in combination with the electro-magnetic machine and forceps, arranged and operating substantially as described.

No. 22,018.—Charles H. Davidson, of Charlestown, Mass.—*Improvement in Lacteal Instruments.*—Patent dated November 9, 1858.—Thec laim and engravings explain the nature of this invention.

Claim.—Constructing the article known and worn as a "breast shell," and made of any size, form, or material, suitable for the performance of the well-known functions or uses proper to such device, with a

transfer pipe or tube forming an integral part of the shell, when said tube is arranged as described, and serves for the ready and advantageous attachment of a flexible pipe with nipple jointed to it, substantially as and for the purposes set forth.

No. 21,289.—Oliver David Wilcox, of Elmira, N. Y.—*Improvement in Attachments to Artificial Legs.*—Patent dated August 24, 1858.—This invention consists in providing for the adjustment of the sack which forms part of the subject-matter of letters patent granted to this inventor September 30, 1856, to adapt it to the condition of the stump by means of straps and buckles applied as described.

Claim.—Providing for the adjustment of the sack H by means of straps and buckles applied substantially as described.

No. 22,362.—Henry Glynn, of Baltimore, Md.—*Improvement in Medicated Fabrics.*—Patent dated December 21, 1858.—The following quantities of the ingredients used in this invention or discovery will show their relative proportions, viz: 10 or 15 pounds of electric calomine, 15 pounds of sulphate of copper, and 15 pounds of any common hard soap; the two latter ingredients to be dissolved in boiling water.

The material is immersed in the above-named composition, which is mixed in boiling water, and suffered to remain about twenty minutes; after which it is taken out and washed in several waters.

Claim.—As a new article of manufacture, cloth or paper chemically prepared, for sanitary purposes, with a solution of which copper or copper and calomine are the bases, such manufactured article being designed for the prevention of or as a protection against infectious or contagious diseases, and made as stated.

No. 20,896.—Alexander F. Rose, of Brooklyn, N. Y.—*Improvement in Medicated Vapor Apparatus.*—Patent dated July 13, 1858.—This apparatus consists of a heater or cooler for heating or cooling air or other gaseous or aeriform body, or a generator for generating steam or other vapor or fume, and a pair of bellows and pipes connecting the halter or cooler with a proper mouth-piece or mask D, to be directed or applied to any part of the body for the purpose of bringing hot or cold air, vapor, or fume, in contact with the body, to act as a remedial agent.

The inventor says: I *claim*, first, the construction of the mask D, with a marginal cushion, a single or double back, and passages, substantially as described.

Second. The construction of masks for encircling the neck or other part, in the manner substantially as represented in figs. 3 and 4; that is to say, with a band of wire cloth or other sufficiently flexible but yet sufficiently stiff material, a marginal cushion *g*, a passage box H, and an enveloping cloth I, of water-proof; the whole being combined substantially as described.

No. 21,291.—C. C. Wingo, of Newport, Va.—*Improvement in Obstetrical Chairs.*—Patent dated August 24, 1858.—The nature of this

invention consists in combining with a portable chair of a peculiar construction a set of pads, straps, and handles, so that the patient, without aid or assistance, can readily apply them to her person, and obtain that support to the back, and relief from the distressing pains of the thighs in the hours of parturition, which are so much desired in such cases.

The inventor says: I do not claim as new any and every arrangement of the pads and straps which would produce like results.

But I *claim* passing the straps or cord *b* through the standard H of the portable chair at a point on a level, or nearly so, with the pad O and cord *a* around the pulleys *c* in the back of the chair, and a little above the seat of the same, substantially as described, so that the operation of the straps or cords will be in the direction in which support is most needed, and the counter pressure produced by the action of the two pads O and G may have the fullest effect.

I also claim the adjustable hand slats *c c* and the foot pieces J J, when arranged and combined with a portable chair, substantially as described, for the purpose of adapting the chair to different persons.

No. 21,189.—William Elmer, of New York, N. Y.—*Improvement in Pessaries.*—Patent dated August 17, 1858.—The nature of this invention consists in forming a uterine supporter of a light, flexible or elastic bar or tube of gold, or other suitable material, bent in the form of a yoke at its middle and posterior part, curved outward and downward at this part to correspond with the raphe of the perinæum; then extending along the vagina, resting upon the sphincter vaginæ, and terminating in a small bulb or rounded end which rests against the pubic bones on either side of the urethra, so as to adapt its several parts to the portions upon and against which they respectively rest; and in providing the upper rear end of this curved bar with a circular or nearly circular cup, or inverted frustum of a cone, in which the cervex uteri rests, in such a manner as to form a support for the uterus in case of its displacement from any cause, without in any manner impairing or in any manner interfering with the performance of the functions of the uterus, or any of the adjacent organs.

Claim.—Giving the peculiar form to the curved bar or tube A described and represented, and attaching to its posterior or rear part a ring-shaped cup or inverted frustum of a cone C, in such relation thereto as to enable the instrument to perform the functions for which it is designed, in the manner and for the purpose before described.

No. 20,754.—William M. Wright, of Pittsburg, Pa.—*Improvement in the use of Dentists' Pattern Plates.*—Patent dated June 29, 1858.—The nature of this invention consists in using a material for the pattern that can be readily rolled to any desired thickness, sufficiently strong when modelled to the cast, to be handled, and have the teeth attached to try them in the mouth, without danger of alteration or change in the pattern, and also to possess the quality of melting at a low degree of heat.

The inventor says: I make no claim to the casting of such work, the process being described in the Dental Journal of 1852.

But I *claim* the use of metallic pattern plates, or their equivalents, made as described, for the purpose set forth and specified.

No. 19,025.—JOHN GRUOL, of New York, N. Y.—*Attachment of Adjustable Foot-Boards to Splints.*—Patent dated January 5, 1858.—A A represent two boards or strips, the adjoining ends of which are fitted in sockets *a*, having each a rack *b* attached. These racks are fitted and work in a box B through which a shaft *c* passes, said shaft having a pinion *d* upon it, which pinion gears into the racks *b b*, the pinion being between the two racks.

The inventor says: I am aware that in the patent of George Jarvis, 1843, a rack and pinion are used for the purpose of giving the necessary extension of the side frame; therefore I disclaim such use of racks and pinions.

I *claim* the combination of an adjustable foot-piece D with the board A, substantially as set forth.

No. 21,872.—WILLIAM BUNCE, of Sullivan, Ohio.—*Improvement in Extension Splints.*—Patent dated October 26, 1858.—The nature of this invention consists in the construction of an adjustable extension splint and pads for the reduction of fractures and dislocations, being so constructed and arranged that extension to any desired extent can be made without removing the splint from the limb of the patient; in the adjustment of the pads in such a manner that the pressure is not produced upon the arteries; and also in such an arrangement that the free use of the knee-joint is allowed without disturbance to the fractured bone, either above or below the knee-joint.

Claim.—The combination and arrangement of the side pieces B D E, forming the band $c\ c^2\ g\ g^1$, and set-screws, and adjustable splint; the foot-piece A with its joint *b* and set-screw, the flexing braces F, the extension bar K, the windlass N and cord M, perineal pad H, and pads 1 2 3 4, all combined and arranged as described, so as to form an extension splint, operating in the manner substantially as set forth for the purpose specified.

No. 19,916.—GEORGE DIFFENBACH, of New York, N. Y.—*Improvement in Bases for Artificial Teeth.*—Patent dated April 13, 1858.—The inventor says he makes these articles in the following manner: I take an impression in wax or plaster of Paris of that part of the mouth which I wish to imitate. I then pour fluid plaster into that impression, and leave it therein until dry; thereby I obtain the original mould. I then arrange and fasten the requisite number of artificial teeth on this mould, which is now ready to receive the hot composition, consisting of amber, linseed oil, gutta-percha, and sulphur.

Claim.—Making the base for artificial teeth of a composition of matter in which amber forms the principal ingredient, in the manner substantially as described.

No. 20,905.—CHARLES C. THOMAS, of Natchez, Miss.—*Improvement in Apparatus as Aids in Extracting Teeth.*—Patent dated July 13, 1858.—This invention consists in an instrument which is held in

place by being grasped between the upper and lower jaw, and which is provided with a pad for holding out the cheek, as well as a shield, guard, or finger, for holding the tongue away from the tooth or place to be operated upon; by which means the operator has the free use of both his hands, whilst the patient is free from the inconvenience of having the mouth drawn down or away, as heretofore practiced.

Claim.—A dental instrument having the adjustments substantially as stated, and adaptable to the purposes specified.

No. 21,853.—JACOB S. SIMMERMAN, of Glassborough, N. J.—*Improvement in the Method of Applying Electricity during Extraction of Teeth.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

Claim.—Applying electricity to the gums or teeth, or both, during the operation of extracting teeth, by means of the insulated adjustable spring clip described, or its equivalent, the said clip being connected to one of the poles of an adjustable electro-magnetic machine, or its equivalent, as set forth, and for the purpose specified.

No. 20,390.—JEROME B. FRANCIS, of Philadelphia, Pa., assignor to WILLIAM HARPER, jr., of said Philadelphia, assignor to JEROME B. FRANCIS, assignor to JAMES F. CLARK, of said Philadelphia.—*Improvement in the Method of Extracting Teeth.*—Patent dated May 25, 1858.—This improvement consists in combining with a common dental forceps an electro-magnetic machine in such a manner that a wire C from the negative pole P of the machine shall form a metallic connexion with that part of the forceps D that grasps the tooth, and that the positive pole of the machine shall be connected with the patient's hand by a metallic connexion.

Claim.—The combination of the electro-magnetic machine, or its equivalent, with the forceps, for removing teeth without pain, arranged and operating substantially in the manner described.

No. 19,914.—WILLIAM F. DAILY, of Baltimore, Md.—*Improvement in Truss Pads.*—Patent dated April 13, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, constructing a hollow truss pad or supporter A for hernia, with a series of small perforations *c* in its front plate *a*, in combination with enlarged openings in its back plate, so as to allow some healing substance to be brought in contact with the body, and also ventilation or a perfect and healthful circulation of air through it and over or about that part of the body covered by and with which the pad or supporter A comes directly and constantly in contact, substantially as set forth.

Second. Attaching the pad A to the main spring of the truss or body strap C, by means of the combined agency of a recess or groove C in the back of the pad, an oblong slot D in the main spring, and a single set-screw E, whereby every facility of adjusting the pad A speedily, by simply operating one screw E, is afforded, and at the

same time the liability of the pad A twisting round and rubbing is avoided, substantially as set forth.

No. 20,444.—Hiram H. Reynolds, of Buffalo, New York.—*Improvement in Truss Pads.*—Patent dated June 1, 1858.—The vertical projection B runs diagonally across the pad A, and is placed parallel with the pubic bone. *c* is the concavity made in the pad below the vertical projection; it is cushioned with soft material, so as to rest easily on the pubic bone and protect the spermatic cord; I corrugations made in the oval face of the pad for the purpose of facilitating the healing process.

The inventor says: I *claim*, first, the transverse vertical projection B, for purposes and substantially as set forth.

Second. I claim making the pad concave below its vertical projection, as represented at *c*, for the purposes and substantially as described.

Third. I claim corrugating the oval face of the pad, for the purposes and substantially as set forth.

No. 21,548.—Cornelius Campbell, of St. Louis, Missouri.—*Improvement in Truss Pads.*—Patent dated September 21, 1858.—This is an improved mode of preventing the escape of viscera through hernial openings in the human body, by obtaining exact and perfect impressions of such openings, by means of compression in gutta-percha, and using the same for truss pads, which, fitting with accuracy to the openings and surrounding parts, prevent the escape of the contained viscera, and, by exercising constant pressure upon the condensed cellular tissue which constitutes the hernial rings, causing them to harden and contract in order to produce a cure.

These pads can be placed on any of the known truss springs.

Claim.—The application of pads made of gutta-percha in the manner described in the specification for the prevention of the escape of viscera through hernial openings in the human body.

No. 21,767.—Lazarus B. McLain, sr., of New Lisbon, Ohio.—*Improvement in Truss Pads.*—Patent dated October 12, 1858.—The claim and engravings will give the reader an idea of the nature of this invention.

Claim.—Constructing pads for trusses, for hernia, or rupture, of solid blocks of half cones with plane and curved faces, as set forth.

XXI.—WEARING APPAREL.

No. 19,932.—Whitten E. Kidd, of New York, N. Y.—*Improvement in Bonnet Frames.*—Patent dated April 13, 1858.—The inventor says, in describing his invention: I cut out two thicknesses of cape net to make the front *b*, two others to make the crown *c*, and two

others to make the tip *d*; but for greater expedition, I cut some twenty. Having cut the parts, I take three thicknesses of the material known as buckram, moisten one of them with water by rubbing it over with a soft brush dipped in water, and lay it between the other two dry ones. On these I pile twenty (more or less) thicknesses of the cape net, cut as before stated, and on the top I lay three thicknesses of buckram prepared in like manner as those below. On the top I pile another batch of pieces of cape net, and so proceed until I get the desired quantity; I then lay on the top a board with a slight weight, to make a slight pressure, and let it remain over night, when the whole will be found slightly moistened. The next day I take the pieces, two at a time, and subject them to pressure between heated moulds of the required configuration, by which they assume the figure desired, and the two thicknesses unite where they come in contact.

Claim.—Making ladies' bonnet frames of two thicknesses of cape lace, substantially as and in the manner specified.

No. 22,242.—Charles A. Postley, of Jersey City, N. J.—*Improvement in Bustles.*—Patent dated December 7, 1858.—This invention consists in a bustle composed of a series of elastic hoops and ribs connected together by slides in such manner that the diameters of the hoops can be extended or contracted, and their positions in relation to each other and to the ribs can be changed, as well as the relation of the ribs to each other.

Claim.—The combination of adjustable hoops and adjustable waist ribs, arranged in the manner described, so that the size of the bustle and the position of the hoops may be varied to suit the wearer.

No. 20,865.—Handel N. Daggett, of Attleboro', Mass.—*Improvement in Bustles and Skirts.*—Patent dated July 13, 1858.—In the engravings A exhibits an ordinary skirt, of which *a a a* are the hoops, *b* the waist band, and *c c c* the connecting bands; B represents the adjusting cord as roved through eyelets made in two of the adjusting bands.

The inventor says: I wish it distinctly understood that I lay no claim to the invention of the adjusting cord as applied to a bustle or a skirt.

But I *claim* the improvement or combination of the back strut with the bustle or skirt and the adjusting lacing, such being applied and made to operate as and for the purpose specified.

No. 22,133.—George V. Pierce and Edwin A Pierce, of New York, N. Y.—*Improvement in Bustles for Ladies' Dresses.*—Patent dated November 23, 1858.—This invention consists in the use of curved springs of steel or equivalent material, arranged in a peculiar manner in an outer covering or thickness of material, or connected in skeleton form, and an inner lining, or connexion between the ends of the curved springs, whereby their general shape is maintained, and may be packed for transportation in a small space.

The inventors say: We *claim* the springs *a a* fitted into a bishop or bustle, in combination with a linking or strap forming a straight

line of connexion between the ends of said springs, for the purposes set forth; and in combination with said springs *a a* fitted into a bishop or bustle in the manner specified, we claim the springs *c c*, arranged and acting in the manner and for the purpose described.

We also claim the strap *f* or tape, in combination with the springs *a a* and bustle, substantially as and for the purposes specified.

No. 20,707.—LESTER GOODWIN, of New York, N. Y.—*Button Fastening.*—Patent dated June 29, 1858.—When the horizontal arms D M are pointing in nearly the same direction, (fig. 11,) they can be passed together through a sufficient aperture; then one arm D M can be extended in another direction O M, to prevent withdrawal, and is fastened in that position by the spring E F, easily passing the obstruction L on the surface H K, from which it can return only when elevated from it.

The inventor says: I do not claim the employment of two parallel stationary bars with arms forcibly bent at right angles in different directions to fasten, and which must be forcibly bent back again when removed for that is recognised as a well known idea.

But I *claim* making one right-angled piece M D A E movable on its perpendicular leg, in and embraced by a band B to another right-angular piece M D C G, and depending upon it for support. And the controlling of the position of the movable right-angled piece by a spring F E. And the confining the spring F E, by obstructions L, on the surface H K swept by it, substantially combined as represented.

No. 20,632.—CHARLES CURRIER, of Providence, R. I.—*Improvement for Cutting Button Holes.*—Patent dated June 22, 1858.—This invention consists in the employment of rotating cutters F, peculiarly constructed and fitted within a lever or handle E, an adjustable bed C, and adjustable guide, so that a very simple and efficient implement is obtained for the purpose designed.

The inventor says: I am aware that rotatory cutters and tools of various kinds have been arranged or connected with rotating stocks, so that in the same implement tools of various kinds and of different sizes might be used. I do not claim, therefore, the rotating cutters F, when separately considered.

But I *claim* the lever E provided with cutters F, in combination with the adjustable bed C and gauge D, arranged substantially as and for the purpose specified.

I also claim the snips *f* made separate from the parts *e* of the cutters F, and attached to the plates *g* by means of the screws *i*, whereby the snips may be readily detached from the parts *e* of the cutters, and sharpened or ground with facility.

No. 19,120.—JEAN FELIX BAPTEROSSES, of Paris, France.—*Improvement in Buttons.*—Patented in France January 7, 1857; patent dated January 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, as a new article of manufacture, the button composed of porcelain, enamel, or of any material susceptible

of being cast wherein the neck or shank is fixed by means of fusible metal melted into tapped or conical holes or recesses made during the process of casting of said button, by means of the mechanism described, or its equivalent, substantially as specified.

No. 20,194.—HENRY COGSWELL, of Providence, Rhode Island.—*Fasteners for Sleeve Buttons.*—Patent dated May 11, 1858.—This invention consists in pivoting a bar to a projection at one end of the under side of a plate, said bar being secured to a projection at the opposite end of the plate by a "snap," the whole being so arranged that one button is made to answer the purpose of two linked plates.

Claim.—Constructing sleeve buttons by attaching the bar B to the projections *a b* at the inner side of the plate A, as shown, viz: one end of the bar being pivoted in one projection *a*, and the other projection containing a catch *e* and spring *i* to retain the opposite end of the bar when closed, substantially as shown and described.

No. 22,443.—ANNE S. MCLEAN, of Williamsburg, New York.—*Improvement in Corsets.*—Patent dated December 28, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Providing the upper section or pads of the corset with cone-shaped flat steel, or their equivalent, springs and spring-supporting plate next the body for the purpose of giving elasticity to the pads, which pads are held in their places by the weight of the corset.

No. 19,418.—J. H. HALL, of Kittanning, Pennsylvania.—*Substitute for Infants' Diapers.*—Patent dated February 23, 1858.—This invention consists of an air cushion A^1, which is of such form as to fit the posterior of an infant, and is provided with an opening *a* in the centre, combined with a cloth of a proper form and a bag or receptacle of India-rubber, or other water-proof material, in such a manner that when the cushion is attached to the body the excrement and urine will be discharged through the opening in the cushion into the bag or receptacle, where it will be retained without coming in contact with the body, which will be protected from it by the interposition of the cushion.

Claim.—The combination of a cushion A, bag or receptacle B, and cloth C D, substantially as described for the purpose set forth.

No. 22,366.—JOHN C. HALL, of Fayette, Mississippi.—*Improved Manufacture of Portable Fans.*—Patent dated December 21, 1858.—A represents a series of short bars which are placed parallel with each other, and B represents a series of bars which are also placed parallel with each other, but are placed in a reverse position with and cover the bars A, the two series of bars being connected together by rivets *a* and forming an endless frame. The bars A thus joined or connected together will form, when closed or folded together, a cylinder, and when opened an annular frame, as shown in the engravings; the bars, as they are distended, assuming a flat position, or a position at right angles to that occupied by them when in a folded state.

Claim.—The fan as a new article of manufacture, when constructed in the manner described.

No. 19,271.—James M. Weston, of Chesterfield, New York.—*Improvement in Machines for Draughting Garments.*—Patent dated February 2, 1858.—This improvement consists of a connecting scale and rotary arm size. It is very simple; and from its easy and cheap construction, and the correctness and accuracy with which the scales are made to apply, every lady may be able by the use of the machine to cut garments with accuracy and with little expense.

Claim.—The adjustable curved plate or arm size 7 and index pointer 9, in combination with bed rule 2 and connecting rule 5, provided with their several scales, when constructed and operating in the manner described, for the purpose specified.

No. 19,228.—Francis Arnold, of Middle Haddam, Connecticut.—*Improvement in Clamps for Holding Ladies' Hair in Curl.*—Patent dated February 2, 1858.—This invention is designed to supersede the use of papers for curling ladies' hair by means of a "pinch," as it is technically termed by hairdressers. This invention consists in the employment or use of thin metal tubes, provided each with an elastic strap, or an equivalent device, for a fastening.

Claim.—The described device for curling the hair, consisting of a tube A, constructed as shown, and provided with elastic straps B, or their equivalents, for the purpose set forth.

No. 20,069.—Asa Johnson, of Cairo, New York.—*Improvement in Hose Supporters.*—Patent dated April 27, 1858.—The nature of this invention consists in forming a supporter for ladies' hose of hair cloth, or any other equivalent texture, whereby, at the same time, the hose can be supported and form given to the limb.

In figs. 1 and 2 those parts marked A represent pieces of elastic inserted in the material on the front, in order to allow the supporter to stretch and give room for the foot as it passes through and make it fit snugly at the ankle and above the calf of the leg when on.

Claim.—The hose supporter, or its equivalent, for the purpose of supporting the hose and giving form to the limb, in the manner specified and set forth.

No. 20,834.—William P. Ware, of Cincinnati, Ohio.—*Ear, Cheek, and Chin Muff.*—Patent dated July 6, 1858.—The nature of this improvement consists in making pockets for each ear by taking a ring or frame of wire *a a*, or other material, and covering it with fur or other substances with such a fulness as to form a pocket in which the ears are placed for the double purpose of protecting them from cold and supporting and holding the cheeks and chin portion of the muff to their respective parts.

Claim.—The arrangement of the ear, cheek, and chin pieces, constructed as represented in fig. 1 of the drawings, and joined together in the manner represented and for purposes specified in the specification.

No. 20,708.—Benjamin J. Greeley, of Springfield, Massachusetts.—*Improvement in Pantaloons.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Making up the back part of pants with a lapel and elastic straps A, instead of seaming them, as they have invariably been made; also the cutting of the top part or waistbands of pants so as to be perfectly and pleasantly suspended at only two points, as C.

No. 19,280.—John G. Klinger, of Jersey City, New Jersey, assignor to Ignatius Sturn, of New York, N. Y.—*Improvement in Diaper or Shawl Pins.*—Patent dated February 2, 1858.—In describing this improvement the inventor says: I employ a curved pin or hook *a*, which is thrust beyond and retracted within the case *b;* but instead of a straight slot in the side of the case along which the projecting part of the hook slides, I form the slot in a spiral direction around it. The base of the hook is affixed to a slide that fits the interior of the shield and slides along within it when the shield is revolved.

Claim.—The spiral shield, the stops, and friction detent, all as specifically and severally set forth.

No. 21,966.—Josee Johnson, of New York, N. Y.—*Improvement in Shield Pins.*—Patent dated November 2, 1858.—The nature of this invention consists in an improved method of more securely shielding the point of the pin, which is effected by forming a fold or coil on each side of the body of the pin, thus forming the shield, the fold or coil being left open on each side of the body of the pin at the point where the pin enters and passes into the centre of the shield, so as the more readily to allow the point to be sprung in and out, to or from either side, with ease and rapidity.

Claim.—Shielding the point of the pin within folds or coils when turned on both sides the main stem as described at B, in figures 1 2 and 3, and at C, in figures 5 6 and 7.

No. 22,159.—Joel Bryant, of Brooklyn, New York.—*Improvement in Scissors.*—Patent dated November 30, 1858.—The nature of this invention consists in the construction of scissors which are provided with a spring or springs connecting with the rivet, joint, and blades, so as to produce a uniform pressure upon the blades at whatever angle they cut; so, also, to obviate the results of wear from use by the contraction of the said spring or springs; so as to prevent the blades of the scissors from becoming loose or "shaky;" so as to require tightening-like scissors secured at the joint by an inflexible rivet, or as when the blades are bound together by firm and unyielding plates of metal.

Claim.—The exclusive use of scissors when provided with a spring or springs connecting with the rivet and blades, substantially as described and for the purposes set forth.

No. 21,369.—James H. Roome, of New York, N. Y.—*Improvement in Shears.*—Patent dated August 31, 1858.—The nature of this improvement consists in forming the handle and upper cutting blade of

the shears in two parts, and so connecting the former to the body or shank of the lower cutting blade and to the upper one as to enable the leverage exerted by the thumb to be gradually increased with the closing of the blades.

Claim.—The combination of the additional connecting rod F with the rod D and upper slotted handle E, for enabling the leverage exerted by the thumb to be increased with the closing of the upper blade A, substantially as described.

No. 22,039.—JOHN STEVENS, of New York, N. Y.—*Improvement in Shirt Bosom Folders.*—Patent dated November 9, 1858.—This invention consists in the arrangement of a series of strips of metal made of equal lengths and width, with a number of pins secured in a slot in angle irons attached to the ends of the bed plate and there secured by a nut on the under side; the angle irons, being graduated, admit of a ready adjustment of the pins to any distance apart, the distance being equal to the width of the plates described in the bosom.

Claim.—The combination of a series of tins, made as described, with a series of pins arranged in a slot in the angle irons attached to the bed-plate, the pins being adjustable, by means of which the plates can be made of any desired width without different sizes of tins, with the lifters for raising the tins from the pins, the whole being arranged as described, for the purposes set forth.

No. 22,442.—CHARLES MCINTIRE, of Newark, N. J.—*Shirt Stud.*—Patent dated December 28, 1858.—The nature of this invention consists in using and applying a peculiarly constructed spring-latch for the purpose of connecting the parts of a stud or button together.

The spring *e* is soldered fast to and forms part of the latch *d*, both being held in place by having the end of the spring soldered fast to the back of the plate at the extreme end from the latch, and also by the guard-piece *f*, as well as the edges where the top of the latch projects through the back.

Claim.—The latch *d* and catch, constructed substantially in the manner and for the purpose set forth.

No. 22,375.—JOHN PECKHAM, of New Haven, Conn.—*Improvement in Draughting Shirts.*—Patent dated December 21, 1858.—The object of this invention is to obtain a definite rule or system of measurement for draughting shirts, by which a person's measure may be taken and laid or drawn out upon the muslin or other material with perfect accuracy, and in such a manner as not only to insure a perfect fit, but also to have the parts so disposed as to economize in the bosom material and render the shirt more durable and capable of being ironed with more facility than usual.

Claim.—Draughting shirts by means of the neck and breast measures A B, formed and applied to the cloth as shown and described, so that the neck circle will be chiefly cut or formed in the back portion of the shirt, and the upper part of the back portion folded over and united to the top of the front portion on a line with the base of the neck, as set forth.

No. 21,839.—GEORGE MALLORY, of Watertown, Conn.—*Improvement in Hoop Skirts.*—Patent dated October 19, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the construction of one or more of the hoops or springs A^1 A^1 of a skirt, with elastic pieces *a a*, or their equivalent, arranged one on each side, so as to provide for flexure of said hoop or hoops over the edge of a seat when its or their back parts are sat upon, without impairing the inflexibility, in an upward and downward direction, of any other parts than those where the flexure is immediately required, substantially as described.

No. 20,561.—DAVID HOLMES, of Westfield, Mass.—*Improvement in Skirt Hoops.*—Patent dated June 15, 1858.—The hoops in this skirt are connected together by a series of interlacing hoops. A peculiar kind of clasp is employed for connecting the hoops, and eyes *e e* are formed at the extremity of the hoops which act as slides.

The inventor says: I *claim*, first, the connexion of the hoops by interlacing loops in the manner substantially as described.

Second. The attachment of the loops to the hoops by two lipped clasps E E, applied in the manner substantially as described.

Third. The formation of eyes *e e* in the braiding at the extremities of the hoops, to serve as slides, substantially as specified.

No. 20,681.—ROBERT J. MANN, of Brooklyn, New York, assignor to L. A. OSBORN, of Newark, New Jersey, and I. J. VINCENT, of New York, N. Y.—*Improvement in Skirt Hoops.*—Patent dated June 22, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim as new the expansion of the hoops in ladies' skirts, for that is not new.

But I *claim*, first, the peculiar formation of the slide *g*, the said slide being made of brass or other metals, and having its slides bent two ways, the one clasping the end of the loop and made fast thereto, and the other end made to slide freely on the hoop.

Second. Securing the hoop *d* to the perpendicular straps by means of small clamps constructed as described.

Third. The formation of a bustle or corrugated projection *a a* on the upper hoops on the back of the skirt, in the manner and for the purpose set forth.

No. 20,720.—MARTIN LANDENBERGER, of Philadelphia, Pa.—*Improvement in Skirt Hoops.*—Patent dated June 29, 1858.—A series of loops sufficient to form a fringe for the bottom of the skirt having been knitted by an ordinary knitting machine with two straight rows of the usual needles, an elastic strip of steel, brass, whalebone, cane, or other substance, is introduced into the knitting machine in such a manner as to become interlocked in one of the rows of loops. B is a gum-elastic band with a buckle or other fastening for securing the skirt to the waist of the wearer. D is a band or strap in front of the skirt.

Claim.—Constructing hooped skirts of a knitted fabric with elastic

hoops interlooped in the same, substantially in the manner and for the purpose set forth.

No. 20,801.—Austin Kelley, of New York, N. Y.—*Improvement in Skirt Hoops.*—Patent dated July 6, 1858.—In the engravings *a a a* represent the outside hoops connected together by means of the strips of cloth *b b b; d* is a band at the top of this series of hoops; said band goes around the waist and secures the hoops to the person of the wearer. The ends of the outer hoops meet, and are secured together by means of the elastic bands *e e e*. *c* are a series of smaller hoops within hoops *a;* hoops *c* are adjustable like the outer hoops, and are connected at *x*.

Claim.—Combining and arranging two hoop skirts together in the manner set forth, the inner skirt being adjustable, for the purpose of forming a bustle when contracted, and for an additional support to the outer skirt when expanded, as fully described.

No. 22,385.—John Stevens and James Hanley, of New York, N. Y.—*Improvement in Buckles for Skirt Hoops.*—Patent dated December 21, 1858.—The nature of this invention consists in making a buckle with an eye formed to admit the passage of the hoop's ends through it, as seen at A, one end of the hoop overlapping the other, as seen at the depression of the end of the buckle operating as a lever pressing them together; each end of the buckle terminates with a hook H H; and when the end of the buckle is brought down to the hoop's surface, a ring slide with a hole in it at *b* is passed over the end of the buckle, so that the hook of the buckle springs into the hold of the slide, and thus the fastening is made secure.

Claim.—The buckle, when constructed substantially in the manner described, in combination with the slides having holes to receive the hook of the buckle, for the purpose set forth.

No. 20,598.—Thomas Wallace, jr., of Ansonia, Conn.—*Clasp for Skirt Hoops.*—Patent dated June 15, 1858.—This is a convenient and simple clasp for attaching the tapes to the hoops of ladies' skeleton skirts.

Claim.—The clasp formed with lips *b b* at each side of each end, and with teeth *c c* at its edges, to operate in the manner set forth.

No. 21,373.—A. Smart, of New York, N. Y.—*Improvement in Clasps for Hoop Skirts.*—Patent dated August 31, 1858.—This clasp consists in a piece of metal plate A, the greater portion of which is of a width about equal to that of the skirt hoops, but is made wider at the ends, as shown in the engravings, to form on each side two lips *a a*, by which it can be clamped to the hoop.

The inventor says: I do not claim to be the first inventor of hoop clasps, nor do I claim any part of the described clasp that is seen in the patent granted to T. Wallace, jr., January 15, 1858.

But I *claim*, as an improved article of manufacture, a hoop clasp constructed with a longitudinal loop *c*, substantially as and for the purposes shown and described.

No. 21,747.—Alexander Douglas and Samuel S. Sherwood, of New York, N. Y.—*Improvement in Fastenings for Skirt Hoops.*—Patent dated October 12, 1858.—This improvement consists in the combination of a clasp which embraces the ends of the hoop, and has an opening on one side to receive the end of the link, with a spring link which passes through both the clasp and the ends of the hoop, and is retained in a proper position by resting in an opening in the side of the clasp, while yet it is so constructed as to be readily removed to release the clasp and the ends of the hoop.

Claim.—The combination of the link or loop C with the clasp B having an opening in its side to receive and retain one prong of said loop, and with the hook, substantially as and for the purposes set forth.

No. 22,355.—Alexander Douglas and Samuel S. Sherwood of New York, N. Y.—*Improved Slide and Fastening for Skirt Hoops.*—Patent dated December 21, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combined clamp and slide, made entire of one piece by forming the clamp of the divisions *b and c*, and the slide of the lips *d*, as described, the division *b* and *c* being entire, and connected at both ends to the plate, as shown, thus forming a continuous connexion around the end of the hoop, for the purpose stated.

No. 21,709.—William M. Warren, of New York, N. Y.—*Improvement in Slides for Skirt Hoops.*—Patent dated October 5, 1858.—This slide is composed of two separate pieces of metal plate, one of which clasps either end of the hoop, and the other the portion of the hoop against which the end laps, the two being united between the hoops by the locking of their edges in such a manner that, except at its extremities, the clasp presents no edge upon the portion of the hoop upon which it slides, and therefore permits the adjustment of the hoops with less danger of tearing their covering.

Claim.—The slide composed of the two parts A B, formed as specified, and combined by a lock *a b c*, between the lapping portions of the hoop, substantially as described.

No. 21,581.—W. S. Thomson, of New York, N. Y.—*Improvement in Eyelet Fastenings for Ladies' Skirts.*—Patent dated September 21, 1858.—The nature of this invention consists in combining with an eyelet a metallic washer or fastener, having attached, and forming a part thereof on two opposite sides, arms or clasps, which, when bent upon the hoop, firmly and securely attaches it to the suspender straps, in which the eyelet has been fastened.

Claim.—The use of the H-shaped washer or fastener, or equivalent, in combination with an eyelet, as a means of fastening together the straps and hoops of elastic skirts, substantially as set forth.

No. 21,479.—Samuel Beberdy, of Philadelphia, Pa.—*Improvement in Ladies' Hoop Skirts.*—Patent dated September 14, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The combination of a spiral stay B with a fabric which

constitutes a lady's skirt, when said stay is formed by winding a flexible strip or rod made of one piece or a series of pieces spliced or united together, continuously round the skirt from the bottom to the top of the body of the same, substantially as and for the purposes set forth.

No. 22,197.—Samuel Peberdy, of Philadelphia, Pa.—*Improvement in Ladies' Hoop Skirt.*—Patent dated November 30, 1858.—The nature of this invention consists in constructing the expanding stay or support of ladies' skirts of one continuous rod or strip of flexible material, which is bent and arranged spirally, the fabric constituting the skirt, or interwoven in a spiral with the same, as shown in the engravings, the spirals of the stay being of gradually decreasing diameters from the bottom to the top of the skirt.

Claim.—The combination of a spiral stay B with the fabric which constitutes a lady's skirt, where said stay is formed by winding a flexible strip or rod made of one piece, or a series of pieces spliced, or united together continuously round the skirt, from the bottom to the top of the body of the same, substantially as and for the purposes set forth.

No. 22,426.—John Holmes, of Boston, Mass.—*Improvement in Ladies' Hooped Skirts.*—Patent dated December 28, 1858.—This invention consists in a circular net-work of cords or twine of a similar structure to the nets used for fishing ; but so formed that, when the loops are passed through its meshes, the entire fullness of the skirt will be thrown in one direction in such a manner as to give it the bishop or bustle shape, and so that the skirt so formed will be self-sustaining, which enables it to retain the fullness in one direction and support the bishop or bustle shape from the top to the extreme bottom of the skirt, regardless of the weight of the dress upon it.

Claim.—The described net-work fabric, having the number or size of its meshes reduced toward the top in such a manner as to throw the fullness in one direction, or on one side, so that when the hoops are inserted it is self-sustaining to produce the "bishop" or "bustle" form, and preserve that form to the bottom of the skirt, as set forth, without the use of lacings, springs, extra "bustles," or other contrivances.

No. 21,806.—E. G. Atwood, of Derby, Connecticut.—*Improvement in Skeleton Skirts.*—Patent dated October 19, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A skirt formed of tape or similar material, and a series of circle hoops, when the tape is passed over one hoop and under the next below it, in opposing oblique directions, and the tapes fastened at the points where they interlock on the hoops themselves, by clasping, sewing, or tying, substantially as and for the purposes set forth.

No. 22,051.—Robert J. Mann, of Brooklyn, New York, assignor to L. A. Osborn and I. J. Vincent, of said Brooklyn.—*Improvement in Skeleton Hoop Skirts.*—The nature of this invention consists in making ladies' skirts by forming a series of hoops, each being cut or parted so as to form two or more adjustable ends, so arranged that

the diameter of the skirt may be enlarged or diminished by connecting the ends of the hoops in such a manner that the ends will slide toward and from each other to enlarge and diminish the diameter of the skirt, in combination with belts or cords crossing the hoops to hold them together.

Claim.—In the construction of ladies' skeleton skirts the combination of a series of horizontal hoops, adjustable in diameter, substantially as described, with bands or cords crossing and connecting them, substantially as described.

No. 19,576.—N. C. Nelson, of Concord, N. H.—*Improvement in Skirt Supporters.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I do not claim a supporter waistband with shoulder straps.

I do not claim the use of hooks or buttons upon a supporter waistband for the purpose of attaching skirts thereto.

But I do *claim* the projecting out or flaring of the lower edge of the frame of the waistband, or of pieces attached to it, as E E E, (making the waistband shaped like the natural waist,) substantially in the manner described above, in order that the skirts may be supported, not by hooking, buttoning, or tying them to the supporter waistband, but by simply putting the skirt waistbands about the supporter waistband, in the same manner as they are put about the waist when no supporter is used.

No. 19,946.—David Perry, of Paterson, N. J.—*Improvement in Cords for Skirts.*—Patent dated April 13, 1858, antedated October 13, 1857.—This invention consists in the manufacture of a cord without tension or twist from any fibrous or filamentous material, the core of the same being covered and held together by spun yarn or thread wound tightly around in two opposite and contrary directions, whilst the fibrous core is in a state of considerable compression, and producing in consequence of such compression, together with the mode of lapping and winding, a hoop-like article in the form of a cord of great buoyancy, stiffness, and elasticity.

Claim.—The hoop-like manufacture of cordage, when made in the manner and for the particular purposes described ; that is to say, I claim the untwisted fibrous or filamentous core, when compressed and lapped or wound, while in that state, in the manner and for the purposes described.

No. 22,308.—George D. Russel, Samuel A. Russel, and Charles L. Russel, of Birmingham, Conn.—*Improved Forceps for Fastening Clasps on Hoop Skirts.*—Patent dated December 14, 1858.—This invention consists of a pair of pliers, whose jaws are provided with recesses and lips, and with a lever or wedge-like attachment, operating in combination with said lips to close the ears of the clasps upon the hoop.

Claim.—The pliers having their jaws provided with recesses *b b*, and lips *c c*, and with a lever or wedge-like attachment B, to operate in combination with the said lips, substantially as described.

No. 21,324.—Anthony G. Davis, of Watertown, Conn.—*Improvement in Sun Shades.*—Patent dated August 31, 1858.—This invention consists in having the handle of the parasol or umbrella formed in two parts, one part being fitted into and allowed to slide in and out from the other, and used in connexion with a stop and pressure bar, slide, ferrule, and hub or boss, the whole being arranged so that the handle may be extended or lengthened as the implement is opened, and shortened as it is closed or folded; one movement or operation answering for the opening of the parasol and extending of the handle, and one movement for the closing of the same and shortening the handle.

Claim.—The rod A provided with the hub or boss D, and the pressure bar and stop *f* in connexion with the hollow or tubular rod E, provided with the ferrule E^1, the above parts being arranged in relation with the frame B and slide D substantially as and for the purpose set forth.

No. 20,424.—Benjamin J. Greeley, of Springfield, Ohio.—*Shoulder Brace Suspender.*—Patent dated June 1, 1858.—The nature of this invention will be understood by the claim and engravings.

The inventor says: I do not claim the invention of either shoulder braces or suspenders, as they have both been long known and used.

Nor do I claim anything as set forth in Daniel Minthorn's patent, granted June 5, 1855, for "an improved brace for supporting garments."

But I *claim* the arrangement and combination of two straps of unequal length, joined and running over the shoulders and across the back, and attached at two points on the sides of the waistbands of pantaloons, operating as a shoulder brace and a suspender, substantially as set forth.

No. 20,826.—W. R. Stace, of Rochester, New York.—*Tailors' Measure.*—Patent dated July 6, 1858.—This invention consists in an improved means of locating the shoulder point, or of placing the shoulder in proper position with the back part of the coat.

Claim.—The construction and use, substantially as described, of an instrument for measuring and drafting garments, said instrument consisting of the graduated arcs or dial plates A^1 and B^1, connected by the graduated arc C^1, said arc being expansible by means of slots, pins, and screws, as described.

No. 20,519.—L. B. Storrs, of Canton, New York.—*Tailors' Pressing Machine.*—Patent dated June 8, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim broadly the application of a treadle to a pressing iron; for this has been previously done, and may be seen in hat-pressing and analogous machines.

But I *claim* the lever C, arm F, "goose" H, and treadle D, when connected together and arranged relatively with each other and the press-board J so as to operate as and for the purpose set forth.

I further claim the particular manner of connecting the "goose" H to the arm F, as shown, viz: having the "goose" provided with the spindle *m*, which passes loosely through the sphere K of the universal joint *i*, whereby the "goose" is allowed an independent rotary movement, it being understood that I do not claim the sphere K and fork *l*, with its shank fitting in the arm F—for this is the usual universal joint—but only the peculiarity attending the connexion of the "goose" to the sphere, as set forth, in connexion with the sphere and fork.

No. 20,879.—Rochus Heinisch, of Newark, New Jersey.—*Improvement in Tailors' Shears.*—Patent dated July 13, 1858.—The nature of this invention consists in constructing tailors' shears with an oblique slot C in the shank E of the lower blade A, running from the rear downwards, and in connecting the blades by a lever B, which, on the separation of the cutting edges, has the effect of moving the lower blade longitudinally and vertically, so as to give it a drawing cut, without the effect of diminishing the extent of the cutting edges.

The inventor says: I do not claim elongating the upper blade of a tailor's shears by means of an eccentric pivot.

Neither do I claim a stop set in one blade and working in a curved slot in the other, as that is fully shown in Joseph Phares' improvement on tailors' shears, patented September 12, 1854.

But I *claim* the oblique rectilinear slot C in the elongated shank of the lower blade A, in combination with the fulcrum D and lever B connecting the shanks, the whole constructed and operating substantially as and for the purposes set forth.

No. 22,124.—Benjamin Johnson, of Philadelphia, Pennsylvania.—*Improvement in Tournures.*—Patent dated November 23, 1858.—The claim and engraving explain the nature of this invention.

Claim.—A curved elastic projection or support, consisting of the springs B B^1 B^2 and webbing C C, or their equivalents, when the said springs are constructed, arranged, and fixed to a waistband A, so as to be held out thereby free from the under garments and person, as described, that they may operate in connexion with the webbing, substantially in the manner described, and for the purposes specified.

No. 19,998.—Henry Kurth, of Brooklyn, N. Y.—*Improvement in Umbrellas.*—Patent dated April 20, 1858.—A represents the stock, B the rib, C the stretcher of the runner, and *d* the notcher of the umbrella frame.

Claim.—Making the rib by coiling the wire into loops, which serve like ordinary holes in the rib for the joints, and attaching the stretcher to the middle loop without the interposition of intermediate links, substantially in the manner and for the purpose as described.

No. 21,313.—Charles Boernicke, of Baltimore, Md.—*Improvement in Umbrellas.*—Patent dated August 31, 1858.—This improvement refers to that class of umbrellas which can be folded together to occupy very little space, so that they may be carried in the pocket of a coat.

Claim.—Constructing a pocket umbrella as described, consisting of rods D D D^2, E F G, joint lever n^5 *p*, collar piece a^3, rod C with

projection *m*, stick A A^1 A^2 A^3, provided with disks *a* a^1 a^2, and lever *b*, with springs *c*, all combined and operated as set forth.

No. 21,855.—Henry Steele, of Jersey City, N. J.—*Improvement in Umbrellas.*—Patent dated October 19, 1858.—This improvement consists in the combination of a lock with the closing catch of an umbrella, so that when the umbrella is locked it can only be opened by the possession of the key; it will be thus rendered useless to others.

Claim.—The combination of a lock with a closing catch of an umbrella, for the purpose specified.

No. 22,033.—Frederick Reichhold, of New York, N. Y.—*Improvement in Frames for Umbrellas and Parasols.*—Patent dated November 9, 1858.—The stretcher E is formed of two wires E and E^1, the latter being coiled around the former, and extending its coils beyond both ends of the exterior wire; the upper coils are then bent, hooked, or fastened on or into the loop or eye *o* formed by the exterior wire of the wire rib D D^1. The lower coils of the stretcher are fastened in similar manner to the runner wire C, and the upper coils of the rib are fastened in similar manner to the notcher B on the stick A.

Claim.—Making the stretcher and rib of two wires each, forming the loops or eyes of the rib by coils of the exterior wire, and attaching the stretcher to the rib, the rib to the notcher, and the stretcher to the runner, by coils or hooks of the exterior wire, all in the manner and for the purpose substantially as described.

No. 22,142.—Edward Young, of Philadelphia, Pa.—*Improvement in Parasols and Umbrellas.*—Patent dated November 23, 1858.—The nature of this invention consists in attaching to the upper end of the lower half of the stick or pole a fixed or stationary tube *c*, said tube being secured by either pin, screw, or cement, said stick penetrating the tube about one-third of its length. In tube *c* is soldered a piece of metal *f*, of the same diameter of the tube, with a hole in the centre, through which a swivel rod works, said rod having on its lower end a knob, or head, which prevents the rod from coming entirely through when it is desired to fold the stick. The upper end of the rod *c* enters the lower part of the joint *b*, where it is securely soldered, said joint being hollow.

Claim.—The combination and arrangement of the stationary tube *c* with the swivel rod *d*, substantially as set forth and for the purposes described.

No. 22,274.—Daniel S. Baker, of Providence, R. I.—*Wristband Fastener.*—Patent dated December 14, 1858.—The nature of this invention consists in a metallic spring so constructed and operated as to form a wristband fastener.

Claim.—The spring E firmly attached to the front of the fastener in its application to the heel H, by means of a shoulder G and the end J, in such manner as to form a perfect fastener, and easily operated upon, substantially as set forth.

XXII.—MISCELLANEOUS.

No. 19,527.—William D. Wright, of Baltimore, Md.—*Burglars' Alarm.*—Patent dated March 2, 1858.—The nature of this invention will be explained by reference to the claim and engravings.

Claim.—Confining a torpedo within a chamber or box between weights or slugs, so that when said box drops and strikes against anything, the force or rebound of the weights shall cause the torpedo to explode, and thus cause an alarm, as set forth.

No. 19,973.—Henry Hersh, Benjamin Bauman, and Henry C. Locher, of Lancaster, Pa.—*Burglars' Alarm.*—Patent dated April 13, 1858.—The nature of this invention consists in a combination of horizontal shifting levers with sliding pins operating on wires.

Claim.—The shape and construction of the levers C with their beams I and weights K, together with the sliding pins E, as operating through levers C against the spring G, all in combination as described for the purposes set forth.

No. 21,555.—A. W. Decrow, of Bangor, Me.—*Burglars' Alarm.*—Patent dated September 21, 1858.—This invention consists in arranging a series of slides and tumblers with a bolt and an alarm movement, whereby an alarm will be sounded when an attempt is made to open the till without having recourse to the bolt which locks it, or by actuating in an improper way the slides which move the bolt.

The inventor says: I do not claim broadly an alarm bell attached to or connected by mechanism with a till or drawer, so that an alarm will be sounded when the drawer is opened, for such devices have been previously used.

But I *claim* the slides D E F, tumblers G H I, bar or bolt J, and an alarm formed of the clock movement C and bell D, combined and arranged to operate substantially as and for the purpose set forth.

I further claim the particular manner, as shown, of operating the tumblers G H I from the slides D E F, to wit: by means of the oblique ledges *n*, formed on the slides, and the adjustable pins *p*, which pass through the tumblers, whereby the tumblers are not only actuated, but changes also allowed to be made, so as to require a varying movement of the slides in order to throw back the bolt J.

I also claim connecting the tumbler G and bolt J with a bar L, substantially as shown, to serve as a check or supplemental device to give an alarm, in case an attempt is made to open the drawer by force or otherwise, without tampering with the slides D E F.

No. 21,849.—Henry R. Robbins, of Baltimore, Md.—*Burglars' Alarm.*—Patent dated October 19, 1858.—The nature of this invention consists in the manner of combining and arranging relatively to each other on a door and door frame the alarm movement, cap nipple, exploding spring-hammer, and stop or set pin, whereby, simultaneously with the operation of setting the hammer so as to explode a

cap when the door is opened, the verge of the alarm movement is caused to lock the verge wheel, and thus prevent the running down of the spring, and simultaneously with the opening of the door and the explosion of cap the verge wheel is unlocked, and the alarm movement caused to give a continuous alarm.

Claim.—The manner specified of combining and arranging relatively to each other on a door G and door frame G¹, or other structure, the alarm movement, cap nipple K, exploding spring-hammer H, and stop or set pin J, for the purpose set forth.

No. 22,024.—N. JENSEN, of Washington, D. C.—*Burglars' Alarm.*—Patent dated November 9, 1858.—The alarm consists of a small cannon *c*, arranged with muzzle pointing downward, and separated from the taper and lighting mechanism by a partition K, so that the gases generated in firing the cannon may not extinguish the taper.

An inclined tube H passes from the vent of the cannon upward through the partition; the upper end is spread out, forming a shield over the taper, and the lower end is disconnected from the vent. A fuse passes from this vent through the tube, and then through an opening in the shield, so that its end will be directly over the flame of the taper.

The inventor says: I do not confine myself to the alarm cannon, or the precise mode of firing it as described, as other alarms, as the bell, may be used, and the mechanism by which they are sounded set in operation by the movement of the socket holding the taper; or instead of the flame of the taper lighting a fuse, a projecting point may extend from the socket, which, when the socket springs back, explodes a cap and fires a cannon.

I *claim*, first, supporting the taper by a spring socket, arranged substantially as described, so that by the movement of the socket when the holding catch is withdrawn the taper is lighted.

Second. On releasing the spring socket holding the taper, I claim lighting the taper, and causing the alarm to be sounded by the movement of the socket, substantially as described.

Third. Arranging the alarm and the light in separate compartments in the box, for the purposes set forth.

Fourth. The fuse-tube, constructed and arranged as described, so that the gases escaping from the vent will pass over the flame, and not come in contact with and extinguish the light.

No. 20,852.—GEORGE D. SARGENT, of Boston, Mass., assignor to Himself and THOMAS R. ABBOTT, of Malden, Mass.—*Improved Burglars' Alarm Clock.*—Patent dated July 6, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the lamp and its lighting apparatus with an alarm apparatus, its case, and the door thereof, so as to be operated thereby, or to operate in connexion therewith, substantially as specified.

I also claim arranging the lamp and the match-carrier on the door C of the case A, in combination with applying the match-grater to the stationary part or body of the case, substantially as specified.

I also claim the combination for operating the extinguisher G, the same consisting in the match-grater *l*, the spring-lifter *c*, the depresser, the catch H, and the detacher K, the whole being applied and made to operate together substantially as specified.

No. 20,810.—JOHN MATTHEWMAN, of New Haven, Conn.—*Improved Burglars' Alarm Clock.*—Patent dated July 6, 1858.—The object of this invention is to give alarm on the entrance of burglars into a room or building, and to furnish an instantaneous light in the chamber or room in which it is placed, when it is operated either by a person entering the room or building, or by an alarm clock set to awaken the occupants of the room at a given hour.

The inventor says: I do not claim making an alarm which lights a lamp at the same time that it rings an alarm, as I am aware that that has been before effected.

But I *claim*, first, the application to the lamp I of the revolving emery paper cylinder M, operated as described and for the purposes set forth.

Second. The combination of the frame F, having duplicated brackets, with the tube G, match-holder J, and the lamp I, as and for the purposes described.

Third. Connecting the lighting apparatus with an alarm clock so as to operate either by the opening of the door or window of the room, or by the clock, as set forth.

Fourth. The combination of the detaching lever C with the lever B and tongue E and their connecting wires, so that the lighting apparatus and, if desired, the alarms can be operated from a distant point, as described.

No. 19,295.—HORACE L. HERVEY, of Windsor, Conn.—*Improvement in Alarm Locks.*—Patent dated February 9, 1858.—In the engravings A represents the back end of the iron case, T the bottom, R the front end, S the side. The top and one side are represented as being removed so as to show the works, B the bolt for the purpose of holding the draw shut when in use, *f* is the connecting link between the bolt B and the lever E, which works upon a pin passing through it at *h*. This lever is operated by the sliding piece D sliding upon shaft O. The sliding piece D is made to slide back to operate the lever E, by means of any one of the pins L to which it should be placed in connexion with any of the pins L, by turning the slide catch-wheel F in the direction desired. D¹ is a slide piece sliding on shaft O, for operating the alarm alone, and is operated by the pins L pressing against plate F, which presses against it and causes it, in being pressed forward, to disengage the alarm works, and thus sound the alarm.

Claim.—First. The main lock-bolt G, or its equivalent, used for the purposes as set forth and described.

Second. The sliding notch-wheel F, for the purpose set forth and described.

Third. The slide piece D, when used in connexion with sliding spring-knobs L.

Fourth. The sliding spring-knobs L, for the purpose set forth and described.

Fifth. The sliding spring-ratchet C, when used for the purpose set forth and described.

No. 19,926.—Horace L. Hervey, of Windsor, Connecticut.—*Alarm Lock.*—Patent dated April 13, 1858.—In using this lock first raise the spring K so that it is clear of the holes in the dial G, then turn the dial around so as to bring the opening in said dial in any desired position. Then look on the dial and see what the number of the hole is that the spring K passes into, then shut the drawer and remember the number. When it is necessary to open the drawer without giving the alarm, the knob of the drawer must be turned so that the index pointer shall stand at the same number upon the outside dial as the spring catch K stands on the inside dial, then pull the knob Q and the piece P will pass the slot in the dial and pass between the pins in the pin-wheel D; then turn the knob either right or left, and the bolt will be drawn so that the drawer can be opened, but if pulled out when the index-hand stands at any other number than that to which it is set, the alarm will be given by means of the dial holder E.

The inventor says: I *claim*, first, the pin wheel D, or its equivalent, constructed and operating as described and for the purpose set forth.

Second. I claim the revolving slotted dial G, either plane, pointed, or corrugated on its face, in combination with the dial holder E, operating as described and for the purposes set forth.

Third. I claim piece P on the rear end of the knob-shaft, and working on the face of the dial G for operating the pin wheel, as described and set forth.

Fourth. I claim the dial M, illuminated or not, and index-hand L, when arranged and operating in connexion with inside dial G.

Fifth. I claim the manner of changing the lock into a common spring lock by means of pin *u*, in the manner set forth.

No. 21,457.—Jonathan W. Wells, of Pittsburg, Pa.—*Improvement in Alarm Locks.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the use and combination of a bell-catch in the keeper of a lock and a spring-catch in the locking bolt, so arranged as before described, to set the alarm by simply locking the door, and to spring the alarm and ring a bell whenever the door is unlocked, substantially in the manner set forth.

No. 20,333.—Addison Corey, of Casstown, Ohio.—*Improvement in Burglars' Alarm Locks.*—Patent dated May 25, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The application to door locks of the insulated knob A, these extra bolts *f* and *g*, levers *p i*, and springs in this arrangement with any lock, and these several galvanic attachments in combination with the lock, as described, or any others substantially the same, and which will produce the intended effect.

No. 21,339.—William O. Hills, of Nottingham, N. H.—*Apparatus for Prison Alarm.*—Patent dated August 31, 1858.—The nature of this invention consists in making the gratings of either a prison door or window tubular or hollow and air-tight, and in combining therewith and in such a manner, an air-pump or an exhaust air-pump, a cylinder and its elastic diaphragm or piston, or their equivalents, and an alarm apparatus of some kind, that should an attempt be made to sever or saw off one of the bars of the grating, the escape of the air through the orifice made, or the inrush of air into the same, shall cause the piston either to be raised or lowered so as to set off or put in operation an alarm apparatus.

Claim.—The tubular or chambered window or door grating, an alarm apparatus, and an air-pump or apparatus as described, or the equivalent therefor, combined so as to operate together, substantially in manner and for the purpose as specified.

No. 19,495.—Thomas Denham and Joseph W. Briggs, of Cleveland, Ohio.—*Alarm Sash Balance.*—Patent dated March 2, 1858.—When the sash is either raised or lowered, the arms or points K successively strike against the curved arm I, and this gives the bell F a shaking motion, and thus, in opening the window by burglars, the alarm would be given to the inmates of the house.

The inventors say: We are aware that fire alarms and burglar alarms are not new, and we do not claim the separate devices employed by us; but we believe that the particular combination invented by us is new, and a substantial improvement upon all alarms heretofore known.

We *claim* the combination of the alarm with the sash balance and window sash when constructed and arranged substantially as described, for the purpose of alarming the inmates of a house when burglars open the windows, as set forth.

No. 19,196.—Abel Hildreth, of Thomaston, Maine.—*Improvement in Tidal Alarms.*—Patent dated January 26, 1858.—In the operation of this improvement one of the chains will be drawn upon and the other slackened by the float, while such float is ascending or descending. That chain which is drawn upon by the float will cause the shaft K to be put in rotation, the slack in the other chain in the mean time being taken up by the rotary movement imparted to the windlass barrel by the descent of the weight R of the said barrel. Each windlass barrel, while being put in revolution by its float-chain, will wind up the chain P of its weight R, so as to provide a power of putting its said barrel in rotation in the opposite direction when its float-chain is next slackened.

The inventor says: I would remark that I am aware that a fog-bell has been sounded by a striking apparatus whose motive power has been obtained by the tidal movements of a float, therefore I do not claim such as my invention.

What I *claim* is my improved tidal alarm, constructed with the two windlass barrels, the ratchets and pawls, the reversing chains and weights, and the two float-chains, arranged and applied in connexion with the striking mechanism, and the float and its stem or rod, so as to operate therewith, substantially as described.

No. 21,719.—John Chilcott and James Scringeour, of Brooklyn, N. Y., assignors to Themselves and George F. Taylor, of said Brooklyn.—*Improvement in the Construction of Aquaria.*—Patent dated October 5, 1858.—The nature of this invention consists in confining the ends of the glass plates of which aquaria are formed between the angular marginal surfaces of metallic plates, between which and the glass plates strips of India rubber or other packing are interposed, the said angular plates and ends of the glass plates being so formed in relation to each other as to form a well or space between the same for the reception of cement, which is poured therein in a heated and liquid state, and allowed to cool and solidify, and thus produce a water-tight joint at the corners of the aquarium.

Claim.—The combination of the dovetailed tenons or tongues C and acute angular plate D sliding over the same, with the outer triangular plate A and ends of the plates of glass B, for forming a space or well between the same for the reception of the cement, and thus enabling a perfect water-tight joint to be formed at the corner of aquaria and other vessels, substantially in the manner and for the purpose set forth.

No. 22,019.—Elijah D. Davis, of Brooklyn, N. Y.—*Improvement in Aquaria.*—Patent dated November 9, 1858.—A is the bottom, B B the ends, and C the front plate of the aquarium, all constructed in the ordinary manner, except that the breadth of the aquarium is less than usual; D is a plate of ordinary silvered glass; E is a sheet of any suitable material to protect the amalgam and increase the strength of the back; the back E D is much higher than the front C, as represented in the engraving.

The inventor says: I *claim*, first. The mirror D, extending above the level of the front plate C, and arranged in relation thereto, and to the contents of the aquarium, substantially in the manner and for the purposes set forth.

Second. The sustaining of the earthy matter H in removable bottom G, and protecting its upper surface by a hand coating *g*, for the purposes as set forth.

No. 22,176.—William Gee, of New York, N. Y.—*Ashes and Garbage Safe.*—Patent dated November 30, 1858.—The object of this invention is to prevent any access to garbage and ashes by any other than the street scavenger; also to prevent the ashes from being blown about the streets during high winds.

Claim.—The combination in a close case of the two chests F E with rollers I I I I, fig. 2, and arms extending from foot C, fig. 1, attached to the case B B, the top being ornamented. Also, the mode of securing the said chests and case as described, for the purpose set forth.

No. 20,085.—William O. Parisen, of New York, N. Y.—*Metal Awning.*—Patent dated April 27, 1858.—This invention consists in the employment of a series of metal plates so arranged as to lap one over another, each plate being fitted between guides which are attached to the lower end of the plate immediately above it, and the

plates connected to toggles, which, in connexion with arms and a windlass, allow the plates to be raised and folded together or to fall and be distended.

Claim.—The metal plates or strips B so arranged that one may overlap the other, and be kept in proper position by guides *b*, when said plates are used in connexion with toggles C C and arms E E G and a windlass I, arranged so as to raise and lower or fold or unfold the plates, substantially as and for the purpose set forth.

No. 20,256.—Allan Cummings, of New York, N. Y.—*Improvement in Ballot-Boxes.*—Patent dated May 18, 1858.—The base of the cover is a plate of glass *a a*, and the sides of it are of perforated metal or wire netting, supported by the angle straps or frame *b b* constituting the corners of the cover. Its truncated apex is sealed over with a sheet metal crown-piece, from which projects a short metallic nozzle or tube C, which communicates with a glass tube C^1, which traverses the entire top vertically, ending just through and below the glass plate *a a* in which it is fixed.

Claim.—The peculiar formed cover or top, combining the glass plate *a*, transparent tube C^1, and the wire screens constituting the sides, all for the purpose and substantially in the manner described.

No. 21,684.—Samuel C. Jollie, of New York, N. Y.—*Ballot-Box.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The employment of a glass globe in the construction of a ballot-box by mounting the globe as described, so that it shall be simply held in place without concealing the contents, and having a hole at top of sufficient size for the hand, which hole is to be provided with a hinged cover with a hole of the required size to drop the ballots through, substantially as and for the purpose specified.

No. 19,384.—William H. Simpson, of New York, N. Y.—*Bank Check Canceller.*—Patent dated February 16, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

The inventor says: I *claim*, first, the application and use of the cancelling knives *a a a* in combination with an ordinary press for the purpose of cancelling checks and other instruments in writing, substantially as described.

Second. I claim as new and of my own invention the use of the sectors D D D, operating between the knives *a a a* through the disk O, by means of the pins E E E, and in contact with the checks below and the projecting edge of the barrel H above, substantially in the manner and for the purposes set forth.

Third. I claim the combination together of the disk O, the sectors D D D, and pins E E E, with the knives *a a a*, piston C, and barrel H, substantially as set forth.

No. 19,229.—Artemas Baker, of Templeton, Massachusetts.—*Improved Tool for Manufacturing Splint Baskets.*—Patent dated February

2, 1858.—The object of this invention is to produce a tool with which thin strips of wood, to be used for basket stuff, chair-bottoms, and other purposes, may be cut from a piece of stuff with their surfaces smoothed at one operation. The nature of this invention is further shown by the claim of the inventor.

The inventor says: I am aware that planes have been used having the edge of the iron inclined to the path of the plane, therefore I do not claim this feature alone.

But I *claim* the described tool, consisting essentially of the guide E, the plate C, and the horizontal iron D, with its inclined edge *c*, in connexion with a horizontal recess B and opening *a*, operating in the manner and for the purpose substantially as set forth.

No. 22,371.—TRISTRAM S. LEWIS, of Kendall's Mills, Maine.—*Improved Folding Bench.*—Patent dated December 21, 1858.—A B denote two boards having hinge blocks *a b* applied to them, and so as to project below their abutting ends. These blocks have hinges *c d* screwed to them for the purpose of connecting the two parts A B together and enabling one to be folded down upon the other.

Two sets of legs or supporters C D are also hinged respectively to the boards A B by hinges *e f*, and so as to enable the legs either to be turned down flatwise against the under sides of the board or turned out into right angles therewith.

Claim.—The arrangement and combination of the hinge blocks *a b*, the leg slides E F, and the confining slide G, as applied to the parts A B and their legs C D, connected or hinged together so as to fold up in the manner substantially as specified.

No. 21,444.—CALVIN B. ROGERS, JOHN ROGERS, and WILLIAM C. ROGERS, of Deep River, Connecticut.—*Improvement in Billiard Balls.*—Patent dated September 7, 1858.—This invention consists in constructing ivory billiard balls in sections, or of a series of pieces cemented or otherwise secured together, and disposed or arranged relatively with each other in a novel way in respect to their fibre, whereby several important advantages are obtained.

The inventors say: We do not claim simply the cementing of a series of pieces of ivory together, and turning the same to form a billiard ball, irrespective of the disposition and arrangement of said pieces in respect to each other, as described; for various articles are formed in sections, or of a series of pieces joined together, and turned or otherwise formed into proper shape.

But we *claim* constructing billiard balls of a series of pieces *a a b*, three or more cemented or otherwise secured together, when said pieces are disposed or arranged in relation to each other in respect to their ber or grain as set forth.

No. 21,159.—WILLIAM R. WINANT, of Brooklyn, New York.—*Improvement in Billard Cushions.*—Patent dated August 10, 1858.—This invention relates to a metallic bearing bar against which the cushion sets, which, by its rigidity and inertia, causes the rubber cushion to be more effective than if it set directly against the wooden cushion rail, and also lessens the sound from the concussion of the ball.

The inventor says: I do not claim a steel facing to a billiard cushion, neither do I claim the attaching said strip or facing to the rubber, by causing said rubber, while melted, to flow against or around said strip of steel; neither do I claim india rubber, or other facing between the steel and the ball, but—

I *claim* the strip *i* of steel or equivalent material inserted into the crease or incision in the India rubber cushion, substantially as and for the purposes specified.

I also claim the metallic bearing bar *c*, between the back of the India rubber and the cushion rail, substantially as and for the purposes set forth.

No. 22,001.—DANIEL D. WINANT, of New York, N. Y., assignor to WILLIAM R. WINANT, of Brooklyn, New York.—*Improved Billiard Table.*—Patent dated November 2, 1858.—*a* is the usual wood frame of the desired size and shape receiving the slab, and these frames are to be adapted to setting together in the usual way on the base of the table; *b* is the slab of glass, the edges of which are ground or dressed to a level at distances of about two inches apart, more or less, around the edges, which bevels are about two inches in width, and adapted to receive the metal clip *c* that is formed to set over the said inclined part of the edge and is screwed down, securely holding the glass to the bed; sufficient number being applied around the edges of the glass for this purpose. The frame is then finished out level by the strip *d*, which also sustains the clip *c*.

f is the cushion rail, and *g* is the screw passing through said rail and into a hole in the block *e*, 3 is the nut dropped into a mortise in said block *e*, and into which the screw *g* is entered.

The inventor says: I *claim*, first, constructing the beds of billiard tables of slabs of glass, substantially as and for the purposes specified.

Second. I claim the clips *c c*, taking the bevelled edges of the slab to retain the same, as described and shown.

Third. I claim the block *e* receiving the screws *g* of the cushion rail, as and for the purposes described.

No. 22,064.—H. W. COLLENDER, of New York, N. Y.—*Improved Billard Table.*—Patent dated November 16, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I am aware that strips of steel have been used in cushions for billiard tables, but in such cases the strips have been secured above the bed of the table to cushion blocks or frames of the usual construction, and therefore I do not wish to be understood as making claim broadly to the use of strips of steel for the cushions of billiard tables.

What I *claim* is the manner, substantially as described, of applying steel springs as cushions to billiard tables by clamping the lower portion thereof to the edge of the bed, as set forth.

And I also claim making the height of the cushions above the bed

of the table adjustable substantially as described, that they may be adapted to balls of different diameter, as set forth.

And I also claim combining with the bed and cushions, applied substantially as described, a flanch or ledge outside of the cushions on a level with the bed, or nearly so, substantially as described, to form a rest for the hand when playing with the ball near the cushion, as set forth.

No. 20,156.—George W. Holman, of New York, N. Y.—*Improvement in Billiard Table Cushions.*—Patent dated May 4, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim an elastic cushion for billiard tables, but I am not aware that a whalebone facing has ever before been applied to said elastic cushion, whereby the new and useful results specified are attained.

Therefore I *claim* the whalebone facing to the elastic cushions of billiard tables, substantially as and for the purposes specified.

No. 22,263.—John E. Came, of Boston, Massachusetts, assignor to Himself and James E. Came, of said Boston.—*Improved Billiard Table Cushion.*—Patent dated December 7, 1858.—The claim and engravings explain the nature of this invention.

Claim.—An improved mode of making a billiard table cushion, viz: of a vulcanized caoutchouc body A, a thin facing *a* of hickory or its equivalent, and a covering thereto of water-proof cloth or material, the whole being applied together and covered with one or more layers of cloth, substantially as described.

No. 19,101.—Michael Phelan, of New York, N. Y., assignor to H. W. Collender, of New York, N. Y.—*Improvement in Cushions for Billiard Tables.*—Patent dated January 12, 1858.—The claim and engravings explain the nature of this improvement.

The inventor says: I *claim*, first, giving the side and corner pocket iron of billiard tables the form of a semi-circle or regular concave as shown, instead of a form which is partly convex and partly concave, or similar to a cima-reversa ogee, as shown in figure 3, substantially as and for the purposes set forth.

Second. Having the cushions extended with a flat or rectilinear surface along their whole length, or of an equal thickness from pocket to pocket, and terminate at or slightly beyond the corner pockets in flat bevelled ends, and at the side pockets in similar flat bevelled ends, substantially as and for the purposes set forth.

No. 19,074.—H. W. Collender, of New York, N. Y.—*Improvement in Cushions for Billiard Tables.*—Patent dated January 12, 1858.—This invention is described by the claim and engravings.

The inventor says: I do not claim, in this application, the use of two rubbers of different densities, as this is covered by a former patent of mine.

Nor do I claim a steel strip, a whalebone strip, or any other substances which are used with a view of producing a cushion which has an elastic foundation and a comparatively solid face.

But I *claim* uniting the parts employed in forming combination billiard cushions, by placing the harder or more dense and less elastic substances in a mould, and allowing the melted rubber to flow against, around, or into the harder or dense and less elastic substances, or causing the plastic rubber by pressure to unite with the same, substantially as and for the purposes set forth.

No. 22,020.—Levi Decker, of Bergen, New Jersey.—*Improved Cushions for Billiard Tables.*—Patent dated November 9, 1858.—The nature of this invention is to employ, in the construction of billiard-table cushions, India rubber, in a stretched and unstretched state, combined together, for the purpose of making the cushions of such flexibility or softness as to offer on their surface but little or no resisting force.

Claim.—The combination in a billiard-table cushion of stretched and unstretched rubber, for the purpose described.

No. 19,755.—Charles Croley, of Cincinnati, Ohio.—*Folding Billiard Table.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—The arrangement of certain devices for folding and moving the frame of the table, and swinging the bed of the table, as represented, consisting of the pieces C C, hinges *d* and *f f*, the levers P P, leg pieces *m* and rollers *n*, and the links *g g* and rollers J, all connected and arranged as represented, and for the purpose specified.

No. 20,548.—John E. Came and Simeon Havens, of Boston, Mass.—*Improved Pocket Supporter for Billard Tables.*—Patent dated June 15, 1858.—The claim and engravings will explain the nature of the invention.

The inventors say: We are aware that it is not new to apply a cushion to a surface to protect such from injury; therefore we do not claim such.

Nor do we claim the application of elastic cushions to the guards of a billard table.

But we *claim* the arrangement of a strip of vulcanized rubber *b*, or its equivalent, along the inner edge of the pocket supporter, and between the same and its leather covering, the same being for the object and purposes as set forth.

No. 19,546.—Charles Croley, of Cincinnati, Ohio.—*Improvement in Billard-Table Tops or Beds.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—Constructing the bed of billiard tables with the grain of the wood at right angles with the surface of the bed, and confining the bed to the frame *a* of the table with the cross-bars *c c c*, screws *f f f*, and blocks of wood *d d d*, arranged as represented, for the purpose of allowing the bed B B to expand and contract without becoming untrue, as before mentioned, and for other purposes specified in the foregoing specification.

No. 22,186.—JOHN L. MASON, of New York, N. Y.—*Improvement in Screw-Neck Bottles.*—Patent dated November 30, 1858.—The engraving A represents the top or nozzle of the bottle. The screw thread terminates before reaching the top or bottom of the neck.

The inventor says: I *claim* a screw neck or nozzle of a jar or bottle in combination with a groove separating the head from the shoulder of the bottle or jar, as described.

I also claim a screw on the exterior of the neck of a bottle or jar in which the neck extends above the screw thread and the thread vanishes into the neck of the bottle or jar, substantially as described.

No. 19,323.—JEREMIAH B. WILLIAMS, of New York, N. Y.—*Improved Bottle Stopper.*—Patent dated February 9, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

Claim.—I am aware that a ball valve is not new, and I lay no claim to it in its general application.

But I *claim* a bottle stopper composed of a metal tube having proper flanges, one end of which is covered with cork and its top furnished with a ball valve which moves between guides attached to the tube or its flange, the whole being made as set forth.

No. 22,370.—THOMAS LEWIS, of Malden, Massachusetts.—*Improvement in Bottle Stoppers.*—Patent dated December 21, 1858.—In this improved stopper the ball and its seat are placed within a chamber not only with a set of three or more guide ribs, but with a separate screw cap provided with retaining bars or their equivalents and a discharging mouth or tube. By unscrewing and removing the cap from the main tube the ball can easily be taken out of the latter and cleansed.

Claim.—My improved ball-valve stopper, as made, with the separate cap C, provided with a discharging tubular mouth *i* and crossed bars *g h*, or equivalents, for detaining the ball as described, and connected with the main tube or body by a screw or its equivalent.

No. 20,778.—MUNSON C. CRONK, of Auburn, New York.—*Improvement in Stoppers for Bottles.*—Patent dated July 6, 1858.—The nature of this invention consists in enlarging the mouth of the neck of the bottle, and attaching thereto a metallic tube B of the form of a frustum of a cone, having a cylindrical tube A cast concentrically around its upper portion, on which is screwed a cap G in such a manner as to enable a part or the whole of the effervescent liquid to escape from a tube F in the side of the cylindrical tube by partially unscrewing the cap.

Claim.—Attaching to the necks of bottles, and within a tapering space B, a tapering or flaring tube A, having a concentric cylindrical tube E cast or secured around the same, with a cap G screwed on its top, and an outlet tube F attached to its sides, in the manner and for the purpose described.

No. 20,843.—JAMES EWING, of New York, N. Y., assignor to FREDERICK V. RUSHTON, of New York aforesaid.—*Improved Stopper for Bottles.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—An improvement in bottle stoppers for bottles containing gaseous liquids confined under high pressure, is the arrangement of the tubular stem valve B within the chest A, with the cork tube E; the whole being constructed and operated substantially as set forth.

No. 20,520.—WILLIAM J. STEVENSON, of New York, N. Y.—*Improvement in Metallic Caps for Bottles, Jars, &c.*—Patent dated June 8, 1858.—The nature of this invention will be understood by the claim and engravings.

Claim.—The construction of the cap B with the band *d*, fitted and united to the exterior of a rim formed upon its head, and with a lap *f*, which is left unsoldered or simply tacked, so as to be capable of being laid hold of, to strip the band from the exterior of the head, substantially as described, when it is desired to open the bottle or vessel.

No. 20,113.—WILLIAM B. WHITE and JOHN A. WHITFORD, of Saratoga Springs, New York.—*Machine for Washing Bottles.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim generally the washing of bottles by causing them to rotate against stationary inside or outside brushes, as that device has been used before and is well known.

Nor do we claim any particular form or arrangement of brushes.

But we *claim*, first, the series of devices described, including the pulleys D and D^1, the clutches E E^1, the collar F, the radial arms G G, the springs H H, and the gripers I I, with the parts connected, constructed, and operating substantially as set forth, whereby the bottle is rotated in one direction, while the chain or brush or other device for cleansing the inside of the bottle is rotated in the other, for the purposes set forth.

Second. We also claim the use of a cam (like that of a pocket-knife blade) on the hinged end of the rod I, whereby the same tends to remain in a line continuous with the main spindle, or at right angles or any other given angle thereto.

Third. We also claim the use of the spring N on the bar *m* so as to adapt the same to different depths of bottles.

No. 20,240.—GEORGE K. FARRINGTON and SAMUEL BROWN, jr., of Xenia, Ohio, assignors to Themselves and DAVID B. TIFFANY, of said Xenia.—*Improvement in Candy Machines.*—Patent dated May 11, 1858.—The operation of this machine is as follows: The kettle being adjusted in its proper place, and filled with melted sugar, the handle A^2 is turned forward, which moves the pitman K L L to which the knife M M N N is attached downwards, and when the knife begins to descend the long pitman P P commences ascending, the hook at the lower end catches the wheel R, and as the pitman P P ascends the

roller S is revolved, and the endless apron is drawn out a sufficient distance to remove the last row of "mint drops" cut off from under the succeeding drop.

The inventors say: We do not claim the endless apron, although we do not know of its ever being used in the manner described.

What we *claim* is the construction of the machine, the construction of the sugar kettle and spouts as described, the method described of cutting off all the drops with one stroke of the knife working vertically, in connexion with the adjustable pitman, or any other means substantially the same, producing the same effect.

No. 21,384.—T. R. Timby, of Medina, N. Y.—*Improved Travelling Casket.*—Patent dated August 31, 1858.—The nature of this invention consists in attaching the stiff slides of the travelling casket to the intermediate metal or other framing by means of rubber or other springs, so that the flexible carpeting or other material of which the casket is covered shall be contracted, or may be extended at the ends and edges of the casket, and thus made to confine securely in place the goods within the casket, or afford greater space for the introduction of goods into the casket.

Claim.—Attaching the stiff sides *c c* of the travelling casket to the intermediate metal or other framing *d d*, by means of rubber or other springs B B, substantially as and for the purposes set forth.

No. 21,677.—Edmund Hoole, of Mount Vernon, N. Y.—*Improvement in Baggage Checks.*—Patent dated October 5, 1858.—This invention consists in stamping, engraving, or otherwise marking both sides of the metal plate which forms the check with the names of stations on the line of the route of the conveyance for which the checks are intended, and so attaching or arranging the strap of the plate or check relatively with it that, by properly adjusting the strap, either side of the check may be made the face or obverse side as occasion may require, and consequently one plate or check may be made to answer the purpose of two ordinary checks.

Claim.—Stamping, engraving, or otherwise marking on the plate or check A the names of two different stations, one at each side, when said plate thus stamped or engraved is used in connexion with a strap B attached to the plate, and rendered capable of being adjusted as shown, for the purpose specified.

No. 19,717.—Henrich Reimann, of Hartford, Conn.—*Improvement in Cigar-Lighting Cinders.*—Patent dated March 23, 1858.—The nature of this invention consists of various ingredients made into a small cake or pellet. The ingredients are as follows: 12 parts pulverized charcoal, 6 parts nitre, 2 of wheat flour; this preparation is used for making the body part of the cinder for lighting. The second preparation used to impregnate the top part of the body, which causes it to instantly ignite, is made as follows: 4 parts phosphorus, 6 of calcined plaster, 6 of gum arabic, and two of gunpowder.

Claim.—The cigar lighting cinders, compounded and formed as described and for the purpose set forth.

No. 19,580.—Henrich Reinmann, of Hartford, Conn.—*Apparatus for Containing and Igniting Cigar-Lighting Cinders.*—Patent dated March 9, 1858.—The box is held in the hand with the round grated end G downwards. The thumb piece E is then drawn back, which causes the circular sliding part or passage C to revolve, and open a space to receive one cinder in the end of the slide. The thumb piece E is then released, and the return of the circular slide C, caused by the re-action of the coiled spring F, suddenly conveys the cinder into the grated cavity G, which, in its quick passage under the toothed edge friction-piece, becomes ignited by the teeth passing through the phosphorus dot on the centre of the cinder face The cinder flames up for a few seconds, then dies out, and leaves the body of the cinder a live bright coal.

Claim.—The combination of the conveyor *c* and ring *b* with the toothed ring *a*, constructed and operated substantially in the manner and for the purpose set forth.

No. 21,558.—Henry Durell, of Morrisania, N. Y.—*Improvement in Cigar Wrappers.*—Patent dated September 21, 1858.—The object of this invention is to convert the stalks, stems, or other parts of the tobacco plant, now comparatively useless, into an artificial leaf, which, while it shall be composed only of the same constituent parts or elements as the natural tobacco leaf, shall yet be more valuable and useful in its application to the various purposes to which the tobacco leaf may be applied.

The inventor says: I do not claim converting the fibrous or ligneous parts of the tobacco plant into sheets or leaves.

But I *claim* the removal of the coloring and flavor of the plant by means described, then reducing to pulp and thence to paper the fibrous or woody parts of the plant in any known way, and then re-charging said paper with the solution or volatile matters previously removed therefrom, in order to prepare said paper to be used as wrappers for cigars.

No. 19,746.—Thomas Blanchard, of Boston, Mass.—*Improvement in Cigars.*—Patent dated March 30, 1858.—The paper is first cut in pieces of a suitable size, fig. 1, and the edge is turned over by means of two wires *a b*. The fine tobacco is then applied to the paper, and the whole is wrapped up; the edge at *f* being parted, the wires are then withdrawn, and the ends are rolled up to prevent the escape of the tobacco.

Claim.—The described cigaretta or paper cigar, made in the manner substantially as set forth.

No. 19,341.—Louis Beauché, of Paris, France.—*Machine for making Cigars.*—Patent dated February 16, 1858.—The claim and illustrations will explain the nature of this invention.

The inventor says: I *claim* forming the core of cigars, and covering the same with tobacco leaves, so as to acquire a perfect shape, by means of the apparatus described, consisting mainly of endless bands made of India rubber, or any other suitable yielding substance, revolving

in contrary directions, so as to gather the tobacco for forming the core under required pressure.

I also claim, at or near the ends of the covering bands, shaping-dies, which are so constructed as to allow the leaves to be fed in and beween them, to give a perfect form to the conical end of the cigar.

I also claim the arrangement described of knives on each of the frames supporting the band rollers.

I also claim the general arrangement of parts constituting a cigar-making machine, substantially as specified.

No. 21,704.—James S. Suter and George M. Palmer, of Baltimore, Md.—*Improvement in Wrappers for Cigars.*—Patent dated October 5, 1858.—The nature of this invention consists in an arrangement for agitating, separating, and conveying the liquor from one tan-vat to another.

The inventors say: Being aware that the stems and refuse tobacco have been before used for making a material similar to paper and for like purposes, by John Adcock, in England, we desire to disclaim the use of said stems and refuse tobacco.

But we *claim* taking pearl ash, powdered sal ammoniac, lobelia or Indian tobacco, oil of anise seed, oil of caraway, alcohol, grass, rope, rum, cascarilla bark, opium, sumac, and stems or refuse tobacco, and converting it into sheets for wrapping woollen goods to prevent moths from eating them, lining for cases for the same, covering for carpets, and wrappers for cigars or tobacco.

No. 19,503.—Daniel Hooker and Solomon E. Hooker, of West Poultney, Vermont.—*Improvement in Coffins.*—Patent dated March 2, 1858.—The nature of this improvement will be understood by reference to the claim and engravings.

The inventors say: We *claim* the employment of a skeleton frame composed of strips of angular metal extending along the angles of the coffin and firmly secured together, so as to furnish the main support of the coffin, and at the same time a proper means of attaching the slab or stone, and of securing tight joints, as specified.

We also claim the combination of this frame with a thin slab of slate or other stone, whereby a coffin of superior strength, durability, and lightness is produced.

No. 20,095.—Isaac C. Shuler, of Amsterdam, N. Y.—*Improvement in Constructing Coffins.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the combination of the self-securing frame H, with the catch on the false head-piece B, operated by the spring C, as a cover over the joints after soldering in the top of a metal coffin.

I claim, second, the arrangement of placing inside of a metal coffin, near the upper edge of the walls, the iron frame E, or its equivalent, fastening it securely, for the purpose of shaping permanently the upper part of the body of the coffin, exactly like the bea led frame D at the bottom, and as a means of securing a close joint on the top

for soldering the same to the walls of the coffin. Also for the purpose of supporting the top on a line sunk somewhat below the upper edge, sufficient to leave an extension or projection of the metal all around the upper edge of the walls above the coffin top, when fixed in its proper place. This extension of the metal, which shows itself above the frame E, is made expressly for the purpose of soldering on the coffin top without using the lap or lock joint.

I claim, third, the false head-piece B and the spring C or its equivalent.

No. 20,770.—Robert P. Abernethy, of Cincinnati, Ohio, assignor to Union Cork Manufacturing Company, of Cincinnati aforesaid.—*Improved Machine for Cutting Corks.*—Patent dated July 6, 1858.—Journaled horizontally to the frame *a* (so as to move in a vertical plane) is an arm *d*, having a rectangular notched head *e* adapted to hold the square piece or "blank" out of which a bottle cork is made. At one end of the notch is a small yielding strip of metal *f*, of such shape as when advanced to remain clear of the stationary mandrel. A lip *g*, which curves outward and downward from the head *e*, receives the finished cork from the mandrels *r s*, and conducts it into the discharging spout g^2. An intermediate vibratory motion is given to the arm *d* by means of a suitable cam F, which derives its motion from the same mechanism which operates the mandrels. Four counter shafts *l* are so geared together as to revolve four times at each revolution of the cutter wheel *j*.

The inventor says: I *claim*, first, in this connexion, the automatic feed-rest *d e f g*, substantially as set forth.

Second. Imparting to the mandrels of a cork-cutting machine a compound rotary and vibratory movement, by means and for the purposes substantially as set forth.

No. 20,771.—Robert P. Abernethy and Mahlon M. Wombaugh, of Cincinnati, Ohio.—*Improved Machine for Cutting Corks.*—Patent dated July 6, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We *claim*, first, the rotary cutter head, having alternate blades and spaces, in combination with the automatic mandrels, to admit of the removal of the finished cork; and clamping the fresh blank without removing either cutter or mandrels *r s*, to admit of the removal of the finished cork; and clamping the fresh blank without removing either cutter or mandrel.

Second. In combination with the intermittent cutting disk and mandrels, substantially as described, we claim the described arrangement of half-wheel cam movement and the accessories, for the purposes set forth.

Third. We claim in this connexion the feed apparatus, consisting of the hopper *y*, notched piston, and cam movement, with their accessories, substantially as described.

Fourth. In the described connexion with the feed piston and mandrels, we claim the spring pressure plate or finger, operated substantially as and for the purpose set forth.

Fifth. In the described combination with the feed piston *x* and mandrels, we claim the discharging spring or strip, substantially as set forth.

No. 21,944.—Edward Conroy, of Boston, Mass.—*Improved Machine for Cutting Corks.*—Patent dated November 2, 1858.—The nature of this invention and improvement consists in the employment of certain appliances, in connexion with the rotary cutters and sharpening device described in the cork-cutting machine of this inventor, patented April 20, 1858, as will enable the former to vore-cut the corks, the latter to be more simply operated, and the corks to be automatically and in a more simple and correct manner brought and embraced between revolving heads while being cut and discharged therefrom, than heretofore.

The inventor says: I *claim*, first, the combination and arrangement of the sliding plate V, sliding plate and spring or pointers W in front of the same, vibrating angular lever Y, and cams *a a* on inclined revolving shaft P^2, partly cogged wheel R, and spring arbor or shaft T, for placing and securing the rough pieces of corks to be cut between the pointed end of the said arbor or shaft T and correspondingly pointed revolving hub U^1, the whole being constructed and operating substantially as described.

Second. I claim the combination of the cam K, secured to the top of the frame A and curved spring J, with the sharpening device G and rotating cutter-plate H, for sharpening the cutters after they have cut the cork and are in the act of being again withdrawn and moved toward the arbor or shaft T, as described.

Third. I also claim the combination of the cam o^3 and friction roller *b* with the sliding frame B, as set forth.

No. 19,109.—Leonhardt Witting, of Philadelphia, Pa.—*Improved Creeper.*—Patent dated January 12, 1858.—This invention consists of a metal socket B, furnished with spikes at the bottom, and adapted to the form of the heel of a boot or shoe, the said socket being furnished in front with spring lips *d*, and at the back with a spring catch E, so that the whole constitutes a secure and efficient creeper.

Claim.—The spiked socket B, with its spring lips *d*, in combination with the spring catch E, the whole being arranged substantially as set forth and for the purpose specified.

No. 21,955.—Louis Grosholz, of Philadelphia, Pa.—*Improved Drinking Cup.*—Patent dated November 2, 1858.—This invention consists in combining a small cup with one or more rings, both cup and rings having sides inclined at precisely the same angle, and the whole being so arranged that when extended they shall form a watertight drinking cup of ordinary capacity, and when depressed shall occupy no more space than the uppermost ring, the whole forming a portable cup, which can be carried in the pocket without any inconvenience.

Claim.—The inventor says: I do not desire to confine myself to the employment of three sections, inasmuch as two might be used for a small sized cup, and for those of a larger size four or five sections might be advantageously employed.

But I claim as a new and improved article of manufacture a drinking cup formed of two or more sections with inclined sides, said sections being adapted to and detachable from each other, substantially as set forth and for the purpose specified.

No. 19,791.—Charles Perley, of New York, N. Y.—*Improved Desk Seats for Schools.*—Patent dated March 30, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Supporting the seat by a bracket *h* extending from the pedestal or column of the desk, whether said seat be a permanent fixture or fitted to swing around, substantially as and for the purposes specified; whereby the floor is unobstructed by the separate legs or pedestals of the seat, and greater facility afforded for clearing the room, and more space given for the feet of the scholars.

No. 20,487.—Joseph H. Grimsley and Perry J. Ankney, of New Lexington, Ohio.—*Improved Writing Desk.*—Patent dated June 8, 1858.—The nature of this invention consists in providing in the inside of the upper part or body of the table or desk two movable resting boards F F, which are raised and lowered by cords and pulleys, on which boards the book is placed while being written upon. The object of raising and lowering is, that the book may be kept perfectly level while the writer is writing thereon.

Claim.—The application to, or construction of, writing tables or desks, in the manner substantially as set forth and described.

No. 21,249.—John W. Fiester, of New Lexington, Ohio.—*Improved Writing Desk.*—Patent dated August 24, 1858.—In the operation of this invention the record is placed at the lower end of the desk, and the hand board C turned over it, or it may be turned out from the desk. This board is bevelled in front to a feather edge, and is attached to the desk with its thick edge by means of hinges; when it is thus arranged and turned back, the edge of the board acts as a fulcrum for its leverage and holds it in its place, the cord *l* is drawn down to the book and is attached to it, the copy is then placed in the slot in the roller *j*, passing through the opening under spring *n*, and as the greater part of the weight of the book will be on the right side of the desk, it will press more heavily on the right side of the scales and at the same time raise up the left side, thus making the plane of both sides of the book equal or even, and this equality of the plane or surface of the book is kept up at all times, however the weight of the sides of the book may vary, whether on the right or left hand.

Claim.—The arrangement of rollers A A with coiled springs attached, with the horizontal cords C on pulley *z*, the canvas arranged on the rollers and scales, and the hand board c hinged to the desk, as and for the purposes set forth.

No. 20,859.—JEREMY W. BLISS, of Hartford, Connecticut.—*Improvement in Door Plates.*—Patent dated July 13, 1858.—This improvement consists in arranging the door plate B with an opening and bell R, bell pull, &c., in such a manner that it may become a permanent fixture to a house, and answer the three-fold purpose of a door-plate, door bell, and letter and paper receiver.

Claim.—The perforated door plate A B and bell arrangement I J K P N O M, constructed and arranged to secure the three-fold object, substantially in the manner and for the purpose as described.

No. 20,100.—HENRY R. TAYLOR, of Roxbury, Massachusetts.—*Improved Drawer for Closets, Bureaus, &c.*—Patent dated April 27, 1858.—In moving this improved drawer, as the drawer B is pulled out, the metal boxes *e* strike against the shoulders *h*, and draw out the sliding piece C. The tongue *b*, running in the groove *a*, prevents any lateral vibration of the pieces C, and they, in turn, keep the drawer straight. When the drawer is out it is effectually supported by the rollers *f*, resting on the pieces C; these being drawn out but part way supported in the bureau between the bottom E, over which the drawer slides, and the cleats D above them.

Claim.—The sliding pieces C, or their equivalents, connected with the drawer, and operating in the manner substantially as set forth.

No. 20,703.—ADAM EMEIGH, of Jerusalem, New York.—*Apparatus for Skinning Eels.*—Patent dated June 29, 1858.—This invention consists in the employment or use of a holder or clamp C and decapitating knife, used in connexion with a griper T and ripping-knife K, or their equivalents, whereby the skinning of eels may be performed very expeditiously.

Claim.—The holder or clamp formed of the frame C, connected with a spring treadle E, and provided with spurs *d d*, and the knife G, and leger blade F, arranged relatively with each other as shown, the above parts being fitted in or attached to a frame A, and used in connexion with a griper T and ripping-knife K, or their equivalents, substantially as and for the purpose set forth.

No. 21,282.—OWEN SWEENEY, of Brooklyn, New York.—*Fire Escape.*—Patent dated August 24, 1858.—This invention consists in the use of a drum, having a rope and basket or car attached, a brake and platform, and compensating spring, combined and arranged, whereby a person can descend to the ground from a window in the upper stories of a building in safety.

The inventor says: I *claim* the drum D, with rope E attached, brake F, and compensating spring J, and vibrating or tilting platform board C, placed within the box A, combined and arranged to operate as and for the purposes set forth.

I further claim the particular arrangement of the rack-bar H, pall I, platform or board C, and strap or brake F, as shown, whereby the person that descends solely by its own gravity releases the drum from the brake, and causes the car or basket to ascend, and also by the same means regulates for his descent the pressure of the brake on the drum, as described.

No. 20,752.—JOSEPH WELTE, of Buffalo, New York.—*Improvement in Fire Ladders.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

The inventor says: I do not claim the ladders described, nor their combination, nor the extension thereof by any means. Neither do I claim hinging the ladders to the carriage.

I *claim* the combination of the right angled levers B and B^1 (hinged to the carriage) with the frame B and windlass E, for the purpose of elevating the ladders and lowering the foot thereby easily to the ground, and for detaching the same from the carriage, substantially as set forth.

I also claim the combination of the right angled frame *h h*, including the wheels *i i*, with the topmost ladder, for the purposes as set forth.

No. 20,961.—WILLIAM STAEHLEN, of Williamsburg, New York.—*Improvement in Firemens' Trumpets.*—Patent dated July 20, 1858.—This invention consists in constructing the body of the trumpet and also the flaring terminus or end piece each of paraboloidal form, and placed in such relation to each other and to the mouth piece that the sound will not only be projected from the flaring end piece in parallel lines of vibration, thereby sending the sound a greater distance than when it is allowed to diverge, but the instrument is also rendered available as an ear trumpet, thereby containing two instruments in one.

The inventor says: I am aware that paraboloidal end pieces have been applied to trumpets, and I do not claim such device; but I am not aware that an end piece and body each of paraboloidal form have been previously used in the construction of speaking-trumpets.

I *claim* the end piece C and body B, constructed in paraboloidal form, and arranged relatively with each other and the mouth-piece A substantially as and for the purpose set forth.

No. 20,343.—JACOB GARL, of Suffield, Ohio.—*Apparatus for Catching Fish.*—Patent dated May 25, 1858.—The nature of this invention consists of a toothed jaw, which, upon the fish touching a sliding cross-bar, closes instantly upon the fish, which is held firmly between the toothed jaws.

Claim.—The sliding trigger E, the notch B, key F, nut *g*, as applied to a machine for catching fish, and described in my specification for that purpose.

No. 20,725.—BENJAMIN MERRITT, jr., of Charlestown, Mass.—*Net for Catching Fish at Sea.*—Patent dated June 29, 1858.—Extended in opposite directions are two arms *d d*. From each strut, near the heel or inner end, a bolt *e* projects, which has the heel of a boom *f* connected to it by a rope or connexion *g* of such nature as will allow the booms

to be moved, either upward, downward, or laterally. Each of the booms *f f* has two sets of hauling tackle: *h h* and *i i*.

The inventor says: I *claim* combining a seine or net with the hull of a navigable vessel, substantially in the manner, and so as to operate therewith, as described.

I also claim the mode of spreading the ends and outer edge of the net, viz: by the booms *f f*, the sprits *d d*, and the hauling tackles *h h*, arranged and applied together and to the vessel as specified.

I also claim the combination of the brailing line *l* and the lifting tackles *i i* and *m*, with the net, its booms, and the masts.

No. 20,309.—J. C. Underwood and Thomas J. Bargis, of Richmond, Indiana.—*Improvement in Tips for Fishing Rods.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

Claim.—Attaching the pulley *d* to the top A of the rod, through the medium of the socket B, or its equivalent, so arranged that the pulley *d* is prevented from turning entirely around the tip, and the line thereby prevented from winding around the rod, and at the same time the pulley allowed to adjust itself, so that the plane of its rotation may at all times be made to coincide with that of the line *e*, substantially as and for the purpose set forth.

No. 20,539.—John G. Baker, of New Brunswick, N. J.—*Improved Machine for Cutting Glaziers' Pins.*—Patent dated June 15, 1858.—As the drum or cylinder M rotates, the cutter Q cuts points from the edge of the plate U, which moves with such a speed relatively with the rotation of the drum that intermediate portions a^x are left of the precise size and shape as the points cut from the plate by the cutter *c*. The parts a^x are cut from the plate by the cutter R.

Claim.—The rotating drum M, provided with the cutters Q R, two or more, in combination with the stationary die or bolster S, provided with the recesses *f g* and the feed rollers *o*, arranged to operate substantially as and for the purposes set forth.

No. 19,205.—Horatio Pollard, of Boston, Mass.—*Improved Heel Spur to Prevent Slipping on Ice.*—Patent dated January 26, 1858.—In the engravings *a a* represents a stud or spur with a sharpened point, and having a male screw thread cut on its surface; *b b* is a socket fastened into a heel *c c* by a screw thread *d*, having a female screw thread fitting into its inner circumference, into which the male screw of the spur *a a* fits. By turning the spur by means of a key, it can be moved up into the heel or made to project therefrom.

Claim.—The combination of the screw socket and screw stud or spur, as described, and for the purpose specified.

No. 19,761.—John J. Eshleman, of Lancaster, Pa.—*Self-Loosening Horse and Cattle Tie.*—Patent dated March 30, 1858.—Near the centre of the casing A is the guard G, through which is admitted the upper section D of the bolt, as far as the shoulder O. The bolt B consists of two parts, detached and fitted together when in working operation by the scarf joint H. F is the spiral spring which rests on the guard G,

and is held in its place by the concave and nut E, which screws on the top of section B of the bolt B.

The inventor says: I *claim* the bolt B in two sections, connected by the sliding scarf joint H, for the purpose of instantly loosening the horse, as set forth.

I also claim the devices of the bolt B, spiral spring F, and casing A; all in combination operating together, substantially in manner and for the purposes set forth.

No. 22,210.—Hiram Van Steenburgh and Joel Egnor, of Catskill, New York.—*Improvement in Apparatus for Hoisting and Storing Ice.*—Patent dated November 30, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We *claim* the method of transporting ice upon inclined planes by carrying the ice up between parallel endless chains, having bars extended between said chains to hold the ice and propel the same; the planes being placed with openings for the passage of the ice to successive stories of the ice houses, and the propelling bars being so arranged that the descending bars shall not interfere with the free passage of the ice through the openings in the plane.

We further claim the use of the hatches described to close the openings in the plane, in order to permit the ice to pass beyond a lower to an upper story of the ice house, the whole apparatus substantially as described and set forth in the above specification.

No. 19,195.—R. W. Heywood, of Baltimore, Maryland.—*Improvement in Machines for Planing away Ice in Rivers.*—Patent dated January 26, 1858.—The nature of this invention consists in the bevel-edged plane-irons connected with the series of grooving bevelled cutters *c c*, for the purpose of grooving and planing away ice in navigable waters; also in an arrangement of parts whereby the shaft carrying the grooving cutters and planing irons can be adjusted without affecting the driving gear, so as not to come into operation at all, or to suit different thicknesses of ice.

The inventor says: I *claim*, first, the bevel-edged plane-irons E, connected with the series of grooving bevelled cutters C C, for the purpose of grooving and planing away ice on navigable waters, substantially as set forth.

Second. The peculiar arrangement consisting of the adjustable standards D D D^1, pulleys *i j*, endless chain I, pin, pinions *f f*, crank-shaft E, in combination with the ice-grooving and planing mechanism, substantially as and for the purposes set forth.

No. 20,322.—William G. Brower, of Staatsburgh, New York.—*Machine for Hoisting Ice.*—Patent dated May 25, 1858.—This invention consists in the employment of a vertically sliding receptacle or box D, provided with a door or flap *c* connected with a windlass H, which is arranged with a clutch J and spring-catch *e*; the several parts being so combined and arranged that by the rotation of the driving-shaft I the receptacle or box will be elevated, the ice discharged therefrom, the box allowed to descend and again elevated, and so on the several parts working automatically by a continuous application of the driving power.

Claim.—The receptacle or box D, connected with the drum or windlass H by the chain or rope G, the drum or windlass being fitted loosely on the driving shaft I, and connected with and detached from it at the proper time by means of the clutch J, actuated through the medium of the sliding bars K N, spring L, and lever catches O O, the whole being arranged substantially as shown, so that the several parts will operate automatically by a continuous motion of the driving shaft and for the purpose set forth.

No. 22,403.—JOHN L. ROWE, of New York, N. Y., assignor to FREDERICK STEVENS, of said New York.—*Improved Ice Pick.*—Patent dated December 21, 1858.—The nature of this invention consists in constructing an instrument which shall enable the party using it to combine in one instrument the advantages usually obtained by two, namely, the use of a common ice pick and a hammer or mallet.

Claim.—The spiral spring D, in combination with the handle A, rod F, and point B, as arranged, substantially as and for the purpose specified.

No. 19,376.—CHARLES MONNIN, of Buffalo, New York.—*Improved Ice Spur.*—Patent dated February 16, 1858.—This invention consists in attaching to the heel of a boot or shoe a metallic strip or plate D bent in a bow form, serrated at one edge *c*, which will prevent the wearer from slipping when walking on ice. It is so arranged that when it is not required it can be turned over the heel, and can be removed in summer.

Claim.—The curved or bow-shaped metallic plate D, attached to the heel B of the boot or shoe, and constructed and arranged substantially as and for the purpose set forth.

No. 22,390.—WILLIAM W. WADE and FRANCIS T. CORDIS, of Long Meadow, Massachusetts.—*Labels for Trees, &c.*—Patent dated December 21, 1858.—Figures 6 and 7 show the mode of constructing the tag or label, with a metallic plate back F and a face of mica, while between these is contained the paper, or other substance, on which the descriptive matter is written or printed. "C" is the ring by which the tag is hung or tied to the tree or shrub, or, when used to indicate the place where seeds are planted, to the stake "D."

Claim.—The combination of a metallic rim or back with paper, or other suitable substance, on which is written or printed the name of a tree, shrub, plant, or seed, and a plate or plates of mica and a metallic ring, in either of the modes in the specification described, as a tag or label for designating and distinguishing the varieties of trees, shrubs, plants, and seeds, in orchards, nurseries, and gardens, as described.

No. 19,578.—ALBERT POTTS, of Philadelphia, Pennsylvania.—*Mode of Attaching Metallic Letter-Boxes to Lamp Posts.*—Patent dated March 9, 1858.—The nature of this invention will be understood by reference to the claim and engravings.

Claim.—Combination of the letter boxes and lamp posts, by making the letter boxes (metallic) with a perforation or socket through the centre or side thereof, as shown at E and F, so as to slide over and

embrace the shaft of the ordinary cast iron lamp post, as above described and for the purposes mentioned.

No. 21,716.—ALGERNON S. WRIGHT, of Lawrence, Massachusetts.—*Machine for Stamping Trade-marks on Cloth, &c.*—Patent dated October 5, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the arrangement and combination of the reciprocating carriage or table, the stamping mechanism, the inking apron, and its vat or trough, as made to operate together substantially in manner and for the purpose as described.

I also claim the combination of the stamp connexion bar and the spring, as applied to the lifter rod, and the stamps, as specified.

I also claim the peculiar means or combination for operating the stamps, viz: a mechanism for lowering them gradually toward the apron; a mechanism for allowing the stamp to fall by the force of gravity upon or toward the table; mechanism for elevating the stamp off the table as well as off the apron, as described, and mechanism for maintaining the stamp at rest during each movement of the bed or carriage, the whole being in one cam, as applied to a lifter bar, as described.

No. 21,794.—E. G. BYAM, of Boston, Massachusetts, and B. E. PARKHURST, of Brunswick, Maine, assignors to EZEKIEL BYAM, of Charlestown, Massachusetts, S. A. CARLTON and E. G. BYAM, of Boston, Massachusetts.—*Improved Rack for Holding Comb Match-Cards.*—Patent dated October 12, 1858.—The object of this invention is to form an improved rack for holding match cards for the purpose of dipping them in the sulphur, or other preparations, and igniting substance or material.

The inventors say: We are aware that racks have been used in which match cards are fitted and secured preparatory to dipping them, a single frame being used, having one compartment or cell, and cards secured in the frame by wedges.

But we are not aware that springs B have been employed for retaining each individual card, as it is placed in its compartment.

We do not claim, therefore, broadly, the employment of a frame to receive the match cards.

But we *claim* the arrangement and combination of the frame A, bars *a*, spring B, and screws *d*, as and for the purposes shown and described.

No. 19,608.—SAMUEL MILLER, of Hammond, New York, and WILLIAM GATES, jr., of Frankfort, New York, assignors to WILLIAM GATES, jr., aforesaid.—*Improved Match Machine.*—Patent dated March 9, 1858.—The claim and engravings will explain the nature of this invention.

The inventors say: We do not claim the endless chain clamps C nor the cutting tool O; for they have been previously used, as stated.

But we *claim* operating or moving the chain of clamps C intermittingly, retaining it during the proper dwells, and opening the clamps

during said dwells, by means of the cams I I J J, constructed and arranged substantially as described.

We further claim the guide S fitted in the gate M and used in combination with the grooved bar R, for the purpose of guiding the match sticks, or causing them to be properly presented to the clamps.

We also claim the bar R, with or without the guide S, when said bar R is used in connexion with the cutting tool O, for the purpose of retaining the bolt in proper position as the cutting tool ascends.

No. 21,770.—PLATT MERRILL, of Port Sanilac, Michigan.—*Improved Portable and Water-proof Friction-Match Safe.*—Patent dated October 12, 1858.—This invention consists in having a portable box or case, similar to a portemonnaie case, provided internally with certain mechanism, so arranged that when the box or case is supplied with matches, disposed within it in a certain way, a match may, by actuating a lever, be shoved from the box or case in an ignited state ready for use, without exposing the matches within the box either to dampness or casual ignition.

Claim.—The lever B provided with the spring or yielding slide C, the plate F having the spring G and guides *r r* for retaining the matches in place, and the arm E provided with the corrugated spring catch *p*, the whole being arranged within and connected to the case A, substantially as and for the purpose set forth.

No. 21,082.—WILLIAM PAINTER, of Wilmington, Delaware.—*Money Table.*—Patent dated August 3, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of the dish or seat A, with its levers D D and slotted guide C, seated and arranged as set forth and shown, composed of wood or of a metallic substance, or composed of both wood and metal, for the purpose of a money changer or money receiver; not limiting myself to the exact form of the dish or seat A, so that the construction is substantially the same as to guide the money without any possibility of its falling elsewhere than into the palm of the hand.

No. 20,125.—THOMAS HALL, of Gloucester, Mass., assignor to THOMAS HALL & Co., of said Gloucester.—*Fishing Nets.*—Patent dated April 27, 1858.—The nature of this invention consists in the application to a common seine of a long bag, or net, to float on the surface of the water and extend beneath, and open at its mouth into the body of the seine during the draft of the seine so as to take a shoal of fish; on elevating the bottom of the seine, the fishes will be caused to pass into the bag-net so as to be entrapped therein.

Claim.—The art of taking fish by means of a seine, the employment of a bag B, in combination with the seine A, substantially in the manner as specified.

No. 20,235.—ROBERT WILSON, of Milton, Pennsylvania.—*Improvement in Fly Nets.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The peculiar construction of the fly-net, having the stitch set parallel with the rib combined with the two right angles formed by the lashes in passing through the rib, whether the ribs are made flat, round, or any other shape, substantially in the manner and for the purpose set forth.

No. 21,274.—ALEXANDER ROBERTSON, of Upper Holloway, Middlesex county, England.—*Improvement in Packages for Dry Goods.*—Patented in England June 26, 1855; patent dated August 24, 1858.—This invention consists in the adaption of wood and metal, to be combined, for the formation, in suitable shapes and sizes, of packages for dry goods.

A represents the section of a cast-iron bored cylinder, to be made of the diameter and length required to fit the exterior of the intended package. E shows the tube of wood in section. B shows the section of a tubular wooden block, which is cut longitudinally into six or eight sections, as shown, and marked *a*. C is a conical plug in the centre of wooden block B.

Claim.—A new manufacture and process and method of manufacture of packages for dry goods, by the combination of wood and iron, or other metal, and constructed and made in the manner described.

No. 20,715.—OLIVER HYDE, of Benicia, California.—*Improved Screw Picket.*—Patent dated June 29, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The application of a loose swivel C to the top of a coarse threaded screw, in combination with a catch or lug B under the head of the screw, so that in connexion the swivel becomes the lever to turn the screw into the ground.

No. 19,832.—OLIVER COX, of Alexandria county, Virginia.—*Method of Securing Pocket Books, &c.*—Patent dated April 6, 1858.—A represents the plate or base of the lock, and may be made of any size; B is the pocket book; C the catch lever, working on screw *f* as its fulcrum, and by which it is attached to the base or plate; D is the projecting lever resting on the end of the catch lever, guide *g*, and the frame of the pocket book for operating the catch for unlocking the lock; *a* is a spring for keeping the catch lever in its place; *b* are the sides or rim of the lock; and b^1 the screw holes for fastening on the face plate.

Claim.—The lock, constructed as described, and attached to the pocket book, &c., in combination with the button, constructed as described, the whole operating as set forth for the purpose of attaching pocket books, porte-monnaies, and purses to the pocket of the wearer, as set forth and described.

No. 20,055.—THOMAS FISLER, of Camden, New Jersey.—*Improvement in Rulers.*—Patent dated April 27, 1858.—The claim and engraving explain the nature of this invention.

Claim.—The application to rulers of India-rubber, which will prevent the ruler from slipping, as described, using for that purpose the

aforesaid India-rubber or any other article substantially the same, and which will produce the intended effect.

No. 21,585.—C. A. Williams, Robert Williams, and G. A. Morse, of Bloomfield, Maine.—*Improvement in Skate Irons.*—Patent dated September 21, 1858.—The claim and engravings explain the nature of this invention.

The inventors say: We do not claim that portion of the studs included between the runner and the wood.

We do not claim the collar C nor the nut N.

Nor do we claim any heel spur which is not a continuation of a stud that is solid to the runner.

But we *claim* that portion of skate studs (solid to their runners) above the collars C upon which is cut the screw-thread T, in the manner and for the purposes substantially as set forth in the description.

No. 21,973.—Charles Mathews, of New York, N. Y.—*Smoking-Tube.*—Patent dated November 2, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* arranging the tubes C and E with the mouth-piece D in such relation to each other that they form a compound smoking-tube for smoking tobacco or other substances in a finely divided state, the whole being constructed and arranged as specified.

And I also claim closing the upper end of the tube E in such a manner that the same when inserted into the draught-tube C and brought close up to the inner end of the mouth-piece D leaves a sufficient space for the passage of the smoke up through the central opening of the mouth-piece described.

And I further claim constructing an ash-pan in such a manner that the same slides on the compound smoking-tube by means of a loop H, so that the ashes dropping from the lighted end of the tube are deposited in the ash-pan, substantially as specified.

No. 21,473.—William M. Storm, of New York, N. Y., assignor to Allan Cummings, of said New York, N. Y.—*Apparatus for Stamping Milk-Cans.*—Patent dated September 7, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the press with the counterpart die-bearers forming segments of two concentric circles to fit the exterior and interior of the "breast" of a narrow-mouthed can, and having the movable S-shaped head-block carrying the follower by guide-rods, as shown, on the one part of a die-bearer, while the counterpart die-bearer is provided with rods with hands that pass through holes provided in the can to catch upon the head-block, the whole being so constructed that two parts of the press may be combined and operated through the thickness of the can to perform its office, and thereafter be readily separated and removed, substantially as described; the purpose being to facilitate the marking of such cans after construction is completed.

No. 20,306.—George K. Snow, of Watertown, Massachusetts.—*Machine for Affixing Post Office Stamps to Letters.*—Patent dated May 18, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim* the combination of feeding mechanism, shearing or cutting mechanism, a platen H and bed G, applied together, so as to constitute a machine for affixing postage stamps to letters, substantially as described.

I also claim the arrangement of the feeding mechanism, the platen and the shear or shears, with respect to the lever C and the bed, substantially as specified, whereby, by the reciprocating motions of the lever, results will take place as set forth.

I also claim the gags D, in combination with the bed, or the table, and the post-stamping mechanism.

I also claim combining with the post-stamping apparatus, or in one frame with it, a means of damping or wetting the surface F, or that part of a letter on which a stamp is to be affixed, as described.

No. 20,303.—Andrew J. Roberts, of Boston, Massachusetts.—*Improvement in Street-Sweeping Machines.*—Patent dated May 18, 1858.—This invention is described by the claim and engravings.

The inventor says: I *claim*, first, hanging the brooms or brushes in a swinging frame on centres so arranged that it can be readily levelled and adjusted as fast as the brooms become worn, as described.

Second. The combination of devices whereby the brooms are raised or lowered, and at the same time the communication between the driving power and brooms established or cut off, the same consisting of the bent lever arm *n n n*, short arms *s s*, and pulleys *i i*, substantially as described.

Third. I claim attaching the spring plates to a swinging movable frame which is raised and lowered with the brooms, as described, whereby the said springs are raised from the ground when the brooms are not in use, and adapt themselves closely to the surface of the ground and press against the same when the brooms are at work, thereby preventing, by the weight of the brooms acting upon the springs, the vibrating or "bobbing" motion which otherwise the brooms would receive.

Fourth. In combination with the stud W W in the driving-wheels the circular grooved pulleys, as set forth.

No. 21,743.—Amzi Crane, of Newark, New Jersey.—*Machine for Sweeping Streets.*—Patent dated October 12, 1858.—The claim and engravings explain the nature of this invention.

The inventor says: I *claim*, first, the brush or sweeping-frame, being so adjusted that when the machine is in operation the weight of the said frame is supported as much as may be required at its corners upon the springs W W W W in the posts S S S S, and is free to conform to the uneven surface of the ground either as a whole or at any of its corners, substantially as described.

Second. I claim the endless band or chain of brushes, when said band or chain of brushes is operated for the purpose of depositing the

sweepings in a row by means of the grooved rollers *z z*, or their equivalents, into which the blocks of the brushes or the links of the endless chain are made to fit, substantially as described.

Third. I claim the combination together of the driving-wheel A, the bevelled wheel C, with the pulley A^1, belt M, rollers *z z*, and the endless band or chain of brushes, substantially as described.

Fourth. I claim the combination of the cross-bar E with the lever D, crank H, levers K and L with their appropriate connexions, and the chains R R R R for elevating or lowering the brush frame and throwing the machine into or out of gear, substantially in the manner and for the purpose described.

No. 21,933.—Jonathan Ball, of Utica, N. Y.—*Method of Hanging Swords.*—Patent dated November 2, 1858.—Figure 1 is a perspective view of the swivel pin, with the bit, plate, and portion of the scabbard or clasp. A represents the bit of the swivel pin; B is the swivel pin; C the plate; and D a part of the scabbard or clasp into which the scabbard fits.

Figure 2 is a view of the belt or sash plate which is to be attached to the belt or sash on the outside, either by sewing or by placing a plate with a corresponding hole on the inner side of the sash or belt, and riveting the two together. Through this plate is a hole, marked E, the size and shape of the swivel pin and bit. The bit, swivel pin, and plate, are usually made in one piece.

Claim.—The arrangement and combination of the scabbard D, plate C, and bit pin A B, with the belt or sash plate, substantially as and for the purposes shown and described.

No. 21,703.—Ira W. Shaler, of New York, N. Y.—*Improvement in Ticket Holders*—Patent dated October 5, 1858.—This invention consists in the construction and arrangement of parts by which the outward pressure of the ticket upon the holding bar is made to act upon the spring which draws said holding bar into the catch which secures it, so as to draw it more firmly under the hook, while at the same time the arrangement of parts is such that the holding bar may be readily disengaged by endwise pressure. The instrument is designed more particularly for the use of railway passengers, though there are other purposes for which it may be used.

Claim.—The combined construction and arrangement of the body A, holding bar B, spring C, and catch D, substantially as set forth for the purposes stated.

No. 19,856.—Rhodolphus Kinsley, of Springfield, Massachusetts.—*Machine for Crimping Tobacco.*—Patent dated April 6, 1858.—In the engravings, *a* is the frame; *b b* the first pair of rollers; the top plan shows these rollers to be convexed on their surface and rounded off towards their edges. *c* is the trough, through which the roll passes between rollers *b b*, by which it is flattened and the material somewhat equalized and crowded outward toward the edges; thence the roll may be made to pass through another similar set *i*, and so on.

Claim.—The employment of one or more pairs of rollers constructed and arranged substantially as above set forth, for equalizing and crimping rolls in the manufacture of lump tobacco.

No. 20,199.—James W. Evans, of New York, N. Y.—*Improvement in Pipes and Cigar Holders or Mouth-Pieces for Smoking Tobacco.*—Patent dated May 11, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The combination of the bulb or chamber and the sponge or any other suitable material saturated with water, in the construction of smoking pipes or cigar holders, constructed and arranged substantially as described.

No. 20,075.—Conrad Liebrich, of Philadelphia, Penn.—*Toy.*—Patent dated April 27, 1858 —The claim and engravings explain the nature of this invention.

Claim.—Arranging certain numbers, letters, words, or other signs, upon two, three, or more disks, and combining them with certain devices for setting the disks in motion, and stopping them in such a way that after each stoppage the relative position of the disks shall be changed, so as to show a different relative position of those numbers, letters, words, or other signs, upon the circumferences of the disks, and arranging the whole in such a manner that the nature of the change in the relative position of the disks after each stoppage will be a matter of accident, as set forth.

No. 22,078.—C. Jillson, of Worcester, Mass.—*Improvement in Animal Traps.*—Patent dated November 16, 1858.—The nature of this invention consists in so making a trap that the hole shall close up or collapse, and thus bring up the fork or spears that are arranged in the trap.

Claim.—A rat or animal trap in which the jaws are moved from each other in a plane, and thus enlarge the opening between them, and which, when tripped, shall close up or contract the said opening, substantially as described and represented, and for the purpose set forth.

No. 21,647.—Moses H. Biddle, of Mount Carmel, Ill.—*Improvement in the Construction of Animal Traps.*—Patent dated October 5, 1858.—This invention relates to that class of traps which is automatically reset in the act of entrapping the animal, and it consists in the peculiar arrangement and combination of the parts which effect this object.

The inventor says: I am aware that traps have been hitherto made with revolving platforms, which would set themselves in the act of entrapping the animals.

And I do not claim broadly all traps with these distinctive features.

But I *claim* the combination and arrangement of the pivoted bar *c*, spring detent *l*, and the spring catch *d*, for the purpose set forth and as described.

I also claim the arrangement of the spring pulley *g*, cord *f*, and axis *e* of the revolving platform of a rat trap in combination, for the

purpose of effecting a prompt revolution of the platform as soon as the detent is disengaged.

No. 21,676.—Edmund Hill, of Cincinnati, Ohio.—*Improvement in the Construction of Animal Traps.*—Patent dated October 5, 1858.—The trap, when set, is open at both ends. A is the trap proper; B is the receiving box; C C^1 are the doors which are held open by the trigger D, which a fox is about to disengage by getting on the platform E, which act releases the trigger and closes the trap, as seen in fig. 2. The fox being now entrapped, and seeing a light in the upper chamber clambers to it, and, rushing forward under and past the falling gate F, thereby lifts the lever G, and with it the doors *c* c^1 and the trigger-setting apparatus I I.

Claim.—The ridge or step K, in combination with the door F and lever G, for the purpose of resetting the trap.

No. 19,382.—Thomas M. Scott, of La Grange, Ga.—*Fly Trap.*—Patent dated February 16, 1858.—When the flies alight on the end A^1 of the apron that projects through the end of the box A they are carried through the space *f* and around through the box A into the chamber *c*, the partition *a* preventing their egress from the chamber, and the flies will then pass upward through the opening *i* into the receptacle D.

Claim.—The arrangement of the recess C, end A^1, spaces *e f*, chambers *c d*, end piece *g*, openings *i* i^1, receptacles D D^1, box A, and partition *a*, all as described, whereby the catching and retaining capacity of the contrivance is doubled without any augmentation of the driving power, and with little or no increased expense in construction.

No. 20,091.—William Riley, of Madison county, Miss.—*Fly Trap.*—Patent dated April 27, 1858.—The claim and engravings explain the nature of this invention.

Claim.—The shape of the trap; the sliding drawer, as described; the manner in which the triggers are made, as described; the tube which prevents the flies from returning from the bag to the box; the bag and circle by which the flies are destroyed, by detaching the bag and circle from the box; and the glass on the back part of the box, introduced to give light, and lead the flies away from the place of entrance to the bag.

No. 21,646.—Bryan Atwater, of Berlin, Conn.—*Fly Trap.*—Patent dated October 5, 1858.—In this invention a suds reservoir A is used, which is made in the form of a deep trough, and has one side notched or provided with its top arranged about one-third of an inch below the upper edges of the two ends and the other side, so as to form a passage *a* extending from one end *b* to the other b^1 of the trough. This reservoir is to be attached to a handle B in such a manner as to enable it to be held up to and moved on a ceiling of a room with its mouth against the same.

Claim.—As a new thing or manufacture, a fly-catcher constructed with the notch or passage *a* arranged with respect to the upper edges of its side and two ends, and so as to operate substantially as described under circumstances as specified.

No. 19,825.—John L. Brabyn, of New York, N. Y.—*Improvement in Traps for Animals.*—Patent dated April 6, 1858.—In one side of this trap and near the top is an opening of suitable capacity to admit the animal for which it is intended, which constitutes the entrance into the trap. This opening is surrounded on three sides and upon the top by a partition, thus forming a sort of recess, extending to near the centre of the trap. The bottom or floor of this recess is level, and forms, in connexion with an inclined plane having its position on the outside of the trap, what may be termed a tilting platform.

The inventor says: I do not claim the straight platform in any position.

But I *claim* a tilting platform in combination with the enclosed recess C C, when the platform is comprised of the inclined plane and horizontal floor A A, as described, and for the purpose specified.

No. 20,873.—Samuel Gibson, of Martic Township, Pa.—*Improvement in Traps for Animals.*—Patent dated July 13, 1858.—I is the reception chamber, open at the rear, and shorter than the main box or trap; across this opening is suspended a movable wire cage A; the dotted lines show where the wires are inserted, to the projecting arms of which a wire *i* passes, running square in front with a depressed centre, passing through and keeping the swinging nozzle catch B in place. The bait slightly acted upon will unslip the catch, and the wire cage drops down behind and shuts the animal in; seeking to escape, it enters through an opening G into the tilting chamber I I on to the tilting bottom E pivoted at O.

The inventor says: I do not claim the tilting floor and parts separately.

But I *claim* the chambered box, wire drop cage, and tilting bottom, when combined and operated substantially as set forth.

No. 21,302.—Frederick Reuthe, of Hartford, Connecticut, assignor to Moritz Loth, of said Hartford.—*Trap for Animals.*—Patent dated August 24, 1858.—The nature of this invention consists in the construction of a metallic trap, of a flat circular form, to be placed over or near the place of resorts of rats, moles, or other small class of animals.

Claim.—The notched curved yoke B and the application and combination of the various parts to form a trap, in the manner and for the purpose substantially as set forth and described.

No. 21,454.—Rufus M. Turner, of Woodland, Michigan.—*Improved Trap for Animals.*—Patent dated September 7, 1858.—This invention consists in the employment of a pivoted or swinging platform with spring-treadle attached, to which a catch or fastening is connected that sustains the platform in a proper horizontal position,

the above parts being placed in a suitable base and arranged in such a relation to a bait-box that a rat, in attempting to reach the bait, will depress the treadle and thereby release the platform from its catch, the platform consequently tilting by the weight of the rat and throwing the animal into a tub or reservoir of water, over which the trap is placed.

The inventor says: I am aware that tilting platforms have been previously used and arranged in various ways to form self-acting traps; I therefore do not claim separately and broadly such device.

But I *claim* the tilting platform B and treadle C connected with the spring-catch *g*, the platform being placed within the base A, and the platform and treadle arranged in relation with the box E and bait-chamber j^1, substantially as and for the purpose set forth.

No. 21,978.—Reuben L. Payne, of Halifax, Virginia —*Trap for Animals.*—Patent dated November 2, 1858.—Upon the bottom of the box A is placed a smooth plate B, extending from one end into the trap beyond the points or tips of the fingers C. Between this plate B and the end piece or plane of the trap a space or door-way is left by adjusting the end piece so as to extend only about two-thirds of the way from the top of the box toward the bottom. Just above the door-way is arranged a series of fingers C supported by a rod *c*, so that each finger has an independent free vibration.

Claim.—The arrangement of the separate balanced fingers C, in connexion with the box or body of the trap, substantially as described and for the purpose set forth.

No. 19,355.—Earl D. Fink, of Columbus, Ohio.—*Trap for Catching Rats and other Animals.*—Patent dated February 16, 1858.—The claim and engravings will explain the nature of this invention.

Claim.—The pivot-catch or trigger, with arms *d* with square and bevelled slots or catches for supporting and disengaging the floor C, operating as described and for the purpose set forth.

No. 20,042.—William H. Cox, of Virden, Illinois.—*Rat Trap.*—Patent dated April 27, 1858.—This is a sliding box or case operated by a spring and retained by proper catches, a stationery chamber and a bed piece provided with upright end pieces, the whole being so arranged that, by means of a spring, the trap is rendered self-setting, and the animals as caught are retained in the chamber without interfering with the operation of the trap.

Claim.—The sliding case B placed on the bed piece A, which is provided with end pieces *a a* and partitions *b b*, the case being operated by means of the spring G^1, shaft E, cross-arm F, arbor G, connected with proper triggers *p*, substantially as and for the purpose set forth.

No. 21,726.—Alexander N. Shell, of Richmond, Va , assignor to William Sears Wood & Thomas N. Shell, of said Richmond.—*Roach Trap.*—Patent dated October 5, 1858.—On the top of the body of the trap is an annular ring B, made of smooth metal; this ring inclines

inward and downward towards the centre of the trap. In the centre of the trap is an upright stem C, which supports the bait-pan D; this pan must be made loose so as to be lifted off when the trap is to be emptied, that the bait may be saved. The bait-pan is placed nearly on a level with the top of the trap, so that when the roaches ascend the outside of the trap they are enabled to see or smell the bait in the pan, and begin to travel toward it; in doing this they descend the inclined annular ring and drop off the edge into the body of the trap.

Claim.—The centre bait-pan D, in combination with the annular ring B, when located as shown and described, for the purposes set forth.

No. 20,931.—W. R. Bennett and C. Storer, of Boston, Mass.—*Twine Box.*—Patent dated July 20, 1858.—This invention consists in a device for holding and bringing out the twine from the ball, so that when one is exhausted the end from another may be brought out without delay, and in so guarding the edge of the knife attached to the box that the persons using it will not be liable to wound their hands, and yet that the twine, when pressed down on the knife in a hurried manner, will always strike the edge in such a position as to insure its being cut off.

The inventors say: We *claim*, in combination with the box A, the eyelets *g*, attached to the shaft D, and operating in the manner substantially as set forth.

Second. We claim the knife guard E, constructed and operating in the manner substantially as described.

No. 19,875.—Jacob T. Sargent, of Carlinville, Illinois.—*Wallet Fastener.*—Patent dated April 6, 1858.—The object of this invention is to enable a pocket book, purse, or other article of value, to be attached to a pocket in such a manner as to prevent it being stolen or removed therefrom by a pickpocket.

Claim.—The combination of the spring catch and the attachment plate, the same constituting a safety apparatus for the purpose described.

Also arranging the spring catch and attachment plate together as specified, and making the said catch with a bend or recess *d*, disposed with respect to the attachment plate in manner and for the purpose set forth.

No. 20,299.—P. Poppenhusen, of New York, N. Y.—*Improvements in Manufacture of Artificial Whalebone.*—Patent dated May 18, 1858.

The inventor says: I do not claim saturating rattan with dyeing materials or with boiled linseed oil, as these processes have before been practised.

But I *claim* in the preparation of rattan subjecting it to mechanical pressure after it has been saturated with linseed oil or equivalent substance, and whilst the oil, or other equivalent saturating substance, is in a viscid state, substantially as described.

No. 21,740.—George J. Colby, of Waterbury, Vt.—*Machine for Peeling Willow.*—Patent dated October 12, 1858.—The nature of this

invention consists in the employment of detaching rollers, an endless apron, separator and discharge rollers, arranged so as to perform the desired work.

Claim.—The vibrating rollers B B^1, in combination with the rollers I, M H H^1, comb N, and apron K, or its equivalent, the whole being arranged to operate as and for the purpose set forth.

CLAIMS OF RE-ISSUES GRANTED DURING THE YEAR 1858.

No. 517.—*Improvements in Sewing-Machines.*—What we claim is, the arrangement of the bed, eye-pointed needle, and hook, or equivalent looping apparatus, substantially as described, so that the bed shall be interposed between the hook, or equivalent looping apparatus, and the material to be sewed, to resist the puncturing operation of the needle, to hold such material against the pull of the hook when drawing the thread to tighten the stitch, and to prevent the varying thickness of the material from producing any variation in the length of thread which is carried through by the needle, as set forth.

And we also claim, in combination with the eye-pointed needle and hook, or equivalent looping apparatus, with the bed interposed between the material to be sewed and the hook or its equivalent, a plate to make a self-adapting pressure on the material to be sewed in close proximity to the needle to hold it against the bed during the reciprocating motions of the needle, but which, while it so holds the material, shall be free to yield to the inequalities of such material as it is drawn forward under it by any feeding apparatus, substantially as set forth.

I. M. Singer.
Edward Clark.

No. 518.—*Improvements in Sewing-Machines.*—What we claim is, in combination with an eye-pointed needle and a feeding apparatus for moving the cloth or other material to space the stitches, the employment of a plate or equivalent therefor to make a self adapting pressure on the material to be sewed, in close proximity with the needle, and in such relation to the needle and the bed or other surface which resists the puncturing operation of the needle that the said yielding pressure shall act against the said material in the same direction as the needle in its puncturing operation, and shall hold such material smooth and steady while the needle is being withdrawn, and while the stitch is being drawn tight, the said yielding pressure being free to yield and adapt itself to the inequalities of such material as it

is moved along by the feeding apparatus to space the stitches, substantially as described.

I. M. Singer.
Edward Clark.

No. 519.—*Improvement in Printing Presses.*—I claim the gauge-bar for cards, herein above referred to, in combination with the vibrating platen, and stop finger, and crank which operates the same, in the manner and for the purpose herein above described.

I also claim the use of a segment of a cylinder, in combination with the stationary form bed, so that the rotary inking apparatus may move over the form, and then after taking ink from the fountain, distribute it on said cylinder, as herein above set forth.

I also claim, in combination with the stationary form bed, the revolving cheek plates I I, for carrying the rolls over the form, as set forth and described.

I also claim the movable bearers on the side of the form bed, arranged and operated substantially as herein above described, so as to be moved outwards when the inking rollers are passing over the form, and drawn inwards when the sheet or tympan is moved up to said form.

I also claim regulating the delivery of the ink, by combining with the delivery roller a grooved ratchet wheel and weighted pawl band, operating with the lever stud, cam roller, and stop lever, substantially as herein above specified.

I also claim supporting the journals of one of the inking rollers on sliding bearers, so that it may be moved up against the delivery roll by means of studs on said bearers and cams, operating the same as herein above set forth.

Stephen P. Ruggles.

No. 520.—*Improvement in Vault Covers.*—I claim combining glasses of an inverted pyramidal, polygonal, or conical form, with the sash or metallic portion of an illuminating vault cover, or its equivalent, for the purpose of producing a wide spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as herein set forth.

Geo. R. Jackson.

No. 521.—*Improvement in Eccentric Explosive Shells.*—I claim the combination of the head or segment of the solid sphere with flat base uniformly around the fuse hole with the segment of the hollow part, forming a spherical shell with flat based head and externally smooth, as described.

Wm. W. Hubbell.

No. 522.—*Improvement in Air-tight Stoves.*—I claim a fire-pot, a combustion chamber and descending flues leading from the bottom thereof and between the fire-pot and outer casing to a chimney, all arranged in the interior of a box enclosure or casing of suitable materials, with proper provisions for admission of air or fuel, all substantially such

as are described, in combination with a properly governed aperture for admitting air into the chimney without passing through the fire, substantially in the manner set forth herein, the whole constituting a stove substantially such as is herein specified, and this combination as claimed whether the oven be used or not.

ZEPHENIAH BOSWORTH.

No. 523.—*Improvement in Machines for Numbering the Pages of Account Books.*—I claim the mode of arranging and operating the numeral types for printing the pages of the whole book, substantially as herein described, to wit: arranging the types of the several numbers from 1 to the highest number required in a serial order, in one or more continuous lines, one behind another, and bringing them up successively and separately to the point of impression, so that the type of each number is independent of all others, and used alone and but one in the paging of the whole book, and all others are out of the way; and this I claim whether said types are fixed in a chain or chains or in any other manner by which the same system of operation is obtained.

And I also claim arranging two type chains or continuous lines of type parallel with each other, at a proper distance apart, and with the types in proper serial order, and operating the same simultaneously, substantially as described, to print the numbers of two pages simultaneously on two opposite corners of the same side of a sheet.

And I further claim the arrangement of two pairs of type chains or continuous lines of type, substantially as described, to print the numbers of two pages on each side of a sheet while the sheet is passing once through the machine.

JOHN MCADAMS.

No. 524.—*Improvement in Scythe Fastenings.*—I claim the combination of the loop-bolt and set-ring constructed and operating substantially in the manner above described and set forth.

PINCKNEY FROST.

No. 525.—*Improvement in Corn Planters.*—I claim, 1st, the method set forth of discharging seed from a plough or drill by means of the anchored chain *i j k* or its equivalent.

2d. The chain or cord *i j k* adapted substantially as set forth to operate the discharging machanism of a seed planter.

3d. In the described combination with a suitable chain or cord, I claim the arm *f*, provided with a vibrating claw or tappet *g*, or substantially equivalent devices operating the seed-delivery mechanism, as set forth.

MARTIN ROBBINS.

No. 526.—*Improvement in Seed Planters.*—I claim a shoe for opening a furrow which has a convex edge in front and a seed tube in its rear end, so that it may cut through any grass, open out a furrow, and hold it open until the seeds are deposited in it, substantially as herein set forth.

GEORGE W. BROWN.

No. 527.—*Walking-Stick Gun.*—I claim, 1st, moving the lock piston H backwards to effect the cocking of the lock by revolving the section T and its attached spiral cam T^1, as described.

2d. Cocking the lock (or retaining the lock piston H in position when moved backward to its full extent) by the locking plate E dropping into a transverse groove in the top of the piston, as described.

3d. The construction and operation of the trigger G, as described, which enables the trigger to be closed up against the body of the gun while the lock is cocked.

4th. The combination of the locking plate E with the trigger G, as described, by which the strain of the spring of the piston H is brought entirely upon the locking plate, leaving the trigger free from strain or pressure, and enabling the trigger to discharge the lock with slight effort.

5th. The thimble V, as described, for the purpose of being moved over the lock catch E and trigger G to confine and secure them, so that the lock cannot be operated without first moving back the thimble.

6th. Extending the body M beyond the barrel N, and constructing it of lighter material than the barrel, as described, for the purpose of making the cane of requisite length, and of guiding and directing the course of the bullet after it is fired from the barrel, without adding materially to the weight of the implement.

IRA BUCKMAN, Jr.

No. 528.—*Improvement in Moulds for Casting Pencil Sharpeners.*—I claim, in combination with the matrix for casting or forming the hollow conical or bell-shaped body of a pencil sharpener, essentially as described, a device or mechanism for holding the blade in the matrix, and one for forming the chip throat of such blade and body during the process of casting or founding the said body on the blade, as specified.

And, in combination with a device or mechanism for holding the blade in the matrix, I claim a slider or device for supporting its back while such blade is in contact with the core and the throat slide or former.

I also claim making the core *d* with a groove b^1 arranged in its outer surface, in manner and for the purpose as set forth, or, in other words, combining with the said core and the mechanism for holding the blade a groove arranged in the core, substantially in the manner and for the purpose specified.

I also claim the mode of making the throat slide or chip mouth former A, viz: in two parts or plates *j p*, applied, respectively, to the two parts or sections *i l* of the mould, essentially in manner and for the purpose as described.

I also claim combining with the base *a* its core *d* and the parts *i* of the mould, when applied to each other substantially as described, an adjusted gauge or stop *k*, arranged on the base plate, or in other respects, so as to operate essentially as set forth.

WALTER K. FOSTER.

No. 529.—*Improvements in a Printing Press.*—First. I claim the arrangement of a distributing cylinder, or segment of a cylinder, or other suitable form of distributing surface, which shall always be held or fixed in the desired position without resort to stops, latches, or other secondary and movable attachments, and at the same time allow the rollers, or set of rollers, to move unimpeded in an onward direction around or over it, for the purpose of distributing the ink evenly, and meeting and inking the form of types in their transit, one set after the other, at each succeeding passing over the distributing surface and form of types, performing its proper duties; the whole being one continuous operation.

Second. I claim carrying two or more sets of rollers in an onward direction around and over a distributing surface, or surfaces, and a type bed, when such sets of rollers shall admit an impression to be taken immediately after the passage of each set of rollers consecutively, whether the rollers are carried in the precise manner herein set forth, or by some equivalent mechanical contrivance to produce a like result—that is to say, the allowing of several sets of rollers alternately or consecutively to pass over or around the distributing surface and the form of types, and admit of an impression to be taken between the time one of the sets of rollers leaves the form and the next set arrives at it, for the purpose of giving a slow motion to the inking with rapid impressions upon the same form of types, thus effecting more speed as regards the number of impressions in a given time, as herein set forth.

Third. I claim the arrangement of a fixture to the frame, and forming a part thereof, one on each side of the press, extending inwards towards its longitudinal centre, of tubular projections, or studs, or staves, or shoulders, or their equivalents, for the purpose of supporting both the bed and inking apparatus, or either of them, upon such tubes or projections, while, at the same time, the frame or roller carriage may be snugly fitted to the outside of such tubes, so as to have its bearing and revolve upon it; and the projecting tubes from the journal boxes, in which the main shaft rests and revolves—each of these by different gearing and at different speeds, if need be—so that by the use of such projecting studs may be effected change of speed between the inking rollers and the impression shaft, all working upon and from one general centre.

Also the separate revolving of the rollers upon the outside of the same, regardless where the main shaft may be placed, studs forming supports for the inking and impression apparatus.

Fourth. I do claim the arrangement of the gauge 1, guides 2, pawl *b*, cranks *s* and d^1, rod e^1, pin *f*, and wheels a^2, in combination with the shears for cutting off the sheet after it is printed, and the cam *y*, from which it receives its motion, the whole of these parts operating as described; all of which is herein fully described and set forth.

GEORGE P. GORDON.

No. 530.—*Improvement in Safety Indicators for Steam Boilers.*—I do claim the within described arrangement of the vessels C and D, as applied and connected with the feed pumps and steam whistle, for the purpose of regulating the pump and sounding an alarm, as set forth.

I also claim connecting the pipe I with the boiler by means of the feed pipes B, as set forth, for the purpose described.

L. J. KNOWLES.

No. 531.—*Improvement in Billiard Cues.*—I claim my mode of providing said cue tops, or the cues, with screws, and adjusting them to each other in the manner as above substantially described.

CONRAD LEICHT.

No. 532.—*Improvement in Carding Machines.*—I claim the application of the steel ring, hooked tooth cylinder or cylinders, to act as combers, workers, or doffers, in combination with wire tooth carding, for the purpose of quicker and more effectively opening wool and other fibrous materials, substantially in the manner described and shown.

S. R. PARKHURST.

No. 533.—*Improved Machine for Making Barrels and other Casks.*—I claim the vibratory block or bed D, adjustable gauge C, and knife or cutter B, arranged relatively with each other, so as to operate as and for the purpose set forth.

ISAAC CROSSETT.

No. 534.—*Improvement in Running Gear for Locomotive Engines.*—I claim so arranging the running gear of a locomotive engine as to make the drivers support its *entire weight*, in combination with a pilot truck vibrating freely to guide the engine, substantially as described.

SEPTIMUS NORRIS.

No. 535.—*Improvement in Life-Preserving Rafts.*—I claim a life-preserving raft formed by the ordinary water casks or tanks of ships, having eyes secured thereto so as to be air-tight, and connected by spring stay rods, substantially as described, in combination with a rope net-work and canvas sheet, operating as and for the purpose set forth.

LORENZO TAGGART.

No. 536.—*Improved Gas Tube Joint.*—I do claim a conduit universal joint, made substantially as described, viz: with the armed branches *g h* and their connexion cross jointed together, and provided with one or more passages so arranged in them as to open a communication from one leading tube *a* to the other *b*, with which such conduit joint may be connected.

And I also claim the combination of the relief ring *c*, or its equivalent, with the armed branches and the connexion cross, the same being arranged therewith substantially in the manner and for the purpose as specified.

CHARLES MONSON.

No. 537.—*Improvement in Lard Lamps.*—I claim the combination of the hot-air chamber, which is formed by the arrangement of flat

inclined wick tubes, in the manner above specified, with the lamp cap; and

I also claim the combination of the flat, inclined wick tubes with the concave reflector, as above described, for the purposes above mentioned, my invention having special reference to a lard lamp.

ISAAC N. COFFIN.

No. 538.—*Improvement in Machinery for Making Hat Bodies.*—I claim automatic method of forming hat bodies, having the required variation in thickness at their different parts, by supplying picked fibres to an exhausted former of the size and shape required in such manner that a larger portion of picked fibres is supplied to that part of the former which corresponds with the thickest portion of the hat body, and a less portion to the other parts of the former, substantially as herein set forth.

I also claim the combination of a picking apparatus, a hat body former, an air-exhausting apparatus, and a conductor, the whole combined substantially as herein set forth.

I also claim a bowstring picking apparatus, constructed and operating substantially as herein set forth, to pick fur presented to it by a suitable feeding and nipping apparatus.

WM. FOSKET.

No. 539.—*Method of Employing Centrifugal Force in Casting Iron Pipe.*—I claim forming pipes or other castings by contrifugal force, by causing the mould into which the liquid material is poured to revolve.

T. J. LOVEGROVE.

No. 540.—*Improvement in Grain Separators.*—I claim, first, the endless chains *d* composed of metallic links, provided with protruberances or depressions, when used in combination with suitable driving pinions to impart a positive motion to the straw-carrier of a threshing and separating machine, as explained.

Second. In combination with a receptacle in which the tailings are deposited by the winnowing apparatus, I claim the arrangement of the screw elevator *o* in relation to the threshing cylinder, for the purpose of returning the tailing to be rethreshed, as set forth.

J. R. MOFFITT.

No. 541.—*Improvement in Railroad Car Wheels.*—I claim, in railroad car wheels to be cast in one piece with a chilled rim, the forming of such wheels with a hollow concentric annulus or ring, the plates forming a curve substantially as specified to yield by bending to the unequal contraction; in combination with the connexion thereof with the rim at or near the middle of its width by means of the solid ring, substantially as described, to give the required support to that part of the rim which is most exposed to fracture in use, as set forth.

And I also claim, in combination with the hollow annulus or ring, connected with the rim by a solid ring, substantially as described, the inner hollow annulus or ring next to and connected with the limb,

substantially as described, and connected with another hollow annulus or ring by a solid ring, substantially as described, whereby ample provision for yielding to the unequal contraction is obtained, while at the same time the metal composing the wheel is so disposed as to prevent in a great measure the injurious effects of vibrations, and to resist the jars and concussions to which railroad wheels are exposed in use.

WM. B. TREADWELL.

No. 542 —*Improved Sawing Mill.*—I claim, first, the particular means and their arrangement as described for accomplishing that end.

Second. Effecting by means of an eccentric the combination of the log carriage and automatic reversing mechanism, thereby rendering the saw mill capable of self-feeding and self-gigging, as set forth.

Third. So adjusting the ganging incline d^3 that its hinge or pivoted joint and its opposite end or termir us shall always be at the same and equal distances from the set shaft F, as described.

Fourth. The application in the manner described of the adjustable self-fastening trip *z* to a saw mill which operates with a continuous rapid motion back and forth, in combination with the vibrating reversing stop w^2, substantially as and for the purposes set forth.

WM. M. FERRY, JR.

No. 543.—*Improvement in Rollers for Window Shades.*—I do claim the combination of India-rubber or equivalent substance with a window shade roller or its pulley, substantially as and for the purpose described.

J. B. BAILEY.

No. 544.—*Improvement in Steam Boilers.*—We claim, first, connecting the water legs, extending from the front to the rear end of the boiler, continuously to the shell of the boiler at the point of the greatest horizontal diameter of the boiler, substantially as herein set forth.

Second. Interposing perforated plates between the flanges of the water legs and the shell of the boiler, as and for the purposes described.

WM. M. ELLIS.
J. B. ELLIS.

No. 545.—*Improvement in Grass Harvesters.*—I claim, in combination with a main frame, a loose cutter bar or finger beam that projects laterally from it, and so hung to the frame of the machine as that, in being dragged over the ground, it shall receive all its vertical movements solely from the undulations of the ground over which it is drawn by means substantially as described.

I also claim the bars or rods K K¹ for connecting the beam to the main frame, when said bars effect the objects herein stated, and by the means substantially as described.

I also claim the combination of two hinged or jointed rods or bars K *m* for allowing the cutter or finger bar or beam its vertical but restraining its lateral motion, substantially as described.

JONATHAN HAINES.

No. 546.—*Improvement in the Printing Machine called a Power Printing Press.*—I claim, 1st, the method herein described, or any other substantially the same, for giving the bed its proper periods of motion and rest, and producing impressions by means of the combination consisting of the crank D, the pitman D^1, the declension lever i^5 i^6, and the toggle joints e^1 e^1.

2d. I also claim the within described method, or any equivalent mechanism, for giving the proper periods of motion and rest to the frisket carriage, and each and all the parts attached to it, by means of the combination consisting of the arm 0^4, the rocking bar 0^3, the inclined plane by which said bar is disengaged, the shaft 0, and the crank n^{13}.

3d. I also claim the combination of one or more feed frames with the frisket or friskets, or mechanism for receiving the sheets to be printed, the same being substantially as herein set forth.

4th. I also claim the within described mode, or any other essentially the same, of securing against the platen the sheet to be printed; whereby it is not only kept steady and prevented from bagging, but is also, after the production of an impression upon it, separated from the types in a proper and safe manner.

5th. I also claim constructing the pitman, as herein described, or in any manner substantially the same, the bearing surface i^1, the shoulder i^2, and the joint h^5, constituting its essential characteristics, so as to allow said pitman to be operated and to produce effects in the manner substantially as herein specified.

6th. I also claim, in combination with the within described mechanism for producing the impressions, the treadle K^4, or its equivalent, to prevent impressions being taken or produced while other parts of the press are in motion, whenever such prevention may be desirable.

7th. I also claim the combination of the double frisket carriage, the bed, platen, and the rollers for inking the type, with two sets of inking mechanism; the whole being made to operate together substantially as herein explained, and the several parts being constructed and connected substantially as herein set forth.

8th. I also claim the combination consisting of the platen, (when constructed substantially as herein stated,) the bed, and distribution cylinders.

9th. I also claim the combination of a crank with the carriage n^6, for the purpose of carrying the inking rollers over the form, and for giving the friskets n^7 their proper motions and periods of rest.

10th. I also claim the mode of constructing the winter E, or bottom bar, as shown in figures 8 and 34, or any equivalent device by which inconvenient height in the machine is avoided, said winter being made with a ledge or shoulder near its lower part, upon which the toggle joints are sustained, substantially as herein described.

11th. I also claim the combination of the fountain with one or more distribution cylinders and a traveller L, the same being for the supply and distribution of the ink, substantially as herein described.

12th. I also claim placing the apparatus for the supply and distribution of ink so that the distribution cylinders rest over or nearly over the fountain, the roller which takes the ink from the fountain roller being placed between the fountain and the cylinders K^5 K^5, in the manner substantially as herein shown.

13th. I also claim the mode herein described of laying the ink upon the types by passing the rollers K^6 K^6 between the bed and platen, said rollers being brought to a stand, in their horizontal movement, for the purpose of receiving their supply of ink from a cylinder or cylinders, substantially as herein stated.

14th. I also claim the within described mode by which the nuts g^1 g^1, which sustain the impression, are brought to their proper positions and secured there, that is, by the hoops g^2, set-screws g^3, and pins g^5, substantially as specified.

15th. I also claim the mode of producing the impressions by means of toggle joints applied to the under or reverse side of the bed, substantially as herein described.

16th. I also claim the combination of the rocker-shaft d^2 and the levers d^1 with the bed, the same being for the purpose of keeping the bed level, substantially as herein described.

ISAAC ADAMS.

No. 547.—*Improved Sirup Casters.*—I claim the combination of a self-measuring faucet and air-tube with each of two or more reservoirs for sirup or like fluids, the reservoirs being on a common base, forming a caster substantially as and for the purpose specified.

EDMUND BIGELOW.

No. 548.—*Improvement in Harvesters.*—I claim, first, operating and changing the speed of the cutters by means of the internally geared wheel I and spur-wheel D^2, in combination with the pinion J, the same being arranged and rendered adjustable, substantially as herein set forth and for the purpose specified.

Second. Connecting the rod G to the end of the lever F by means of the swivel joint *i*, when the said joint is situated at or near the centre of vibration of the cutter-frame.

CHAS. CROOK.

No. 549.—*Improvement in Bagasse Furnaces.*—We claim inserting in the furnace a skeleton dome rising above the exit flue, so as to arrest the fall of the wet bagasse, and for a limited time retain it above the fire without obstruction to the draught of the furnace, substantially as hereinbefore set forth.

YOUNGS ALLYN.
ABRAHAM HAGER.

No. 550.—*Improvement in Boxes for Receiving Passengers' Fares.*—I claim a fare box having two compartments, into which one of the fare is first deposited and temporarily arrested previous to its being deposited in the other, when the former is provided with glass sides, so arranged that the passengers can see through one, and the driver or conductor through another in the same manner, substantially as and for the purposes set forth.

J. B. SLAWSON.

No. 551.—*Improved Arithmometer for Adding.*—I claim, first, the combination of the repeater X, the stationary repeater stop 17, the sliding stop-bars T^1 T^2, &c., and the stationary stop-pin *w*, with the driving-wheel D, or its equivalent, provided with a series of holes *e e*, the whole operating substantially as described to control the motion of the register.

Second. Combining the shaft of the driving-wheel D, or its equivalent, with the keys S^1 S^2, &c., by means of a stronger spring *y* and a weaker spring R and a lever 13, deriving motion from the keys, the whole operating substantially as herein described, for the purpose set forth.

Third. Combining the keys with the sliding stop-bars T^1 T^2, &c., by means of the wedges 8 8 attached to the keys; the arms U U sliding on guide-bars V, and the collars 6 6 and springs 7 7 applied to the guide-bars, substantially as and for the purpose specified.

Fourth. The loose teeth *r* applied to the wheels *o o*, and operating substantially as herein described for the purpose specified.

Fifth. Making the "register" movable longitudinally relatively to the driving-wheel D, or its equivalent, substantially as described, for the purpose of changing the driving operation to the register-wheels of different denominations at pleasure.

O. L. Castle.

No. 552.—*Improved Sawing Mill.*—We claim changing the saw, after each cut, alternately from an oblique position in one direction to an oblique position in a contrary direction to the line of the log carriage while cutting in either direction, by the movements of the machine, and for the purposes herein set forth.

We also claim the swing-guides w^1 w^1, in combination with the stationary guides *w w*, for the purpose of guiding the saw, as described.

We also claim the two wedge-rollers, or wedges P^1 and P^2, to keep the board clear of the saw while cutting in either direction, as described.

We also claim the combination of pinions *i* and their pins *o*, entering into recesses of plates *b*, the ratchet-wheels *g*, the ratchets *r*, the adjustable segments J, and the wheels G^1, the screws G, and the rods K, with their clutches Z and V, for the purpose of setting the log to the saw, and stopping the setting when the log frame advances too close to the saw.

And we also claim the notched plate *t*, in combination with the latch *g*, lever *u*, and link *l*, for the purpose of operating the belt-shifter *l* without turning the lever D, substantially as set forth.

William Hawkins.
William C. Clary.

No. 553.—*Improvement in Seed Planters.*—We claim the pocketed roller, as described, running close to the bottom of the cell, in combination with the adjustable aperture in said cell bottom, when the relation between the width of the pocket and maximum size of the aperture is such that the pocket will always embrace the apperture, as and for the purposes described.

B. Kuhns.
M. J. Haines.

No. 554.—*Improvement in Seeding Machines.*—I claim, first, the employment of a tubular chamber or discharger, rotating rapidly in a horizontal position, so that its outer edge or periphery will be in a plane vertical or nearly vertical to the horizon, and thereby communicating a centrifugal motion to the grain, seed, &c., away from the centre of a circle whose plane is thus vertical or nearly vertical to the horizon.

Second. The employment of a funnel-shaped discharging chamber for the purpose, and rotating in the position above described, having spiral flanches, or their equivalents, inserted therein, and operating to arrest the two direct flow of the grain or seed, &c., through the discharger, and retaining it therein until the necessary centrifugal force is communicated to it before it leaves the discharger, as above described.

Third. The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described, with the disk H placed and operating in the manner above described.

Fourth. The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described, whether with or without the use of the disk H, with a hopper constructed of any proper material, and fitted with the slide *b* and rock shaft *c*, with teeth *d* attached, or their equivalents, and operating substantially in the manner above described, to feed the grain, seed, &c., into the discharging chamber.

Charles W. Cahoon.

No. 555.—*Improvement in Machinery for Separating Flour from Bran.*—We claim, first, the vertical or nearly vertical position of the bolt.

Second. A surrounding case forming a chamber or chambers around the bolt, substantially as and for the purpose specified, and provided with suitable means for the delivery of the flour, as specified.

Third. A rotating distributing head at or near the upper end of the bolt, substantially as described.

Fourth. Rotating beaters or fans within the bolt, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed up top of the bolt, except an aperture or apertures for the admission of the material and air, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed-up bottom of the bolt proper, except an aperture or apertures for the discharge of the bran, substantially as and for the purpose specified, whether the said bottom be or be not specially provided with an aperture or apertures for the admission of air, as specified.

We also claim, in combination with the third combination claimed, or the equivalent of the features thereof, the employment of rotating arms or wings moving in close proximity with the inner surface of

the closed-up bottom, substantially as and for the purpose specified; and finally,

We claim the combination of all the features herein specified as essential features, substantially as described, or any equivalents for any or all the said features.

ISSACHAR FROST.
JAMES MONROE.

No. 556.—*Improvement in the Manufacture of India-rubber.*—I claim the combining of sulphur and India-rubber, or other vulcanizable gum, in proportions substantially as specified, when the same is subjected to a high degree of heat substantially as specified, according to the vulcanizing process of Charles Goodyear, for the purpose of producing a substance or manufacture possessing the properties or qualities substantially, such as described; and this I claim whether the said compound of sulphur and gum be or be not mixed with the other ingredients, as set forth.

H. B. GOODYEAR,
Administrator of Nelson Goodyear, deceased.

No. 557.—*Improvement in the Manufacture of India-rubber.*—I claim the new manufacture or substance herein above described and possessing the substantial properties herein described, and composed of India-rubber, or other vulcanizable gum, and sulphur, in the proportions substantially such as described, and, when incorporated, subjected to a high degree of heat, as set forth; and this I claim whether other ingredients be or be not used in the preparation of the said manufacture as herein described.

H. B. GOODYEAR,
Administrator of Nelson Goodyear, deceased.

No. 558.—*Improved Machine for Sowing Fertilizers.*—I claim the combination of two or more vertical shafts provided with arms, with the outlet tubes of a machine for sowing fertilizers, &c.; the whole being constructed, arranged, and operated in the manner and for the purposes substantially as set forth.

WARREN S. BARTLE.

No. 559.—*Improvement in Cooking Stoves.*—I claim the employment of the heat-equalizing chamber interposed between the fire chamber and the oven, substantially as described, when used in combination with and made to communicate directly with the flues below the oven, substantially as described and for the purpose specified.

AUSTIN BRONSON.

No. 560.—*Improvement in Sewing Machines.*—I claim imparting the necessary motion to the looper by means of thread, substantially as set forth.

T. J. W. ROBERTSON.

No. 561.—*Improvement in Cutting Device for Harvesters.*—I claim placing the blade or the cutting teeth of a harvesting machine on the vibrating bar to which they are secured, so that the said blade or cutting teeth may extend back and behind such bar, substantially in the manner and for the purpose specified.

HENRY GREEN.

No. 562.—*Improvement in Mowing Machines.*—I claim, first, a cutting apparatus behind the driving wheel of a machine adapted to mowing, when this is combined with a tongue or pole hinged substantially as described, and with proper means substantially such as described, for causing the cutting apparatus to run in close proximity with the ground, the whole combination being substantially such as and for the purposes set forth.

Second. I also claim arranging and combining the finger beam with the rear end of the main frame of the gearing in such manner that while the portion of the finger-beam to which the cutting apparatus is secured extends below the frame and may run close to the ground, the rear end of the frame will be carried above the stubble, and this relative position of the rear end of the frame of the finger-beam and of the ground will not be disturbed by the rising and falling of the finger-beam or the driving wheel to follow inequalities in the surface of the ground in their respective paths.

Third. I claim the combination and arrangement of a metallic shoe substantially such as herein described; the finger-beam and gearing frame substantially as herein set forth.

HENRY GREEN.

No. 563.—*Improvement in Reel Supports in Mowing Machines.*—I claim the method of supporting the reel upon the end of the finger-beam without obstructing the action of the divider by means of inclined arms, substantially as described.

HENRY GREEN.

No. 564.—*Improvement in Cutting Device for Harvesters.*—I claim, first, a vibrating cutter having any proper form of cutting edge in front and notched or indented in the rear thereof, in combination with guard-fingers, across which it vibrates, substantially as herein set forth; and,

Second. The combination of a cutting edge at the front of a vibrating cutter, for severing the stalks of grass or grain, with a cutting edge at the rear for cutting up and facilitating the discharge of obstructing matter, substantially as herein set forth.

HENRY GREEN.

No. 565.—*Improvement in the Mode of Connecting the Steam Cylinder with Steam Chests.*—I claim so constructing balance poppet-valve engine steam chests that a portion of the outside of the cylinder forms a portion of the inside of the chest, having the plates which contain the upper and lower valve seats cast directly upon the cylinder, sub-

stantially as described; thus dispensing with the nozzle and nozzle flanges, and saving steam heretofore lost by reason of their interposition between the chest and cylinder, as described.

FREDERICK E. SICKELS.

No. 566.—*Improvement in Electro-Magnetic Alarms.*—I claim, first, the mode of breaking and completing the circuit, or *vice versa*, that is, by the spring circuit-breaker operating to cause the vibration of the armature.

Second. So combining a hammer and bell with the self-vibrating armature that the vibrations of the latter shall produce a continual ringing of the bell under circumstances substantially as described.

Third. The combination of these parts, (viz: the circuit-breaker, hammer, bell, and vibrating armature,) or their equivalent or equivalents, with a self-acting spring or key in a door or window to operate so as not only to bring them automatically into action when the door or window is open, but maintain a continuous or continued ringing of the bell by the interruption of the electric current without intervention of other machinery.

AUGUSTUS R. POPE.

No. 567.—*Improvement in Sewing Machines.*—First. I claim the vibrating hook, or its mechanical equivalent, for holding down the thread during the partial passage of the shuttle through the loop, when arranged and operating substantially as set forth.

Second. I also claim, in combination with the vibrating hook, or its equivalent, the employment of two continuous rotary motions, one working the needle, the other the shuttle; and this for the purpose of producing sewing without any rest on either the shuttle or needle in their movements, thereby rendering a sewing-machine capable of rapid action, simple in construction, and noisless in its operation, substantially as set forth.

CHARLES A. DURGIN.

No. 568.—*Improvement in Sewing Machines.*—We claim, first, a mechanism for making a stitch substantially such as is described, and consisting of an eye-pointed perforating instrument and a non-perforating eye-pointed instrument, operating substantially as specified.

Second. A stationary table or support for the material to be sewed, substantially such as specified, and performing the duties, substantially as set forth; and,

Third. A feed, in which the cloth is grasped between two surfaces without being attached to either of them, substantially in the manner and for the purpose set forth; meaning to claim as of our invention none of these elements severally or apart from the others, but only the three in combination.

W. O. GROVER.
WM. E. BAKER.

No. 569.—*Improvement in the Mode of Extracting Stumps.*—I claim the combination of the draught hook R, shears H, and pulley N, substantially in the manner and for the purpose herein set forth.

I also claim the application and arrangement of the links E E^1, or their equivalents, in combination with the lever A, so that the said links may alternately be put in connexion with the draught chain I by means of the two link hooks J and K, or their equivalents, substantially in the manner and for the purpose herein set forth and described.

W. W. WILLIS.

No. 570.—*Improved Method of Ventilating Ships, &c.*—I claim the ventilating of vessels, houses, rooms, or any other description of enclosed and covered spaces, by expelling the foul air combined therein, and by simultaneously introducing in its stead fresh air, cooled by a combination and arrangement of two sets of wings on one shaft acting simultaneously, substantially as described.

RUDOLPH KNECHT.

No. 571.—*Improvement of Machines for Marking Time of Attendance of Workmen.*—I claim the combination of a registering surface operated by clock-work, with markers so applied as to mark on said surface and indicate the presence or absence of the employé or workman at or from the period of time denoted by the position of the registering surface, as specified.

I also claim a perforated plate, in combination with a slide or its equivalent, whereby the presence or absence of the employé or workman, to whom each perforation is allotted, is indicated upon inspection by means of black and white or dissimilar colors exhibited behind said opening, as specified.

BENJ. T. HARRIS.

No. 572.—*Improvement in Sewing Machines.*—We do claim, first, in combination with an upper needle or eye-pointed perforating instrument, a non-perforating eye-pointed instrument so shaped and moved, substantially as specified, that it shall spread a loop of the thread it governs while advancing through the loop of the upper needle thread, substantially in the manner and for the purpose specified.

Second. We claim, in combination with an eye-pointed upper needle, a non-perforating instrument having the function, substantially in the manner specified, of carrying the loop of upper needle thread out of the location or position in which it was originally seized, for the purpose substantially as set forth.

Third. We claim, in combination with an eye-pointed perforating instrument, an eye-pointed non-perforating instrument, substantially such as is described, and performing the two offices of spreading a loop of its own thread while advancing through a loop of the upper needle thread, and of changing the locality of the loop of upper thread that it has seized, both offices being performed substantially in the manner and for the purpose herein before described.

Fourth. We claim an eye-pointed upper needle and an eye-pointed needle so arranged and operating as to make a stitch, substantially such as is herein represented, in combination with a feed apparatus, one surface of which has motion in four different directions, substantially in the manner and for the purposes described.

W. O. GROVER.
W. E. BAKER.

No. 573.—*Improvement in Sewing-Machines.*—I claim, first, in single thread sewing machines, a hook or looper, revolving in one direction only, being so constructed as to make a series of chain stitches, when operating in connexion with a reciprocating needle.

Secondly. I claim the peculiar construction, substantially as herein described, of a revolving hook whereby, while one loop is taken from the needle by the hook, spread, twisted, and held in the path of the needle until another or fresh loop is taken, the former loop shall be released and drawn up during the retreat of the needle.

JOHN H. RUCKMAN.

No. 574.—*Machine for Folding Paper.*—I claim, firstly, producing the fold over a stationary knife or straight edge by pressure upon the sheet when in contact with the knife edge, substantially as described.

Secondly. The use of nippers so constructed as to fold the sheet over the knife edge, seize it, and carry it to its proper position for receiving another fold, substantially as described.

Thirdly. The methods herein before described for releasing the sheet from the nipper.

Fourthly. The adjustable check and the mode of releasing its hold by the advance of the nippers, as set forth.

Fifthly. Attaching the stationary knives to the reciprocating carriage, as set forth

Sixthly. The combination of the crank R, slotted connecting rod M, lever N, and link P, substantially as described, for operating the reciprocating carriage.

Seventhly. Hanging the cutting rollers on a bar vibrated and checked as herein described.

Eighthly. The arrangement of the T levers with the double concentric rock shafts, as herein before described, for operating the nippers from one cam, as set forth.

S. T. BACON.

No. 575.—*Improvement in Casting Skeins for Wagons.*—I claim, first, the combination of a whole thimble skein pattern *b* with a loose collar pattern *t* substantially as specified, and as shown in fig. 1, for the purpose specified.

Second. I claim, also, the vertical position of green sand cores for thimble skeins, when moulded and combined at their base with the mould, substantially in the manner specified, in combination with the adjusting top of the cores at S by the hand after the mould is completed, except the cope, whether core bars or their equivalents for that purpose are used, substantially as described and shown.

ANDREW LEONARD.

No. 576.—*Improvement in Continuous Sheet Metal Lathing Surface.*—I claim a closely united plaster-supporting metallic surface of substantially the shape herein described, when used in the construction of partitions, &c., which are designed to be fire-proof and burglar-proof.

JOHN B. CORNELL.

No. 577.—*Improved Omnibus Fare Box.*—I claim, first, the glass plates *i* and *f*, as arranged in connexion with the apron *m*, in the manner substantially as and for the purposes set forth.

Second. Closing the passage to the drawer below from the chamber above by means of an apron operated by a spring S in the manner substantially as set forth.

I. S. REEVES.

No. 578.—*Improvement in Reaping Machines.*—I claim the employment of the projecting ends of the reel ribs to effect the separation of the grain to be cut from that to be left standing in combination with a dividing apparatus substantially as described, which effects a division of the grain to be cut from that to be left standing by forming an open space between the outer and inner grain for the ends of the ribs of the reel to act in, in which open space there is no reel post or other obstruction to prevent the free passage of the grain as it is brought back by the ends of the reel ribs to the platform of the machine, and by which means a separation of the inside grain to be cut from the outside grain to be left standing is made complete by the action and power of the reel, substantially as described.

C. H. MCCORMICK.

No. 579.—*Improvement in Reaping Machines.*—I claim the downward curve or bend, substantially as described, of the bearers that support the cutting apparatus to facilitate the discharge of any clogging matter that may enter, as set forth.

C. H. MCCORMICK.

No. 580.—*Improvement in Knife-Polishers.*—I claim, as the invention of Reuben Shaler, the combination of the hopper B. polishing surfaces C and D, and springs E, or their equivalents, substantially in the manner and for the purposes set forth.

WILLIAM H. HORSTMAN,
Assignee of Reuben Shaler.

No. 581.—*Improved Printing Press.*—I claim, first, the arrangement and combination of a rotating disk W with an annular ring or outside disk X, the two revolving, each in an opposite direction to the other, for the purpose of breaking up the ink, so that it shall by such contrary motions become evenly distributed, and thus imparted to the rollers, which ink the form of types.

Second. I claim the rollers T, "one or more being used," for inking the form, from the parallel position they necessarily assume for this purpose, changing to an oblique position, which shall give to them a lateral motion when in contact with the distributing disks, or some equivalent, for the purpose specified.

Third. I claim the arrangement of a form-bed which alternately varies its motions during its reciprocating movement, viz: first travelling under and in contact with a cylinder to give an impression, then being withdrawn from contact with the cylinder, and remaining with-

drawn during the return movement to prevent an impression, such bed reciprocating and at the same time alternating from one of these positions to the other, thus performing two separate and distinct motions entirely independent of and in a contrary direction to each other, while remaining in gear with the cylinder, when such bed shall be used with a cylinder, or its equivalent, having a part revolution with a reciprocating movement.

Fourth. I claim attaching to a reciprocating form or type bed an adjustable rack, as well as a stationary rack, which two racks shall play into gear upon a cylinder or segment of a cylinder, so that any and all wear or variation may at once be taken up by adjusting the movable rack, and by this means always cause the bed and cylinder, or segment of a cylinder, to work in harmony with each other, and produce a clear and sharp impression, free from slur.

Fifth. I do claim placing the bed, when used with a rotating reciprocating cylinder, or segment of a cylinder, which shall place or pile the sheets of printed paper upon the fly-board, as herein set forth and described.

GEO. P. GORDON.

No. 582.—*Improvement in Turning and Sliding Tables for Railroads.*—I claim interposing the central part or box between the ends of the truss rail beams in such manner as to make one of the width of said central part or box as a portion of the length of said beams, substantially as described, when the said beams and central box are so constructed and connected as to form a table entirely supported from the central part or box, substantially as described.

WILLIAM SELLERS.

No. 583.—*Improvement in Coffee-Pots.*—We claim the arrangement herein described whereby the steam from the boiler is discharged into the water from the condenser, which absorbs the aroma, in combination with the siphon for returning the contents of the condenser into the boiler, substantially as set forth.

CHARLES B. WAITE.
J. W. SENER.

No. 584.—*Improved Surface-Condenser for Steam-Engines.*—I claim, firstly, so enclosing the condensing surfaces of a surface-condenser within a tank, which is constructed to be capable of acting as a jet-condenser, that when the said surface-condenser shall become deranged by leaks or otherwise resort may be had to the jet-condenser, whereby condensation may be continued and the vacuum maintained, substantially as set forth.

Secondly. The combination of a surface-condenser with a box or case in such a manner that the condensation of the steam shall be effected therein without subjecting the said surface-condenser to atmospheric pressure, substantially in the manner described.

Thirdly. The aperture *w*, or its equivalent, for maintaining the vacuum, and as a passage for any steam which may remain uncondensed in the radiating condenser, as set forth.

Fourthly. Connecting the evaporator with the chamber *h*, substantially in the manner described, whereby the saturated water can be drawn off from the bottom of the evaporator.

JOSEPH P. PIRSSON.

No. 585.—*Improvement in Skirt-Hoops.*—I claim, first, connecting the hoops to each other by a series of loops, substantially as specified.

Second. Attaching to the hoops the tapes or other articles by which the hoops are suspended by means of metallic clasps which embrace the hoops, substantially as specified.

Third. Forming eyes in the braiding at the extremities of the hoops to serve as slides, substantially as specified.

DAVID HOLMES.

No. 586.—*Improvement in Watch-Cases.*—I claim, first, in reversing the inner case containing the works and dial in the outer case, to present the dial on either side.

I claim pivoting the inner case containing the works and the dial to the ring of the outer case, substantially as herein described, or by equivalent means, so that it can be reversed to present the dial in either direction without disconnecting from the outer case, as set forth.

WICKLIFF E. BALDWIN.
ELIHU BLISS.

No. 587.—*Improvement in Watch-Cases.*—I claim, first, attaching the pendent in double case watches permanently to the ring of the outer case, substantially as and for the purpose specified.

Second. Connecting the inner case with the ring of the outer case, so that the inner case containing the works and dial can be reversed and held within the ring of the outer case to exhibit either the back or the dial through the bizzle, and so that the inner case may be held in the ring of the outer case, independently of the closing of the outer case, as set forth.

Third. In reversing the inner case containing the works and dial, in the outer case to present the dial on either side, I claim shifting the dial one quarter of a circle, substantially as herein described, or by equivalent means, so that the figures of the dial may be properly located relatively to the pendant for either the ordinary open-face watch or the ordinary hunting watch.

Fourth. Forming the ring of the inner with a flange or rib, substantially as described, in combination with a corresponding flange, rib, or rest on the ring of the outer case, to give the required support to the inner case within the outer case when reversed to present the dial in either direction, as set forth.

WICKLIFF E. BALDWIN.
ELIHU BLISS.

No. 588.—*Improvement in Manufacture of Hard Rubber Goods.*—I claim the improvements in the hardening and vulcanizing of India-rubber or gutta-percha by which the manufacture of perfectly shaped articles may be facilitated, substantially as described.

GUSTAVUS CUPPERS.

No. 589.—*Improvement in Pumps.*—I claim, first, the combination and arrangement of the vertical central conducting pipe C, horizontal double-chambered or double-valved receiving and supplying cylinder E, two alternately reciprocating pistons or plunges F F, and piston connecting and guide-rods G G, substantially as and for the purposes set forth.

Second. Effecting the reciprocation of the piston or pistons F F by means of a curved inclined plane I arranged horizontally on the bottom of the well, substantially as and for the purposes set forth.

H. LINDSEY.

No. 590.—*Improvement in Harvesters.*—What is claimed as the invention of Nelson Platt, is:

First. Combining with a machine for cutting grain and gathering upon a platform a raking mechanism which at suitable intervals sweeps the grain off the platform, changes the direction of its stalks relative to the path of the machine, and discharges it upon the ground in gavels, substantially as herein set forth.

Second. The employment of a sweep or vibrating rake, operating in such manner that while sweeping the grain off the platform and discharging it upon the ground, it will change the direction of the stalks, as described.

Third. The method of vibrating a sweep-rake and turning its teeth in such a manner that they will pass over the grain, points foremost, at intervals to reach back and seize the grain and sweep it off the platform, whether the devices employed to effect the movements be such as described or others equivalent thereto.

Fourth. The method of holding a sweep-rake firmly while raking the grain with the points of its teeth in the proper position, relative to the platform, by means of a latch or other equivalent thereto, which, operating with a greater certainty than a weight, spring, or other fastening not rigid, more effectually prevents the rake-teeth from rising to override the grain, and at the same time avoids the necessity of moving a heavy weight, or of overcoming the tension of a strong spring in elevating the rake preparatory to its retrograde stroke.

Fifth. The construction and arrangement of a sweep-rake, and the mechanism for operating it, in such a manner that it is carried back and forth, and its teeth raised and lowered without support at the outer end.

Sixth. Changing the frequency of the alterations of the raking mechanism by means of the shifting gear or other equivalent devices for producing a varying rate of motion, for the purpose of varying the size of the sheaves as may be required, substantially as set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 591.—*Improvement in Harvesters.*—What is claimed as the invention of Nelson Platt is, the combination of the vibrating sweep-rake with the lever carrying the same, vibrated by gearing located within the inner edge or circle of said platform, as herein set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 592.—*Improvement in Harvesters.*—What is claimed as the invention of Nelson Platt is, constructing that portion of the platform of the reaping machine which is traversed by a rake working above it, with a solid floor so shaped as to allow the points of the teeth of the rake to move below the plane traversed by the grain, substantially as herein set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 593.—*Improvement in Harvesters.*—What is claimed as the invention of Nelson Platt is, the combination of a vibrating sweep-rake, with a fence or guard to prevent the grain from being deflected from the path of the rake by centrifugal force, substantially as herein set forth.

WILLIAM H. SEYMOUR.
D. S. MORGAN.

No. 594.—*Improvement in Steam Boilers.*—I claim the arrangement of the tubes and the connexion of one or more receptacles, substantially such as herein described, for consuming the fine particles of coal which are carried by the force of the blast or draught from the fire-chamber into the flues, the said receptacle being placed below the bottom of the main flue, and communicating therewith, and between the fire-chamber and a check or deflector, or between checks and deflectors in the main flue, to check the momentum of the particles of coal, and cause them to drop into the receptacle to be consumed, substantially as described.

I also claim, in the construction of the boiler, substantially as herein described, forming a single flue in the middle for the passage of the products of combustion from the main flue surrounding the water tubes to the smoke-box, when this is connected with a check or deflector placed in the main flue among the water tubes, and in front of the said middle flue, substantially as described, to prevent the products of combustion from taking a direct course to the said middle flue, as described. I also claim arranging the bent up ends of the water tubes, where they are connected with the crown sheet of the furnace in a series of double longitudinal rows, and leaving spaces between the double rows of greater width than the external diameter of the water tubes, substantially as described, to admit of taking out and inserting the tubes, whilst in other respects the said tubes may be placed as near to each other as may be desired.

I also claim interposing the net-work or plate between the rear end of the flue and the smoke-stack and the exhaust pipe, as and for the purposes herein set forth; and I also claim combining with the deflector in the smoke-box the receptacle for the sparks or other fine particles of coal dust, substantially as herein described, for preventing the sparks from being consumed or accumulating in the smoke-box and interfering with the draught as herein set forth.

F. P. DIMPFEL.

No. 595.—*Improvement in the Manufacture of Textile Hose.*—We claim the double tube or hose as a new article of manufacture, woven

in the manner and for the purposes specified; and this we claim, whether our new manufacture be used for hose, belting, card clothing, shoe soles, harness pads and traces, or any other purpose.

LINUS B. COOLEY.
SAMUEL BABCOCK.
BENJAMIN G. COOLEY.

No. 596.—*Improved Sidewalk Pavement.*—I claim giving such a shape to the within described street-gutter, section *b*, that its under surface will securely embrace the top of the wall *d*, whilst its upper surface at the same time forms a portion of the street-gutter, and also a firm supporting base for a section *c* of street curbing or its equivalent, substantially as represented in the accompanying drawings and herein set forth.

I also claim forming a sidewalk pavement of a series of metallic plates *a a*, when the said plates are combined with or form portions of sections of metallic street curbing, substantially as herein set forth.

JOHN B. CORNELL.

No. 597.—*Trap for Catching Flies.*—We claim the combination of the wheel or cylinder having the rotary motion, with the box or case, for the purposes herein set forth.

JOEL B. FULLER.
GEORGE W. PIERCE.

No. 598.—*Improvement in Cartridges.*—I claim making the cartridge case, or at least the cylindrical portion thereof, of some impermeable and elastic substance, such as India-rubber or gutta-percha, substantially as above described, so that it may be expanded laterally by the force of the explosion of the charge, and will contract itself, after the explosion, by its own inherent property.

GILBERT SMITH.

No. 599.—*Improvement in Sewing Machines.*—I claim, first, so arranging and operating a looper, or its equivalent, that it shall derive its motion from the movement of the needle, as described.

I also claim moving the looper up to and away from the needle, substantially in the manner specified.

T. J. W. ROBERTSON.

No. 600.—*Improvement in Sewing Machines.*—I claim clamping the thread of the needle at the downward or advancing movement of the needle by means that are operated intermittingly, substantially as and for the purposes herein set forth.

I also claim combining with the clamping means, as herein described, a set-screw or its equivalent, for adjusting the clamping means, so that the tightening of the stitch may be regulated to the degree desired.

I also claim the combination of the drag bar T attached to the shuttle, and containing the eye *j* through which the thread passes therefrom, the spring K for throwing the said bar into a position to

prevent the delivery of the thread from the shuttle, and the adjustable liberating piece U for preventing the delivery of the thread from the shuttle and allowing the desired quantity to be given out.

I also claim constructing the shuttle in two parts, viz: the shell and cap, of which the latter is inserted into and withdrawn from the former, as described.

JAMES HARRISON, JR.

No. 601.—*Improvement in Hoisting Winches for Shipboard.*—I claim the construction and use of winches whose bosses or drums, turned by cog-wheels, operate in connexion with certain sheaves, wheels, or pulleys for carrying, operating, and sustaining the fall or tackle used in hoisting or lowering the sails or cargoes of vessels on shipboard, substantially as herein described and for the purposes set forth.

J. BRYANT.

No. 602.—*Improvement in Railroad Cars for Day and Night Service.* I claim, 1st. The employment of the movable backs of car seats, when used for the purpose of filling up the spaces between the seats, so that a bed may be formed, and this I claim whether accomplished in the manner herein shown, or in any other manner substantially the same, whereby the same result is accomplished.

2d. The within described method of forming and concealing when not in use, in the spaces between the windows, an upper tier of beds, as set forth and for the purpose specified, and also the same in arrangement with the device constituting the subject of the first claim.

J. B. CREIGHTON.

No. 603.—*Improvement in the Manufacture of Sulphuric Acid.*—I claim the process of treating native metallic sulphurets or arsenio-sulphurets in connexion with the substances above described, in order to expel all or part of the sulphur and arsenic, for the purpose of obtaining therefrom sulphuric acid, and the metals as sulphates or oxides.

ALFRED MONNIER.

No. 604.—*Improved Shingle Machine.*—I claim, first, the use of a set of two or more froes, arranged substantially as hereinbefore described, for the purpose of riving two or more bolts from the block of wood at the same time, thus preventing the tendency of the wood to eat out or split too thin at one end, or at either side.

Second. The use of brace bars or their equivalents, so arranged in combination with the froes that the froes will incase themselves between them; thus securing the perfect separation and delivery of the bolts from the block.

Third. Tne use of sliding side pieces L L with converging slots *c c*, in combination with the upright grooves *d d* in the frame in which the wrists of the shaving knives are inserted, for the purpose of effecting the gradual approximation of the shaving knives in the proper taper of the shingles.

Fourth. The combination of the lever P with its pin R, the pro-

jecting cam S, and cam *g*, on the frame L L, for the purpose of communicating the requisite relative motion to the vibrating feed board O, the driver N, and frame L L, whereby one bolt only at a time of the two, three, or more riven by the froes is driven outward and forced through the shaving knives, no matter how short or thin the bolt may have been froed.

JAMES CRARY.

No. 605.—*Improvement in Magnetic Printing Telegraph.*—I claim, first, the employment of force, derived from an electro-magnet, to govern and regulate a force derived from the use of compressed air or other fluid, substantially in the manner and for the purpose specified.

Second. I claim an electro-magnet constructed substantially as described; that is to say, when made up of a series of hollow stationary and moving magnets, arranged substantially as specified, so as to effect the movement of a rod or axis on which the latter are mounted, substantially in the manner set forth.

Third. I claim a valve, substantially such as is specified, in combination with any electro-magnet to move that valve, and a piston or its equivalent, whose motions are effected by the pressure of air or fluid, whose action is controlled by such a valve; the combination being substantially such as is specified.

Fourth. I claim an endless band, acting as a reservoir of coloring matter, and arranged substantially in the manner and for the purpose specified, in combination with paper and a series of types and a spurred cylinder, so as to record characters when pressure is applied.

Fifth. In combination with a key-board at one locality and a printing apparatus at another, or in combination with both a key-board and a printing apparatus at each locality, I claim a detent or stop, moved by the hand of the operator, for arresting the motion of a type-wheel at one determined and fixed point, when there is combined therewith a key corresponding, when the parts are in proper position with that determined and fixed point; the detent and key being substantially such as specified.

Sixth. I claim driving a type-wheel of a printing apparatus by means of a friction connexion, substantially such as is described, between it and a prime mover, so that the motion of the former may be modified or its motion stopped without causing the motion of the latter to be stopped or modified.

Seventh. I claim combining with a wheel of a printing telegraph, which must at times stop and at other times be in motion, a spring compressed by the action of the parts when in motion, and exerting its force to start the wheel when released from any detent that may arrest its rotation, the combination being substantially such as to effect the purpose set forth, substantially as described.

Eighth. I claim causing the paper to be printed to approach the type which is to impress it by means of a friction connexion with a prime mover, so that the latter may remain in motion while the former is at rest, substantially in the manner set forth.

Ninth. I claim the apparatus substantially as herein set forth for governing the approach of paper to a type-wheel that at times moves and at other times stops, so that the apparatus which brings up the paper shall act for that purpose when the type-wheel ceases to revolve for a longer period than usual.

Tenth. I claim, in combination with a type-wheel of a printing telegraph, a spurred or toothed cylinder, substantially such as is specified, the latter causing the paper to progress as the purposes of printing by the types *m* the former may require, substantially as set forth; and this I also claim in combination with another surface substantially such as is specified, to press the paper upon such spurs in the manner substantially as described.

ROYAL E. HOUSE.

No. 606.—*Improvement in Metallic Packing for Steam Pistons.*—I claim the bent or folded springs inserted between the piston and packing ring, and taking an even and extended bearing around the interior circumference of said packing ring to cause the said packing ring or rings to take an uniform bearing on the interior of said cylinder, substantially as set forth.

I also claim two or more tiers of packing springs placed between the piston and the rings as aforesaid, when the said tiers of springs are so placed as to occupy alternate positions as break joints, as set forth.

DANIEL LASHER.

No. 607.—*Improvement in Cleansing Sugar.*—What is claimed as the invention of Joseph Hurd, deceased, is, first, the process of separating sugar from any liquid matters with which it may be mixed by filling the mixed mass into a vessel, constructed substantially as described, and there acting upon the same by centrifugal force, substantially in the manner specified.

Second. Is claimed as the invention of Joseph Hurd aforesaid the washing of impurities out of the sugar by admitting a liquid into a vessel, substantially as described, in which sugar is being exposed to the action of centrifugal force, as specified.

Third. I claim as the invention of Joseph Hurd aforesaid the process, herein described, of obtaining a mass of sugar freed from liquid impurities by filling the mixed mass into the top of a vessel, constructed substantially as described, and having a closed bottom, and there exposing the mass to the action of centrifugal force, and then withdrawing the sugar out of the upper end of said vessel when separated, the whole as specified.

And lastly, I claim the process of obtaining a mass of washed sugar by charging sugar into the top of a vessel, constructed as specified, with a closed bottom, and then exposing such sugar to the action of centrifugal force, and while so exposed admitting currents of liquid to wash the sugar; and finally withdrawing the washed sugar out of the top or upper end of the vessel, the whole process being substantially as specified, and being claimed by me as the invention of the said Joseph Hurd, deceased.

FRANCIS P. HURD,
Administrator of the estate of Joseph Hurd, deceased.

No. 608.—*Improvement in Manufacture of Paper from Wood.*—We claim the pulping or disintegrating of shavings of wood, and other similar vegetable matter for making paper, in the manner substantially as herein described, according to the nature of the vegetable substance to be treated.

Wm. F. Ladd.
Morris L. Keen.

No. 609.—*Improved Wear-Iron for Carriages.*—I claim the construction of carriage or other vehicle bodies with a "metallic recessed guard," constructed and arranged in the body of the vehicle, substantially as described for the purposes set forth.

J. George Lefler.

No. 610.—*Improvement in Dry Gas Meters.*—I claim fastening the diaphragms to the partition plate, and on either side thereof, in contradistinction to attaching them by separate flange rings to the sides of the meter, and at or near the front and back thereof.

I also claim the arrangement of pendent rods or levers, with suitable guides, near the outer edges of the disks, on opposite sides of their axis, to steady and direct the motion of the movable partitions, as shown and described.

And I further claim containing the inlet and outlet pipes, down the sides of the rectangular case, below the points required for passage of the gas to and from the meter, to form separate condensation chambers, as specified.

And I likewise claim enclosing, by a separate interior cover or case, the valves of the meter for protection of the operating and registering gear from gas to facilitate adjustment, substantially as set forth.

A. Angus Croll.

No. 611.—*Improvement in Chairs.*—I claim the new manufacture of chair back, composed of a convex faced, solid block of wood D, and a single metallic support rod C, they being constructed and applied together, and to the chair seat essentially as specified.

And I also claim making the back rest D, oblong or oval, when made to rotate in manner and for the purpose as specified.

James Fernald.

No. 612.—*Improvement in Bolting Flour.*—I claim, first, the cast heads or annular rings C C, figures 1 and 3, with the flange and hubs substantially as described, or any mechanical equivalent therefor, when used in connexion with wire cylinder or circular wire bolt.

Second. In combination with claim first, the cylindrical journals *a a*, with figures 6 and 7, or their equivalents, by means of which the bolt revolves in or on a support inside the space for admitting the feed, instead of on the outside as in the English bolt.

Third. The combination of the cards or metal points *d* and brushes *e*, attached to bars *b* of the inside cylinder, for the purpose set forth.

Fourth. The spout P P, when arranged in relation to the cylinder or bolt A, and used in connexion with said cylinder or bolt A, and the inside brush cylinder, as and for the purpose specified.

Edward Bradfield.

No. 613.—*Improvement in Sewing Machines.*—I claim the formation of sewing in cloth or other material by the interlooping of two threads by the conjoint action of two needles, in such manner that each needle shall be made to carry a loop of thread through a loop formed by the other needle and through the cloth, whereby one thread serves as a binding thread to the other, substantially in the manner described.

I also claim moving the cloth to be sewed by a needle or its equivalent, operating substantially as herein set forth, to pierce the cloth and move it the necessary distance required to form successive stitches.

Sherburne C. Blodgett.

No. 614.—*Improved Ventilating Attachment to be Applied to Pumps.*—I claim the arrangement and combination of the perforated base D, cap G, and perforated tube *g*, or their equivalents, with the pump barrel A, as herein set forth, whereby the ventilator becomes attached to and forms a part of the pump, all as herein specified.

George C. King,
Assignee in full of C. N. Lewis and G. C. King.

No. 615.—*Improvement in Elliptic Cushion for Railroad Cars.*—I claim, first, the local relation and mode of application of the semi-elliptic buffer to any and all cars wherever applied, in such manner as is represented by the letters B, and for the purposes set forth.

Second claim. The combination and arrangement of the elliptic cushion for the easing of collisions, as described and arranged in every part thereof in the frame work, as represented by the letters A, and operating substantially in such manner and wherever applied to cars, as described, and for the purposes set forth.

Samuel R. Jones.

No. 616.—*Improvement in the Mode of Generating Heat.*—I claim the adaptation of, or rendering available, tar, as a fuel for the production of the intense and steady heat required for the melting of glass and for other processes and manufactures, by introducing water or the vapor of water into a furnace or fireplace, in contact, combination with, or in close proximity to the tar, substantially as herein set forth.

Thomas R. Hartell.

No. 617.—*Improvement in Sewing Machines.*—We claim the combination of mechanism substantially such as is herein described, so that the cloth or other fabric to be sewed, being placed upon the machine, will be automatically fastened on to the feeding apparatus, carried forward to receive the stitches, and discharged from the feeding apparatus, substantially as herein described, and so that seams of any desired length may conveniently be sewed.

Isaac M. Singer.
Edward Clark.

No. 618.—*Improvement in Corn Harvesters*.—We claim, first, the rotary arms *p*, in combination with an eccentric guide *g*, substantially in the manner and for the purpose specified.

Second. The employment of a double series of cutters for cutting stock and stump, as described.

R. C. Mauck.
W. T. McGahey.

No. 619.—*Improved Furnace for Burning Bagasse*.—What is claimed as the invention of Alfred Stillman is—

Firstly. The employment, in connexion with the boilers or other vessels of a sugar plantation which require heat, and with the mill for expressing the juice from the cane, of a furnace, constructed substantially in the manner herein set forth, capable of burning wet bagasse without the aid of other fuel than the bagasse itself, and capable, also, of utilizing thereby said bagasse as a generator of heat for said vessels, as described.

Secondly. Combining the cane-mill with a furnace, constructed as herein described, by means of the endless carrier, in the manner and for the purposes substantially as described.

Elizabeth Ann Harris,
Late Elizabeth Ann Stillman,
Administratrix, &c.

No. 620.—*Improvement in Treatment of Caoutchouc*.—I claim running the heat for vulcanizing flexible and elastic hard gum compounds through the range of temperature, and the comparatively great length of time, substantially as set forth—that is to say, commencing the heat at about 275°, and carrying the same to 300° and upwards, substantially as described.

I also claim making, as described, the flexible and elastic hard gum composition of two parts, by weight of rubber or other vulcanizable gum and one part of sulphur, when such composition is preparatory to the running of the heat, as described in the specification.

I also claim equalizing the temperature in the heating apparatus by mechanical means, substantially as set forth.

Austin G. Day.

No. 621.—*Improvement in Automatic Steam-Whistles in Locomotives*. I claim, 1st. Giving audible indications of the approach of the train of cars to persons at the stations or other points on the route by an arrangement of means interposed between the truck wheels and whistle, and which are actuated by the truck wheels, substantially as herein set forth.

2d. Combining with the means for giving audible indications other means for giving visible indications to persons charged with the care of the train, both sets of means being actuated by the truck wheels, as herein described.

3d. Varying or modifying the tones or sounds of the whistle by the form and surface of the lifters and their arrangement and position upon the cylinder, as herein set forth.

James Harrison, Jr.

No. 622.—*Improvement in Stoves*.—I claim the non-radiating combustion chamber, with a contracted orifice or throat, producing a plenum in said chamber, in combination with a fire box or pot, and with an exterior chamber surrounding said combustion chamber, and from which exterior chamber the heat is taken by radiation or conduction, as set forth.

Joseph C. Henderson.

No. 623.—*Improvement in Seed Planters*.—I claim, in combination with a corn planting machine, that is constantly moved over the ground and drops the grain intermittently, the so combining of two slides—one of which is at or near the seed hopper, and the other at or near the ground, or their equivalents—with a lever, so that the operator or attendant on the machine can open said slides at the proper time to deposit the seed and prepare a new charge, by the double dropping herein specified.

Jarvis Case.

No. 624.—*Improved Printing Press*.—1st. I claim the use of rotating reciprocating nippers for such purpose, when used either separately or in combination with a rotating reciprocating fly.

2d. I do claim relieving the sheet from the type, and taking the sheet directly from the platen, or either of them, with or by the same nippers, which shall carry such sheet to its place of deposit or piling.

3d. I claim giving with one inking cylinder two distributions to the inking rollers for each impression, viz: One distribution prior to passing the form, and one distribution prior to the return of the form to its first position.

4th. I claim the arrangement of the spring, connecting rod, crank, and stops, as described, to operate the bed and give the necessary dwell for the impression.

Geo. P. Gordon.

No. 625.—*Improvement in Grinding Mills*.—I do claim the improved method described of securing the runner stone on the driving spindle in a grinding mill, by means of a metallic band, or its equivalent, embracing the periphery of the stone, by combining said band with a hub and a back plate of at least as great diameter as the runner and rigidly attached to the spindle, such combination operating to secure the stone firmly in its place, in the manner and on the principle substantially as specified.

Edward Harrison.

No. 626.—*Improvement in Wood Screws*.—What is claimed as the invention of Thomas J. Sloan is, first, making the core with a conical point, substantially as described, in combination with a body of cylindrical form or nearly so, substantially as and for the purpose specified.

Second. Making the core with a conical point, substantially as described, in combination with the thread formed on such conical point of a gradually less depth as it approaches the apex of the core, and

with the several convolutions on the conical point and on the body at equal distances apart, substantially as and for the purpose specified.

Third. Making wood screws with the core of a conical shape along that part of the length of the screw extending from where the thread begins on the shank to where it becomes of full depth, substantially as and for the purpose specified.

Fourth. Making wood screws with a core of a cylindrical or nearly cylindrical form, and with a conical point in combination with the thread of equal pitch along the conical point and body, that is, with all the convolution at equal distances apart and of gradually less depth from the base to the apex of the core, substantially as described.

EAGLE SCREW COMPANY, [L. S.]
Per WILLIAM G. ANGELL, *Agent*.

No. 627.—*Improvement in Reducing the Friction of Journals of Axles on Railways.*—I claim as the invention of Leon Joseph Pomme de Mirimonde, the arrangement of the semi-boxes for resting on the journals of the friction rollers within the upper part of the main journal box, and entirely enclosed within the said main box, substantially as herein described, in combination with the axle journal on which the rollers rest to sustain the load as described.

I also claim taking the lubricating matter from the lower part of the main box and applying it to the journals of the rollers by the projections at the ends of the axle journals.

I also claim the method of lubricating the journals of the rollers, and the periphery of the axle journal and the rollers, by the projections on the axle, which in rotating take the lubricating matter from the reservoir in the main box and apply it to the journals of the rollers above, that the drippings therefrom may lubricate the periphery of the rollers and axle journal, substantially as described.

JAMES H. DEMING.

No. 628.—*Improvement in Watch Cases.*—I claim arranging the push piece which passes through the pendant, substantially as described, in combination with the pin *h*, and so to operate the spring catch to the closed bezel of the outer case when the face of the watch is in either position, as set forth.

I also claim arranging the case of the watch which contains the movement and which carries the dial within a surrounding ring or rim so that it can be twined within the said ring and in the plane thereof, substantially as described and for the purpose set forth.

I also claim arranging the journals by which the body of the watch is attached to an outer case and on which it turns when reversed, so as to leave the works of the watch free to be shifted in its surrounding ring, substantially as described.

ELIHU BLISS.

No 629.—*Improvement in Saw-Mills.*—I claim so guiding the movements of the saw as to cause it to advance in the line of its plane as it descends, for the purpose of properly distributing amongst the teeth of the said saw the cutting action, which may be exerted thereby upon the material operated upon, substantially as herein set forth.

I also claim arranging the ways of the saw-gate in such a manner with relation to the feeding apparatus that the amount of feeding movement imparted to the carriage will always be in perfect harmony with the amount of cutting action exerted by the saw, substantially as herein set forth.

I also claim arranging the compound parts of my improved saw-mill in such a manner that the amount of cutting action exerted by the saw can be speedily varied whilst it is in motion, from its maximum performance down to nothing, and vice versa, substantially as herein set forth.

HAZARD KNOWLES.

No. 630.—*Improved Churn.*—I claim expressing the butter from the globules or sacks of milk or cream by friction, such as rubbing, mashing or grinding, when accomplished in any manner equivalent to that herein specified.

JAMES MACNISH.

No. 631.—*Improvement in Felting for Coats, Hats, &c.*—I claim the above described method of manufacturing articles of wearing apparel, of which wool or other similar animal fibric constitutes a larger part, as above set forth, substantially in the manner and for the purposes herein described.

MARMADUKE OSBORNE.

No. 632.—*Metal Tips for Toes of Boots and Shoes.*—I claim my within described metallic tips, constructed in the manner and for the purposes fully set forth.

I also claim, as a new article of manufacture, a metallic tipped boot or shoe, constructed substantially in the manner and for the purposes fully set forth and described.

GEORGE A. MITCHELL.

No 633.—*Improvement in Pistols and other Fire-Arms.*—I claim extending the rear end of the dog or catch *c* rearward, and beyond where it is jointed to the tumbler of the percussion hammer, and connecting the upper end of the main-spring directly to the part so extended, or otherwise connecting the main-spring to the dog and trigger, substantially as described, the same being for the purpose herein before specified; also the arrangement of a mechanism in connexion with a self-cocking arrangement, whereby I am enabled to make the fire-arm so as to be cocked at pleasure by the hammer, or be operated entirely by the trigger as a self-cocker; said mechanism consisting of the stud *d*, and the dog or catch *c* in connexion with the tumbler, as described, or their equivalents, whereby the same results are obtained.

Also the piece of metal *g* as combined with or applied to the sere of the trigger and in front of the notch thereof, and hook of the catch *c*, and operating upon and in relation thereto in the manner and for the purpose as hereinbefore explained.

Also my new and peculiar arrangement of the pitman upon the sere of the trigger, (so as to operate as above described, in combination

with the construction and arrangement of the teeth upon the breech or rear end of the cylinder or series of barrels,) by which improvement, in constructing or arranging the aforesaid parts, I am enabled to very much simplify them in comparison with the manner in which they have heretofore been made and disposed.

ETHAN ALLEN.

No. 634.—*Improvement in Corn-Planters.*—I claim, first, operating the seed valves *a b* from the traction wheels A A by means of the rods or weights G H, and cams M N, arranged substantially as and for the purpose set forth.

Second. The agitator *g*, arranged with relation to the seed boxes and valves, substantially as set forth.

Third. The rib *b* attached to the upper valve, constructed and operating as shown and described for the purpose stated.

Fourth. Combining with one of the weights which operate the valves, or its equivalent, a cam-shaped gear-wheel, corresponding in form with the cams which operate said weights, substantially as and for the purpose set forth.

Fifth. Extending the chains which operate the valves down under the pulleys d^1 back of the axle, so as to obviate the slackening and taking up of the chain by the vibrations of the ploughs D and their attachments, as set forth.

NATHANIEL DRAKE.

No. 635.—*Improvement in Organs.*—I claim the combination or arrangement and connexion with the keys of a mechanism which shall enable the extreme key touched on either side, or both, when operating itself, shall prevent all the others from operating, in the stop or stops connected therewith, in the manner and for the purposes as above set forth and described.

And I also claim, in combination with a wind chest, operating substantially as above described, the employment of auxiliary bellows connected and combined with the main bellows and pedals, substantially as and for the purposes described.

And I also claim combining and operating the escape valve by means of friction on the arm, or its equivalent, in the manner and for the purposes above set forth and described.

WILLIAM SUMNER.

No. 636 —*Improvement in the Manufacture of Elastic Cloth.*—What is claimed as the invention of Richard Solis is the new elastic cloth herein described, consisting of a woven textile material (or cloth) having the threads of the warp oblique to the weft combined with gum arabic or india rubber, so that the two constitute an elastic compound fabric.

HORACE G. DAY.

No. 637 —*Improvement in Reaping Machines.*—I claim the combination of the support or stand for the raker, placed behind the axis of he reel, balanced or sustained with the raker thereon by the driving

wheel, with the reel and with the short platform, substantially as described.

Also, I claim combining with the side draft reel reaping machine, having a reel for gathering the grain to the platform, a stand or seat for the raker fixed firmly upon the platform of the machine, so as to enable the raker securely to get at the grain as deposited on the platform by the reel and deliverer, and lay it properly on the ground from a single or short platform, out of the return track of the horses, in suitable gavels for being bound into sheaves, substantially as herein described.

And I also claim the combination of the reel for gathering the grain for the cutting apparatus and depositing it on the platform with the stand or support for the raker, constructed and arranged substantially as described, or the equivalent thereof, to enable him with ease and celerity regularly to remove the grain from the machine and lay it on the ground, out of the return track of the horses.

And I also claim the construction of the stand or support for the raker on the frame or platform of the machine, substantially as described, so that it gives to the raker such lateral and forward support to his body when standing at work that he may have free use of his arms and the upper part of his body to remove the cut grain from the platform, while at the same time he is so held fast that he cannot be thrown upon the reel nor prevented from performing his functions by the jostling of the machine as it moves over the uneven ground.

C. H. MCCORMICK.

No. 638.—*Improvement in Shears.*—I claim the construction of scissors or shears with their blades in separate pieces from the handles, and fitted to the handles with stems and sockets, substantially as and for the purposes herein set forth.

JOSEPH A. BRADEN.

No. 639.—*Improvement in Looms for Weaving Figured Fabrics.*—I claim combining with hook jacks which are connected with the harness, and with the mechanism for operating them to open the shed, substantially as described, a pattern chain or cylinder constructed with two or more patterns, and operated so that either of the patterns can be made to act on the hook jacks to place them in the required position to be operated upon by the mechanism for opening the shed, substantially as described.

I also claim, in combination with a pattern chain arranged with two or more patterns in the direction of its length, the mechanism, substantially such as herein described, for changing the movements of the chain to effect the changing of the pattern, as described.

I also claim placing two or more patterns upon the rods of a pattern chain side by side, and operating them in succession by vibrating the chain laterally, in the manner substantially as described.

I also claim pivoting the lifting and depressing rods G P at one end, the other being made adjustable, in the manner and for the purpose set forth.

And I also claim moving the rods or jacks out of contact with the

rollers on the pattern chain before the chain is moved, by means of what are termed the vibrating fingers, or the equivalents thereof, substantially as described.

GEO. CRAMPTON.

No. 640.—*Steam Stove.*—I claim combining two or more concentric chambers, connected together and arranged in respect to each other substantially as herein set forth, with a boiler attached to an ordinary stove, for the purpose specified.

J. L. SUTTON.

No. 641.—*Improvement in Machinery for Cutting Screws* —What is claimed as the invention of the said Thomas W. Harvey, the combination and arrangement of two inclined rollers, one or both rotating and placed at a sufficient distance apart to permit the shanks of the blanks to hang therein freely suspended by their heads, substantially as described, and for the purpose of arranging the blanks (when presented in a promiscuous mass) all in a row with their heads up, and causing the row to travel towards the lower end and to be delivered one by one, as set forth.

Second. Combining with the delivery end of the inclined rollers, or equivalent ways, for supplying the blanks in order, a delivery and check slide and a receiving and conducting tube, or equivalent therefor, substantially as described, to receive the blanks from the row, deliver them one by one, and conduct them to the place where they are required for after operations, and at the periods required, as set forth.

Third. Combining with the receiving and conducting tube, substantially as described, a transferer or equivalent therefor, substantially such as described, to receive the blanks from the conductor and transfer them to the mandrel or place where they are to be subjected to the cutting action, as set forth.

Fourth. Combining with the mandrel or spindle, and with suitable means for holding the screw blanks in line, substantially as described, a sliding turn screw and spring, or equivalent therefor, substantially as described and for the purposes set forth.

Fifth. Governing the motions of the chaser toward and from the axis of the blank, by combining the chaser head with a carriage and sway bar moved by a cam, substantially as described, and also connecting one end of the sway bar with an adjusting slide when this is combined with a chaser or chaser head as described, whereby the amount of taper to be given to the screw can be regulated at pleasure.

Sixth. Changing the directions of the various cam grooves by means of sliding switches operated by sliding rods within the hollow cam shafts, and shifted by an index cam, by which the various changes of the motions of the machine are effected, substantially as described.

And finally. Making the cam which operates the sway bar adjustable on its shaft, substantially as described, for the purpose of adjusting the motions of the chaser to the length of the blank to insure the proper formation of the point of the screw, as described.

H. A. HARVEY,
Assignee.

No. 642.—*Improvement in Gas Burners.*—I claim, first. The flame spreader consisting of the ring pieces *g g*, extending outwardly from the gas orifice, substantially in the manner and for the purposes set forth.

Second. I claim the heater *c*, combined with the jet gas burner, substantially in the manner and for the purpose herein set forth.

Third. I claim combining with the jet gas burner a dratt cone *j*, the top of which terminates at or near the level of the gas orifice, as set forth.

A. H. WOOD,
By J. R. FOSTER,
Assignee of the whole.

CLAIMS OF ADDITIONAL IMPROVEMENTS GRANTED DURING THE YEAR 1858.

No. 184, to original Letters Patent No. 15,654.—*For Improvement in Ploughs.*—I claim the adjustable axle H, with angular journals C H^1, and adjusting arms I I^1, in combination with the stirrup or standard D, rotary mould-board G, and ground propelling or driving wheel N, as and for the purpose herein set forth.

B. C. HOYT.

No. 185, to original Letters Patent No. 16,681.—*For Improvement in File Cutting Machines.*—I claim the application of a convex bedface or its equivalent, to the upper side of the cutting bed of file machines.

ISAAC H. COLLAR.

No. 186, to original Letters Patent No. 17,992.—*For Improved Machine for smoothing Planed Wooden Surfaces.*—I claim substituting the plane-iron a^2 for the scraper *n* in the block U, in the manner and for the purpose substantially as set forth.

BAXTER D. WHITNEY.

No. 187, to original Letters Patent No. 16,040.—*For Improvement in Cider Mills.*—I claim, first, preventing the apples from passing in an uncrushed state from the hopper into the grinding chamber by means of a joint action of the comb S, and the division-plate *t*, arranged in relation to the stationary teeth *f*, in the concave A, and the double series of rotating teeth *d* and *e*, and the cylinder *g*, substantially as herein set forth.

I also claim extending the length of the grinding chamber beyond the series of teeth *f* in said chamber, and then combining a clearing cam *r*, with the correspondingly elongated end of the cylinder *g*, substantially as herein set forth.

BENJAMIN MACKERLEY.

No. 188, to original Letters Patent No. 17,754 —*For Improvement in Covering for Drawing Rolls.*—I claim the employment of gutta percha in combination with black lead as a material for draught rolls, as set forth.

JOS. M. SMITH.

No. 189, to original Letters Patent No. 12,408.—*For Improved Millstone Dress for Hulling Rice.*—I claim the bedstone with radial and curved furrows as specified when combined with a runner stone having the curved furrows, substantially the same as in the before mentioned letters patent.

CHAS. R. BARNES.

No. 190, to original Letters Patent No. 16,910.—*For Improved Bullet Mould.*—I claim, first, the plate D, with the permanent core *f*, in combination with the jaws A B, and the screw *l*, operating in the slot *g*, substantially as described.

Second. The blade E, constructed as above described in combination with the handle C, and the screws *m p*, the whole substantially in the manner and for the purpose above specified.

HENRY L. DE ZENG.

No. 191, to original Letters Patent No. 18,090.—*For improvement in Life-Preserving Berths for Steam and other Vessels.*—I claim the addition of the adjustable inflated angular side air chambers to the inflated keel life-preserver berths, in the manner and for the purpose as herein set forth and described.

ELBRIDGE FOSTER.

No. 192, to original Letters Patent No. 18,635.—*For improvement in Lime Kilns.*—We claim the combination of the transverse partition M, with the oblong inverted pyramidal basin B, oblong stack E, and enlarged draft flues L, when said flues are used as auxiliary furnace doors, the whole being arranged substantially as and for the purposes set forth.

POWELL GRISCOM.
CHARLES S. DENN.

No. 193, to original Letters Patent No. 15,060.—*For improvement in Cutting Flour Mill.*—I claim the doubly conical concavity in, and cutting ridges on, the face of the cutter-head, arranged and acting as described, in combination with the concavity and ridges of the counter plate, for the purpose specified.

I also claim extending the ridges B B inward beneath the feeding aperture of the counter-plate, in combination with the inner conical concavity of the cutter-head and with the counter-plate, substantially as and for the purpose herein set forth.

JONATHAN BURDGE.

No. 194, to original Letters Patent No. 19,427.—*For improvement in Steam Ploughs.*—I claim the placing of clearers S S in connexion with the off bearing wheel B of my steam plough, in such a manner that the one will fill back the furrow that the other has opened, they being arranged, constructed, and operated substantially in the manner and for the purpose herein described and set forth.

PIERCE KLINGLE.

No. 195, to original Letters Patent No. 18,779.—*For improvement in Clasps for Metallic Hoops.*—I claim bending the ends of the clasp across the apertures *b* and *c*, so as to present an opening in the clasp for the insertion of the bent ends of the bands at right angles, or nearly so, to the direction in which the bands are inserted in the clasp, in the manner and for the purposes described.

JAMES R. SPEER.

No. 196, to original Letters Patent No. 8,236.—*For improvements in Hanging Carriage Bodies.*—I claim the combination and arrangement of the disk or fifth wheel D, attached to the front axle; the embracing circularly-flanged annular disk F with its laterally projecting arms or trunnions, to which they are attached the bars or spring levers K, so as to preserve the horizontal position of the fifth wheel while allowing the necessary play of the said bars, in the manner herein described.

J. M. JONES.

No. 197, to original Letters Patent No. 18,150.—*For improvement in Automatic Railroad Car Brake.*—I claim the arrangement of parts herein described, or its equivalent, for the simultaneous compression of the forward and rear springs and the consequent operation of the brakes, the same consisting in the combination of the lever L, with the slide bar B and pushing rods D D, constructed, arranged, and operated substantially in the manner specified.

W. R. JACKSON.

No. 198, to original Letters Patent No. 18,557.—*For improvement in Hand Printing Press.*—I claim, first, the fountain cup *o*, combined with the inking table *g*, in substantially the manner and for the purposes specified.

Second. I claim the joint 16 formed by the half pieces attached to the pressure block *b* and bed *a*, when connected by the horizontal screw and used for adjusting the press block *b* to the printing surface and securely retaining the same in place, substantially as and for the purposes specified.

Third. I claim, in combination with the hand printing lever *d*, the frame *p* to receive types, secured and acting substantially as specified.

SAMUEL J. SMITH.

No. 199, to original Letters Patent No. 19,343.—*For improved Rotary Blast-producing Chair.*—I claim the arrangement of the two bellows, one of which on the front and the other on the back part of the rocking chair; and the use of the "S" formed levers placed parallel to the rockers, the parts constructed and arranged substantially as and for the purpose specified.

LEOPOLD R. BREISACH.

No. 200, to original Letters Patent No. 19,721.—*For improvement in Tightening the Tires of Carriage Wheels.*—I claim the ends B and C of the tire, with their respective slotted blocks *b* and *c*, the taper keys and the bolt G, when arranged for joint operation, substantially as and for the purpose herein set forth.

ROBERT B. SCOTT.

No. 201, to original Letters Patent No. 12,502.—*For Polishing apparatus for Watchmakers' Lathes.*—I claim the construction and arrangement of the polishing apparatus combined with the latter, as and for the purposes specified.

JAMES M. BOTTUM.

No. 202, to original Letters Patent No. 17,906.—*For improved Shingle Machine.*—I claim the levers L and L^1, as described, and the detents D and E, in combination with notched piece O, trip R, and laterally adjustable trip piece H, arranged and operating substantially as and for the purpose set forth.

ELBRIDGE WEBBER.

No 203, to original Letters Patent No. 17,297.—*For Trap for Animals.*—I claim the application of the solid rod or slide A substantially as herein described, to be used when required in the place of and in addition to the spring sliding-rod and fangs, as claimed in my original patent of May 12, 1857; also the method of converting the trap into a pistol or manual fire-arm in the manner substantially as herein described.

FREDERICK REUTHE.

No. 204, to original Letters Patent No. 20,765.—*For Improvement in Revolving Fire-Arm.*—I claim the construction and use of the trigger, the slot *f*, also the feather *g* with the pin *p*, substantially as described and for the purposes set forth in the within specification.

F. D. NEWBURY.

No. 205, to original Letters Patent No. 19,242 —*For Improvement in Corn-Planters.*—I claim, first, the rib *b* attached to the upper valve constructed and operating as shown and described for the purpose stated.

Second. Extending the chains which operate the valves down under the pulleys *d* back of the axle so as to obviate the slackening and taking up the chains by the vibrations of the ploughs D and their attachments as set forth.

N. DRAKE.

No. 206, to original Letters Patent No. 14,912.—*For Improved Swing-Bolt for Fastening Shutters.*—I claim the attachment J, fig. 4, substantially as described, when used in combination with the lever C^1, hub E, and catch-plate D, for the purpose set forth.

J. GUNNER, Jr.

No. 207, to original Letters Patent No. 18,779.—*Improvement in Clasps for Metallic Hoops.*—I claim the use of a clasp for metallic bands, constructed as herein before described, having a single aperture only for the insertion of the hooked ends of the band, the plate of iron of which it is formed being bent across the aperture so as to present a sufficient opening for the ready insertion of the hooked ends of the bands, in the manner herein before described.

JAMES R. SPEER.

No. 208, to original Letters Patent No. 20,785.—*For Improved Method of Attaching Lamps to Lanterns.*—I claim the improved arrangement herein before described, the same consisting in the attachment of the spring D and clips E E to the lamp case instead of the lantern, as and for the purpose specified.

JOHN FLEMING.

No. 209, to original Letters Patent No. 12,823.—*For Improved Propeller.*—I claim the wings W W, made up of a series of horizontal hinged valves, graduated in width as described, in combination with the cylindrical section E, either hollow or solid, substantially as and for the purpose set forth.

HENRY LINK.

No. 210, to original Letters Patent No. 18,410.—*Improvement in Cotton-Gin Feeders.*—I claim the endless toothed apron B, revolving adjustable toothed bar C, rotary brush and toothed cylinder D, and grating E, combined and arranged substantially as and for the purpose set forth.

JEDEDIAH PRESCOTT.

No. 211, to original Letters Patent No. 21,318.—*Improved Rotary Pump.*—I claim operating three or more pairs of sliding valves in said pump by means of the joint action of the rotary valve-box *b* and the three-sided stationary cam *f*, substantially as herein set forth.

LEVI BURNELL.

No. 212, to original Letters Patent No. 19,754.—*Improvement in Manufacture of Soap.*—I claim using the refuse of Indian corn, as described above, and mixing it with a fat or oil and an alkali, and with or without resin, and amalgamating the same to make soap, as set forth above.

I claim subjecting the refuse of Indian corn, as described above, to an alkali with or without heat and modifying the strength of the alkali, when too strong and not required, by an acid, and for the purpose of mixing it more easily with the soap.

D. CRAWFORD.

No. 213, to original Letters Patent No. 20,109.—*Improved Brick Machine.*—I claim the covering of the drying rollers B with some non-conductor of heat, or material having less conductive properties than the metal, to prevent the caking or uneven drying of the size in the warps, as described.

WM. BRADLEY.

No. 214, to original Letters Patent No. 21,536.—*Improvement in Car-Seats and Couches.*—I claim the use of the adjustable back-pad or equivalent, and combining therewith the adjustable head-rests, as set forth, for the purposes indicated.

ALEX. M. HOLMES.

DISCLAIMERS ENTERED DURING THE YEAR 1858.

Letters Patent 18,979, dated December 29, 1857.—*For an Improved Hoe.*—Now, therefore, I, the said Lothrop, do hereby make my disclaimer to a hoe made of separate triangular blades *disconnected* together, and each supported by a separate prong of a furcated shank, intending to confine my claim to an improved manufacture of hoe, as made with triangular teeth or blades *connected* at their inner corners, and each supported by a separate prong of a furcated shank.

H. A. LOTHROP.

Letters Patent 3,566, dated April 25, 1844.—Extended for seven years from April 25, 1858 —*For Metallic Laths for Fire-proof Ceilings of Houses.*—Your petitioner therefore hereby enters his disclaimer, thereby making the claim in the said patent read as follows, viz: What I claim as my invention, and desire to secure by letters patent, is the within named method of constructing metallic laths either of iron or any suitable material; also the constructing of ceilings by running the laths diagonally across the room, so as to be least affected by the expansion, all of which is fully set forth in the annexed specification and drawings. But the above I only claim when the aforesaid metallic laths are so arranged and combined with their supporters as to leave open spaces between said laths for the mortar to pass through and back upon the inner surfaces of the same.

PALMER SUMNER.

Letters Patent 11,819, dated October 17, 1854.—*Improvement in Vessels for Holding Liquids.*—Your petitioners have by assignment become the owners of all the right, title, and interest in said invention, as secured by said letters patent.

Your petitioners hereby enter their disclaimer to so much of the first claim of said patent as may include the application of the double wall to other structures or vessels than ice pitchers. Such disclaimer is to operate to the extent of the interest vested in your petitioners.

SOPHIA E. STIMPSON.
JULIA M. COLBURN.
EDMUND FLETCHER COLBURN.

CLAIMS OF EXTENSION GRANTED DURING THE YEAR 1858.

Letters Patent No. 3,410, dated January 20, 1844.—Re-issue No. 485, dated August 11, 1857.—*Improvement in Boot Crimps.*—I claim the manner of arranging the block A and clasps C, so that the turning up of the straining screw shall at the same time perform the double operation of confining the ends of the leather between the block and clasp and of stretching the leather over the boot-form; the whole being substantially as above specified.

J. M. READ.

Letters Patent No. 3,421, dated January 31, 1844.—Re-issue No. 469, dated June 9, 1857.—*Improvement in Ships' Blocks.*—We claim passing the straps through grooves in the inner faces of the cheeks of the blocks, as herein described.

ISAAC D. RUSSEL.
CORNELIA WATERMAN, for
STEPHEN WATERMAN.

Letters Patent No. 3,444, dated February 20, 1844.—*Improvement in Straw Cutters.*—I claim the combination of the guard H with the curved knife and arm, constructed and operating for the purpose above described and set forth.

H. M. SMITH.

Letters Patent No. 3,469, dated March 9, 1844.—*Improvement in Machinery for Folding and Measuring Cloths.*—I claim the mechanism by which the folders are elevated and depressed, the same consisting of the pulley L, cam lever S, bent rods P P, chain or band N, and parts as before described, as combined with each other and applied to the folders and sweeps, and operating substantially as herein before set forth.

Also the mechanism by which the cloth is introduced into the machine and the overlap of the first fold produced, the same consisting of the endless bands *r r*, with their pulleys and shafts arranged substantially as described, and cross-bar *s*, or machinery of similar character, in combination with the depressing bar *y*, the whole being for the object and purpose as herein before defined.

Also my peculiar method of feeding the cloth into the machine so as to present it to the action of the folders as required by them, and with little or no strain upon them, viz: by supporting the cloth on one or more horizontal rods or shafts *w v*, placed above the folders, in combination with giving to the surface of the feed roller a^1 a motion sufficiently increased beyond that of the folders, to cause that part of the cloth which is between the supporting rod or rods and the feed roller to be loose or hang down in proper quantity to readily yield

to the irregular motion of the folders over the platform, caused by the cranks of the shaft which operates the sweeps of the said folders.

SILAS C. DURGIN.

Letters Patent No. 3,493, dated March 16, 1844.—*Improvement in the Manner of Suspending, Opening, and Closing Lock-Gates.*—I claim suspending and opening and closing gates for locks and other places by means of the aforesaid combination and arrangement of the inclined post E, rod G, swivel H, stirrup I, and hog-chains K, and the triangular hinged lever L, segment-way N, cord O, pulleys R, and windlass S, by which the expense of construction is reduced, and the old railway and rollers at the bottom of the lock, and the chains for opening and closing the gates placed in the water, where they are subject to constant oxidation and breaking, and where they cannot be reached without much difficulty when out of order, are entirely dispensed with.

HENRY MCCARTY.

Letters Patent No. 3,523, dated April 4, 1844.—*Improvement in the Truss Frames of Bridges.*—We claim the above described method of constructing a truss, that is to say, the combination of two diagonal tension braces and straining blocks in each panel of the truss frame of a bridge, by means of which the camber may be regulated so as to increase or diminish it, either in whole or in sectional part of the bridge, the whole being constructed and operating substantially as hereinbefore set forth.

THOMAS W. PRATT.
CALEB PRATT.

Letters Patent No. 3,541, dated April 17, 1844.—*Machinery for Splitting Leather.*—I claim the arrangement herein before specified of the gauge and feed-rollers of a leather-splitting machine, so that the bilge of the lower side, or the axis of the former, shall be directly over or in the same vertical plane with the edge of the knife, while the axis of the latter is a little distance out of the vertical plane, and its upper bilge is a little above the level of the edge of the knife, for the purposes recited in the foregoing specification.

HUBBARD HARRIS,
Administrator of Alpha Richardson, deceased.

Letters Patent No. 3,561, dated April 25, 1854.—*Improvement in Hay Presses.*—I claim connecting the feet of the platen rods E E with the platen or follower by means of links or other contrivances of similar character, the object of the said links being to permit the lower ends of the rods to be moved laterally from the ends of the bale, as set forth.

JOSEPH EATON,
Administrator of Charles F. Paine, deceased.

Letters Patent No. 3,566, dated April 25, 1844.—*Metallic Laths for Fire-Proof Ceilings of Houses.*—I claim the within named method of

constructing metal laths either of iron or any other suitable material; also the constructing of ceilings by running the laths diagonally across the room so as to be least affected by the expansion, all of which is fully set forth in the annexed specification and drawings.

PALMER SUMNER.

Letters Patent No. 3,633, dated June 15, 1844.—*Improvement in Process for the Manufacture of India-Rubber.*—Re-issue No. 156, dated December 25, 1849.—I claim the curing of caoutchouc, or India-rubber, by subjecting it to the action of a high degree of artificial heat, substantially as herein described and for the purpose specified.

And I also claim the preparing and curing the compound of India-rubber, sulphur, and a carbonate or other salt or oxide of lead, by subjecting the same to the action of artificial heat, substantially as herein described.

CHARLES GOODYEAR.

Letters Patent No. 3,633, dated June 15, 1844.—*Improvement in Felting India-Rubber with Cotton Fabric.*—Re-issue No. 157, dated December 25, 1849.—I claim incorporating the fibres of cotton or other substance with India-rubber by passing the fibres of a fleece or bat of cotton or other fibrous substance into a sheet of India-rubber in the green state, without subjecting the fibres, after they have been incorporated, to a stretching or drawing operation, substantially as herein described.

CHARLES GOODYEAR.

Letters Patent No. 3,648, dated July 1, 1844.—Re-issue No. 533, dated March 2, 1858.—*Improved Machine for Making Barrels and other Casks.*—I claim the vibratory block or bed D, adjustable gauge C, and knife or cutter B, arranged relatively with each other, so as to operate as and for the purpose set forth.

ISAAC CROSSETT.

Letters Patent No. 3,324, dated November 6, 1843.—*Improvement in Type-Casting Machines.*—I claim, first, the male plate *n* constructed with a nipple protruding beyond its back surface and springs attached to the plate, arranged and operating in the manner and for the purpose set forth.

Second. I claim the method of opening and closing the mould and tilting the matrix by the combination and arrangement of the compound vibrating arm H and lever J, arm M and N, and spring *v*, said lever J having a simultaneous vibrating movement on an axis on the vibrating arm H, in the manner and for the purpose set forth; and this combination and arrangement I claim, whether effected precisely in the manner here set forth or in any other manner substantially the same by which analogous results are produced.

Third. I claim the adjustable mould block *o* combined with the vibrating arm H, for the purpose herein set forth.

Fourth. I claim the combination of the adjustable frame *h* with the

lower adjustable mould-block *o*, in the manner and for the purpose set forth.

Fifth. I claim the combination of the circular collar, perforated with a rectangular opening in the centre to admit the rectangular shaft or stem of the upper mould-block, with the hinge-piece *i* and adjustable frame *h*, in the manner and for the purpose set forth.

Sixth. I claim the manner of supplying the melted metal to the mould by a horizontally and vertically perforated piston placed below the level of the bottom of the metal pot, arranged and operated in the manner set forth, by which the metal is forced into the mould at a lower temperature than heretofore effected, and the metal remaining in the mouth of the female plate (after the type has been cast) is drawn back into the seat or chamber of the piston as the piston rises, by which the mouth of the female plate is prevented from being stopped or choked by congealed metal.

Seventh. I claim the combined arrangement of these several parts, namely: the lever *a*, cam V, spring *d*, rod *b*, and vibrating beam E, by which the piston is operated, as possessing advantages above set forth.

Eighth. I claim placing the vibrating mould-arm H between the furnace and the propelling or cam-shaft, as described.

DAVID BRUCE, JR.

Letters Patent No. 3,704, dated August 14, 1844.—Re-issue No. 349, dated February 5, 1856.—*Improved Tonguing and Grooving Machine.*—I claim giving a lateral movement to either edge of the cutters by any suitable arrangement of mechanical devices, while the board is being fed through the machine, so as to adapt the edge-cutter to any taper of the board.

Second. I claim arranging the box or bearing of the shaft of either of the edge-cutters, so as to slide laterally on a rail, and connecting said box or bearing to a sliding guide-bar d^1, which bar is governed or regulated in its movements by the edge of the board and kept up against said edge by means of a weight operating on it, (so as to press it laterally,) through the medium of a rack and pinion, as herein before set forth, the mechanical arrangement and operation being substantially as herein above specified.

Third. I claim the combination of the sliding bolts r^1 s^1 with the turning rod o^1 o^1, (having right-angular arms n^{11} n^1 p^1 p^1,) and pawl l^1 and ratchet-wheel K^1 on the end of the shaft, which the weight i^1 turns or revolves; said combination being arranged substantially as herein before set forth, and for the purpose of permitting or checking the operation of said weight i^1 upon the sliding guide-bar d^1, as herein before specified.

CHARLES W. BROWN.

Letters Patent No. 3,700, dated August 10, 1844.—*Improvement in the Method of Making Cast-Iron Railroad Car Wheels.*—I claim the casting of such a wheel with a single continuous plate or disk uniting the chilled rim to an undivided hub, said plate being so formed as that a plane bisecting the wheel in its axis shall present a waved line,

or one having a convexity on each face of the wheel, in the manner herein described and represented and for the purpose set forth.

EBENEZER A. LESTER.

Letters Patent No. 3,737, dated September 14, 1844.—*Improvement in the Method of Applying Circular Saws for Cutting off Piles under Water.*—I claim the sliding saw in combination with the scow or other floating body, for the purpose herein before specified.

ERASTUS E. COLE.

Letters Patent No. 3,772, dated October 3, 1844.—Re-issue No. 607, dated September 29, 1858.—*Improvement in Cleansing Sugar.*—What is claimed as the invention of Joseph Hurd, deceased, is, first, the process of separating sugar from any liquid matters with which it may be mixed, by filling the mixed mass into a vessel constructed substantially as described, and there acting upon the same by centrifugal force, substantially in the manner specified.

Second. I claim as the invention of Joseph Hurd, aforesaid, the washing of impurities out of the sugar by admitting a liquid into a vessel, substantially such as described, in which sugar is being exposed to the action of centrifugal force, as specified.

Third. I claim as the invention of Joseph Hurd, aforesaid, the process herein described of obtaining a mass of sugar freed from liquid impurities by filling the mixed mass into the top of a vessel constructed substantially as described, and having a closed bottom, and there exposing the mass to the action of centrifugal force, and then withdrawing the sugar out of the upper end of said vessel when separated, the whole as specified.

And lastly. I claim the process of obtaining a mass of washed sugar by charging sugar into the top of a vessel, constructed as specified. with a closed bottom, and then exposing such sugar to the action of centrifugal force, and, while so exposed, admitting currents of liquid to wash the sugar; and finally, withdrawing the washed sugar out of the top or upper end of the vessel, the whole process being substantially such as specified, and being claimed by me as the invention of said Joseph Hurd, deceased.

FRANCIS P. HURD,
Administrator of the estate of Joseph Hurd.

Letters Patent No. 3,784, dated October 9, 1844.—Re-issue No. 167, dated May 7, 1850.—*Improvement in the Method of Rendering Lard.*—I claim the above described apparatus, for extracting or rendering lard, &c., by the action of high-pressure steam, combining with a steam-tight tank, substantially such as herein described, and provided with one or more discharge holes for the discharge of the residuum, and with a perforated steam pipe at the bottom for the induction of high pressure steam, a perforated false bottom above the steam pipe to sustain the charge under the weight and pressure, substantially as described, to admit of and insure the free passage of the steam through the charge, and also the free descent of the water of condensation, as described.

I also claim, in combination with the tank, substantially such as herein described, the employment of one or more try cocks near the top thereof, and a regulating discharge cock at or near the bottom, substantially as herein described, for the purpose of ascertaining when too much water of condensation has accumulated and to discharge the same, to retain a sufficient space above for steam to insure the passage of steam through the charge, as described.

And finally, I claim, in combination with a tank, substantially such as herein described and for the purpose specified, the employment of a series of discharge cocks arranged at different levels, substantially as described, for the purpose of drawing off the rendered lard, &c., as it floats on the water of condensation, and thus insure the separation of the pure lard, &c., from all foreign substances, when this is combined with the relief or discharge cock X, substantially as described.

CHARLES WILSON,
Administrator of Ebenezer Wilson, deceased.

Letters Patent No. 3,802, dated October 19, 1844.—*Improvement in the Method of Opening and Closing the Valves of Steam-Engines.*—I claim, first, my improvement in the periods of the movements of the valves, by which they are opened and closed, relatively to each other, and to the movement of the piston, by means of which the piston completes each stroke in equilibrity, or nearly so, without admitting steam against the movement of the piston by a lead to the steam valve; which is effected, as before stated, by opening the lower exhaust valve before the end of the upward stroke of the piston and before the upper exhaust valve is closed, and opening the upper exhaust valve before the end of the downward stroke of the piston and before the lower exhaust valve is closed; the movement of the steam valves being so regulated as to admit steam to the cylinder only after the exhaust valve on the corresponding end of the cylinder has been closed.

I also claim, as my next improvement, and as a means of carrying into effect my first and essential improvement, the arrangement of the toes of the rock-shaft in such manner, relatively to the location and form of the feet of the lifting rods, that at the middle, or nearly so, of the rocking motion of the rock-shaft both lifting rods, with their exhaust valves, shall be partly up, as herein described; and I also claim, in combination with this arrangement, the slip of the lifters on the steam valve stems, as described, to insure the closing of the exhaust valves before the opening of the steam valves on the corresponding ends of the cylinder, as herein described.

FREDERICK ELLSWORTH SICKELS.

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CLAIMS OF PATENTS FOR DESIGNS GRANTED DURING THE YEAR 1858.

No. 973.—*Design for Stoves.*—I claim the configuration and arrangement of ornamental figures, forms, and mouldings, herein described and shown in the annexed drawings, the whole constituting a design for a parlor cooking stove.

N. S. VEDDER.

No. 974.—*Design for Cook Stoves.*—We claim the combination of ornamental figures and forms represented in the accompanying drawing, forming together an ornamental design for the plates of a cooking stove.

GARRETTSON SMITH.
HENRY BROWN.
S. H. SAILOR.

No. 975.—*Design for Stoves.*—I claim, 1st. The ornamentation and the ornamental design and configuration of the front and back plates.

2d. The ornamental projection C covering the fire-brick in or near the centre of the front and back plates, it forming a projecting ring around the stove.

3d. The ornamental flanch *b b*, running vertically along the division of the front and back plates, it forming an ornamental finish.

4th. The ornamental design of the top and bottom plates, all united to form an ornamental stove, as described and represented in the drawing.

CHAS. J. SHEPARD.

No. 976.—*Design for Stoves.*—I claim the ornamental design herein described and fully represented in the annexed photographic drawing, for a stove plate.

DAVID HATHAWAY.

No. 977.—*Design for Stoves.*—I claim the design for a door of a stove, as herein described and shown in the annexed photographic drawing.

DAVID HATHAWAY.

No. 978.—*Design for Stoves.*—I claim the ornamental design above described and shown in the annexed photographic drawing, for the base of a stove.

DAVID HATHAWAY.

No. 979.—*Design for Stoves.*—I claim the ornamental design for a door of a cooking stove, herein described and shown in the annexed photographic drawing.

DAVID HATHAWAY.

No. 980.—*Design for Stoves.*—I claim the ornamental design and configuration of the several plates of a cooking stove, herein described and fully represented in the annexed photographic drawings.

PETER A PALMER.

No. 981.—*Design for Tea Service.*—I claim the design as represented and described.

HENRY G. REED.

No. 982.—*Design for Stoves.*—We claim the ornamental design herein described and shown in the annexed drawing, for the front plate of a parlor stove.

N. S VEDDER.
EZRA RIPLEY.

No. 983.—*Design for Stoves.*—We claim the ornamental design herein described and represented in the annexed photographic drawing, for a door of a cooking stove.

N. S. VEDDER.
WM. L. SANDERSON.

No. 984.—*Design for Stoves.*—We claim the ornamental design herein described and represented in the annexed drawings, for the upper and for the lower side plates of a parlor stove.

N. S. VEDDER.
WM. L. SANDERSON.

No. 985.—*Design for Types.*—I claim the design of the said type, as described and shown.

GEORGE BBUCE.

No. 986.—*Design for Stoves.*—I claim the new design for a parlor cooking stove, consisting of the vine and leaf work, &c., herein above described and represented in the drawings.

A. C. BARSTOW.

No. 987.—*Design for Stove Plates.*—We claim the shield in intaglio, as herein set forth.

E. J. DELANY.
JOHN MARTINO.

No. 988.—*Design for the Handles of Spoons, &c.*—We claim the use of the combination of the scroll leaf with the single marginal thread and heavy raised oval border for the shield plate, substantially as described, for ornamenting the handles of spoons, forks, and other articles.

HENRY HEBBARD.
JOHN POLHAMUS.

No. 989.—*Design for Tables for Sewing Machines.*—I claim the peculiar ornamental design or configuration of each and all the parts of the table as exhibited in the accompanying drawings, and as above explained.

S. F. PRATT.

No. 990.—*Design for Compass Stands.*—We claim the design of the pillar A A A, as herein described and represented in the accompanying drawings.

EDWARD A. TUTTLE.
THOMAS BARRY.

No. 991.—*Design for Tea and Coffee Pots.*—I claim the shape of the body and the configuration and ornamentation of the upper and lower rims, the feet, the handle, the spout and the tip, combined as herein described and represented in the drawing, to produce an ornamental design for a tea or coffee pot.

ALLEN LEONARD.

No. 992.—*Design for Stove Plates.*—We claim the ornamental design for a stove plate, herein described and represented by the annexed photographic drawing.

N. S. VEDDER.
EZRA RIPLEY.

No. 993.—*Design for Carriage-Hub Sand Bands.*—I claim the curved form or ornamental configuration of carriage-hubs and bands, herein described and represented in the annexed drawing.

JAMES IVES.

No. 994.—*Design for a Copying-Press Stand.*—I claim the within described press-stand foot consisting of the harp or vase-shaped figure formed by the two reverse curved bands A A, with the shell B, the two figures C C, and the joining scrolls *m m m m*, all supporting and connected with each other, and forming one harmonious design as represented.

CHARLES H. CLAYTON.

No. 995.—*Design for Legs and Posts of Iron Bedsteads.*—I claim my design for feet and posts for iron bedsteads, consisting of the described scroll-work, standard and brace, with a praying angel kneeling between the latter, for the posts of iron bedsteads, and the figure of an eagle with outspread wings resting upon arabesque scroll-work, and carrying a corresponding capital on its head and the ends of the wings for the centre feet as represented.

JOHN P. KOCH.

No. 996.—*Design for Cook Stoves.*—We claim the combination and arrangement of figures, forms, and mouldings, herein specified and represented in the annexed photographic drawing, forming the ornamental design of the plates or castings of a cooking stove.

GEORGE W. PITTOCK.
GEORGE G. RICHMOND.
CHARLES PHELPS.

No. 997.—*Design for Screens for Steam Pipes, &c.*—I claim the configuration of the plates herein represented, for the purpose of a screen for steam pipes and other similar purposes, as represented and explained in the drawings.

JAMES L. JACKSON.

No. 998.—*Design for Screens for Steam Pipes, &c.* –I claim the ornamental plates herein shown and represented by the drawings, for a screen for steam pipes or other similar purposes.

JAMES L. JACKSON.

No. 999.—*Design for Cook Stoves.*—We claim the external configuration of the above described stove.

R. WHEELER.
S. A. BAILEY.

No. 1,000.—*Design for Clock-Case Fronts.*—I claim the combination of the octagonal rim A with the metal matting C in the formation of a design for clock-case fronts, as described and shown.

SAMUEL B. JEROME.

No. 1,001.—*Design for Tool Boxes* —I claim the attachment to a box of the particular prints representing my inventions, as shown in the drawings and on the box.

HERRICK AIKEN.

No. 1,002.—*Design for Cook Stoves.*—We claim the general design and configuration.

THOMAS H. WOOD.
JOHN E. ROBERTS.
HENRY S. HUBBELL.

No. 1,003 —*Design for Cook Stoves.*—I claim the ornamental design and configuration of the plate, such as herein described and shown in the accompanying drawings, of an elevator oven stove.

S. W. GIBBS.

No. 1,004.—*Design for Parlor Stoves.*—I claim the design and configuration of the ornamental plates of a parlor stove, as herein described.

S. W. GIBBS.

No. 1,005.—*Design of Stove Doors.*—I claim the ornamental design as combined and shown in the specification and drawings.

JACOB BEESLEY.

No. 1,006.—*Design for a Set of Printing Types.*—I claim the design of the said type, as described and shown.

GEORGE BRUCE.

No. 1,007.—*Design for Towel Stands.*—I claim such design, as represented and described.

NATH'L WATERMAN.

No. 1,008.—*Design for Aquariums.*—I claim the ornamental design for an aquarium, called "the marine world," herein described and represented in the accompanying drawing.

A. L. BLANCHARD.

No. 1,009.—*Design for a Font of Types.*—I claim the design of the types, as described and shown in the "characters" of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,010.—*Design for Cook Stoves.*—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for the front and two sides of a cooking stove.

EDWARD J. DELANY.
JOHN MARTINO.

No. 1,011.—*Design for an Ornament in Bass-Relief for Stoves, &c.*—I claim the said design or ornament, as shown in the drawing.

GEORGE F. SEAVEY.

No. 1,012.—*Design for Sewing-Machine Stands.*—I claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for a part of a sewing-machine stand.

JAMES WILCOX.

No. 1,013 —*Design for Stove Doors.*—I claim forming configurations and mouldings on the door plates of stoves of the style and form described, for the purpose of giving a simple and chaste ornamental appearence to the same.

REUBEN H. N. BATES.

No. 1,014.—*Design for Printers' Types.*—I claim the design of the said type, as described and shown.

GEORGE BRUCE.

No. 1,015.—*Design for Stove Plates.*—I claim the ornamental design and configuration of the plates of a six plate stove, substantially as herein set forth and shown in the annexed drawings.

S. W. GIBBS.

No. 1016.—*Design for Stoves.*—I claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, forming together an ornamental design for the front and side plates of a cooking stove.

JAMES HORTON.

No. 1,017.—*Design for Stoves.*—I claim the combination and arrangement of the ornamental figures and forms, represented in and by the accompanying drawing, as forming together an ornamental design for plates of a cooking stove.

JOSEPH A. REED.

No. 1018.—*Design for Cook Stoves.*—We claim the combination of the ornamental figures and forms, represented in and by the accompanying drawing, forming together an ornamental design for the plates of a cooking stove termed the "Lehigh."

GARRETTSON SMITH.
HENRY BROWN.

No. 1,019.—*Design for Cooks' Stoves.*—We claim the combination of the ornamental figures and forms represented in and by the accompanying drawing, forming together an ornamental design for the plates of a cooking stove termed the "medallion."

GARRETTSON SMITH.
HENRY BROWN.

No. 1,020.—*Design for Types.*—I claim the design of the types, as described and shown in the "characters" of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,021.—*Design for Printers' Types.*—I claim the design of the types, as described and shown in the characters of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,022.—*Design for Printers' Types.*—I claim the design of the types, as described and shown in the characters of the accompanying types and printed sheet.

JAMES CONNER.

No. 1,023.—*Design for Range Fronts.*—I claim the new design for the front plate of a range, consisting of the ornamental configurations, as herein described and represented in the drawings.

A. C. BARSTOW.

No. 1,024.—*Design for Bedsteads.*—I claim so displaying and arranging the several decorations over the foot, head, and middle posts of children's iron bedsteads, as to produce the new and ornamental design described and represented.

HEINRICH NEIDIG.

No. 1,025.—*Design for Bedsteads* —I claim forming bed posts with the configuration and embellishments disposed and arranged to form a new and ornamental design, substantially in the manner before described and represented in the drawings.

HEINRICH NEIDIG.

No. 1,026.—*Design for Cooks' Stoves.*—I claim the several plates with their ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a cooking stove.

EDW. J. DELANY.

No. 1,027.—*Design for Stoves.*—I claim the ornamental design of the plates A B C D and E of an elevated oven cooking stove, as herein described and shown in the annexed photographic drawings.

N. S. VEDDER.

No. 1,028.—*Design for Pitchers.*—I claim giving ice and other pitchers the configurations, flutings, embossings, and embellishments before described, so as to produce a new and ornamental design, symmetrical in its character, and of a chaste and harmonious appearance.

GEO. W. SMITH.

No. 1,029.—*Design for Stoves.*—We claim the design, configuration, and arrangement of the several ornamental castings, as herein before described and set forth in the drawings, as constituting a new and original stove design.

GERRETSON SMITH.
HENRY BROWN.

No. 1,030.—*Design for Can-Covers.*—I claim the ornamental design for a preserving jar cover, herein described and shown.

JOHN F. BODINE.

No. 1,031.—*Design for Cooks' Stoves.*—I claim the ornamental design of the plates or castings A B C D E F G of a cooking stove, as herein described and represented in the annexed photographs.

ROBERT HAM.

No. 1,032.—*Design for Towel Stands.*—I claim the design or configuration of the towel stand, as above described, and as exhibited in the accompanying drawings.

NATH'L WATERMAN.

No. 1,033.—*Design for Printers' Types*—I claim the design of the said type as described and shown.

GEORGE BRUCE.

No. 1,034.—*Design for Door-Lock Plates.*—I claim the design above described and represented in the accompanying drawing, cast in relief on the outside of a door-lock plate.

C. B. ERWIN.

No. 1,035.—*Design for Door-Lock Plates.*—I claim the design above described and represented in the accompanying drawing, cast in relief on the outside of a door plate.

C. B. ERWIN.

No. 1,036.—*Design for Door-Lock Plates.*—I claim the design above described and represented in the accompanying drawing, cast in relief on the outer face of a door-lock plate.

H. E. RUSSELL.

No. 1,037.—*Design for Box Stoves.*—We claim the ornamental design of the plates of a box or six-plated stove, as herein described and represented in the annexed photographic drawing.

N. S. VEDDER.
EZRA RIPLEY.

No. 1,038.—*Design for a Cooking Stove.*—I claim the ornamental design, herein described and represented in the annexed photographic drawing, for the plates A B C and D of a cooking stove.

N. S. VEDDER.

No. 1,039.—*Design for Parlor Stoves.*—I claim the ornamental design, herein described and represented in the annexed photograghic drawings, for parlor stove plates.

N. S. VEDDER.

No. 1,040.—*Design for Parlor Stoves.*—I claim the ornamentel design, herein described and represented in the annexed photographic drawings, for the top and bottom plates of an oval parlor stove.

N. S. VEDDER.

No. 1,041.—*Design for Stoves.*—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a stove.

JACOB STEFFE.
JAMES HORTON.
JOHN CURRIE.

No. 1,042.—*Design for Stoves.*—We claim the combination and arrangement of ornamental figures and forms, represented in and by the accompanying drawing, and forming together an ornamental design for a stove.

JACOB STEFFE.
JAMES HORTON.
JOHN CURRIE.

No. 1,043.—*Design for Roll-Pans.*—I claim the design substantially as described and exhibited in the drawings.

NATHANIEL WATERMAN.

No. 1,044.—*Design for Cooks' Stoves.*—I claim the general configuration of the parts shown on the front, sides, and back of the stove, to form a new and ornamental design for a cook stove.

W. P. ABENDROTH.

No. 1,045.—*Design for Screens.*—I claim the ornamental configuration of the plates designed for a screen, as above set forth and represented.

JAMES L. JACKSON.

No. 1,046.—*Design for Bread Pans.*—I claim the ornamental design for biscuit pans as herein described and as represented in the accompanying drawings.

NATHANIEL WATERMAN.

No. 1,047.—*Design for a Cook's Oven Stove.*—I claim the configuration and ornaments above described and shown in the drawings as a design for an "elevated oven" cooking stove.

WILLIAM W. STEVENS.

No. 1,048.—*Design for Stoves.*—I claim the ornamental design for a top, bottom, cover, door, and legs for a sheet-iron air-tight stove substantially as exhibited in the accompanying drawings and as described above.

NATHANIEL P. RICHARDSON.

No.1,049.—*Design for Nursery Bottles.*—I claim the S-shaped scroll formed of the label portion *a*, leaf branches *b*, and berries *c*, arranged or disposed as herein shown and described to form a new and ornamental design for a nursing bottles.

FRANCIS KERN.

No 1,050.—*Design for Cast-Iron Bedsteads.*—I claim the arrangement and combination of figures, devices, and ornamentation, represented in the accompanying drawing, the whole forming an ornamental design for a cast-iron bedstead leg.

PHILIP TABB.

No. 1,051.—Suspended.

No. 1,052.—*Design for Stoves.*—We claim the design and configuration of the mouldings and ornaments as herein described, forming an ornamental design for stoves.

GARRETTSON SMITH.
HENRY BROWN.

No. 1,053.—*Design for Cast-Iron Fences.*—I claim the rope ornaments D D, leaves L L, and scrolls and leaves C, substantially as represented in the accompanying drawings.

MARTIN BRIGGS.

No. 1,054.—*Design for Trade Marks.*—We claim the design of a cotton bale as a trade mark, as herein described.

RICHARD P. BRUFF.
CHARLES BRUFF.
G. ARTHUR SEAVER.

No. 1,055.—*Design for Cooks' Stoves.*—I claim the ornamental design of each door or panel A B C D and foot E of the cooking stove, as herein described and represented in the annexed photographic drawing.

N. S. VEDDER.

No. 1,056.—*Design for Cast-Iron Fire Shovels.*—I claim the shape, configuration, or pattern, for a cast fire or ash shovel, herein described and set forth.

WILLIAM BENNET.

No. 1,057.—*Design for Lockets.*—I claim "embellishing the sides of the lockets or charms for containing hair, likenesses, or other souvenirs or objects, with clusters of flowers and other configurations, as described and represented."

ALBERT C. RANDALL.

No. 1,058.—*Design for Cast-Metal Tablets.*—I claim the ornamental design for a cast tablet of iron or other metal, as set forth and represented in the accompanying photographic views.

EZRA CLARK.

No. 1,059.—*Design for Stoves.*—I claim the configuration and ornament of plates fig. 1, fig. 2, and fig. 3, as set forth and shown in the annexed drawings.

E. J. CRIDGE.

No. 1,060.—*Design for Statuettes of Henry Clay.*—I claim the new design, herein described and represented in the drawings, for a statuette of Henry Clay.

T. BALL.

No. 1,061.—*Design for Stoves.*—I claim the combination and arrangement of all the various figures or members making up the whole design, as herein set forth.

LYMAN L. THOMAS.

No. 1,062.—*Design for Hat and Cane Stands* —I claim the above described design or configuration, as represented in the accompanying drawing.

EDWARD REYNOLDS.

No. 1,063.—*Design for Cooks' Stoves.*—I claim the new design for a cooking stove, consisting of the ornamental configurations herein above described and represented in the drawings.

A. C. BARSTOW.

No. 1,064.—*Design for Script Types.*—I claim the design of the types as described and shown in the "characters" of the accompanying printed sheet.

JAMES CONNER.

No. 1,065.—*Design for Stove Plates.*—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,066.—*Design for Stove Plates.*—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,067.—*Design for Stove Plates.*—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,068.—*Design for Stove Plates.*—I claim the arrangement and combination of the several figures and mouldings, the whole forming together a new configuration for stove castings, as herein described.

SAMUEL D. VOSE.

No. 1,069.—*Design for Iron Fences.*—I claim as a design for railings, the composition or combination of the several cast ornaments and curved rods and standards united, and producing an ornamental panel of the configuration substantially as specified.

EDWIN GOMEZ.

No. 1,070.—*Design for Metallic Coffins.*—I claim the form and configuration of metallic coffins as represented and described.

WILLIAM H. FORBES.

No. 1,071.—*Design for Dining Room Stoves.*—I claim the ornamental bass-relief figures on the several doors and panels, when combined and arranged substantially as represented in the accompanying drawings.

GEORGE D. SPRECHER.

No. 1,072.—*Design for Parlor Stoves.*—We claim the combination of ornamental figures and forms, represented in and by the accompanying drawing, forming an ornamental design for the plates of parlor stoves.

GARRETTSON SMITH.
HENRY BROWN.

No. 1,073.—*Design for Cooks' Ranges.*—We claim the ornaments in bass-relief, and arrangement of mouldings configurated, as shown and described, and constituting an ornamental stove design, designated as the "National Range."

GARRETTSON SMITH.
HENRY BROWN.

No. 1,074.—*Design for Book-Marks.*—I claim the new design for a book-mark, consisting of the hand placed within the heart, as described and represented in the drawings.

WILLIAM B. FRENCH.

EXTENSION OF THE GOODYEAR PATENT.

In the matter of the application of Charles Goodyear for the extension of a patent granted to him for "improvement in India-rubber fabrics" on the 15th day of June, 1844, *and which was reissued in two separate patents on the 25th day of December*, 1849, *under the designations of "improvement in processes for the manufacture of India-rubber," and "improvement in felting India-rubber with cotton fibre."*

DECISION OF THE COMMISSIONER.

UNITED STATES PATENT OFFICE, *June* 14, 1858.

It appears that on the 30th January, 1844, the applicant, through his agent, (Newton,) obtained from the English government a patent for this invention or discovery, known in popular parlance as a "process for vulcanizing India-rubber," and, on the 15th of June thereafter, the patent now sought to be extended was issued from this office. It is assumed and insisted by the contestants that the American patent should have borne even date with the English, and that in law it expired with it on the 30th of January last, and in consequence it is denied that the Commissioner has any authority to entertain a petition for its renewal What shall be the date and duration of a patent is a question which must be decided by this office on each original application; and, in the case under consideration, it was determined that it should bear date the 15th of June, 1844, and should secure a monopoly of the invention for fourteen years thereafter. If this was irregular, in view of the English patent, it did not render that issued by this office void, as was held by the Supreme Court in 15 Howard, 112; O'Reilly *et al. vs.* Morse *et al.* Being at most voidable, it would seem that it should be treated as valid until vacated by the judgment of some judicial tribunal. At all events, whatever may be the power of the courts over the instrument, it is not believed to be competent for the Commissioner in a summary and in some respects a collateral proceeding like this to revise and reverse a former decision of this office under which so many rights have been vested. Were his power, however, plenary in the matter, I should not hesitate to hold that the provisions of law cited do not sustain this objection, which has been taken in the nature of a plea to the jurisdiction. The 8th section of the act of 1836 and the 6th section of that of 1839, being in *pari materia*, must be construed together; and as the latter is not in its terms a repeal of the former, it can, according to a well-settled principle of construction, be allowed to have that effect only so far as the provisions of the two are clearly incompatible. The statute of 1836 declares that nothing therein contained "shall be construed to deprive an original and true inventor of the right to a patent for his invention by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published at any time *within six months next preceding the filing of his specification and drawings. And whenever the applicant shall request it*, the patent shall take

date from the filing of the specification and drawings; not, however, exceeding six months prior to the actual issuing of the patent." It is sufficiently clear that this clause applies only to those cases in which the foreign patent has been issued *before*, but within six months of the filing of the specification and drawings. A reference to the record, however, shows that the specification and drawings in this case were filed on the 15th of January, 1844, so that the foreign patent, instead of having been taken out *before*, as contemplated by the act, was, in fact, taken out fifteen days *after* the filing of the specification and drawings in this office. This would seem to relieve the case entirely from the operation of the provision. But should it be treated as subject to it, as the American patent was issued four and a half months after the publication of the English, the most that could be claimed would be that the applicant might, "*on request*," have had his patent ante-dated so as to have reached back to the filing of his specification and drawings, *but he was not bound to do so*. It is manifestly a privilege bestowed, and not a duty imposed upon him. He did not choose to avail himself of that privilege, and hence the patent went out properly bearing its actual date. The act of 1839 asserts that "no person shall be debarred from receiving a patent for any invention or discovery, as provided in the act approved on the 4th of July, 1836, to which this is additional, by reason of the same having been patented in a foreign country *more than six months prior to his application: Provided*, That the same shall not have been introduced into public and common use in the United States prior to the application for such patent: *And provided also*, That in all cases *every such patent* shall be limited to the term of fourteen years from the date or publication of such letters patent." It will be perceived that this provision is confined expressly to an invention or discovery for which letters patent shall have been taken out in a foreign country *more* than six months prior to the filing of the application here, and declares such invention or discovery patentable under limitations. The act of 1836 referred to this class of cases, and, in effect, treated them as unpatentable. *To this extent* it is repealed by the act of 1839, *because irreconcilable with it*. But the act of 1836 refers to another and very distinct class of cases, in which the foreign letters patent *were not published more than six months before the date of the application here*, and declares them patentable. To this latter class no allusion is made by the act of 1839; and as this act is in this respect in no degree inconsistent with that of 1836, and as it professes to be not abrogatory of, but "additional" to it, it must, upon the soundest principles of interpretation, be held that this feature of the act of 1836 remains in full force. The closing language of the clause quoted is not regarded as in conflict with the construction insisted on. The words are, "in all cases *every such patent* shall be limited," &c. What is intended by "every *such* patent?" Undoubtedly the kind of patent spoken of in the preceding part of the section, and no other, to wit: a patent based on an invention for which letters patent had been issued in a foreign country *more* than six months before the filing of the application here. It may be very well supposed that Congress might consider six months as too small a fraction of time to require its introduction

as a part of the lifetime of the patent, and would, therefore, leave it to be embraced or not, at the option of the applicant, while to guard against abuse, if the period were longer, the inclusion of the whole might be consistently and properly exacted.

The novelty and original patentability of this invention, as well as its great public utility, are fully established by the report of the examiner and by the depositions on file. But two leading questions, therefore, remain to be disposed of.

First. Has the applicant used due diligence in developing his invention and in introducing it into public use?

Second. Has he, from the use and sale of the invention, received a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use?

Upon the first point, the testimony alike of the applicant and of the contestants is concurrent and conclusive. From the first moment that the conception entered his mind until his complete success—embracing a period of from sixteen to eighteen years—he applied himself unceasingly and enthusiastically to its perfection, and to its introduction into use, in every form that his fruitful genius could devise. So intensely were his faculties concentrated upon it that he seems to have been incapable of thought or of action upon any other subject. He had no other occupation, was inspired by no other hope, cherished no other ambition. He carried continually about his person a piece of India-rubber, and into the ears of all who would listen he poured incessantly the story of his experiments and the glowing language of his prophecies. He was, according to the witnesses, completely absorbed by it both by day and night, pursuing it with untiring energy and with almost superhuman perseverance. Not only were the powers of his mind and body thus ardently devoted to the invention and its introduction into use, but every dollar he possessed or could command through the resources of his credit or the influence of friendship was uncalculatingly cast into that seething caldron of experiment which was allowed to know no repose. The very bed on which his wife slept and the linen that covered his table were seized and sold to pay his board, and we see him with his stricken household following in the funeral of his child on foot, because he had no means with which to hire a carriage. His family had to endure privations almost surpassing belief, being frequently without an article of food in their house or fuel in the coldest weather, and indeed it is said that they could not have lived through the winter of 1839 but for the kind offices of a few charitable friends. They are represented as gathering sticks in the woods and on the edges of the highways with which to cook their meals, and digging the potatoes of their little garden before they were half grown, while one of his hungry children, in a spirit worthy of his father, is heard expressing his thanks that this much had been spared to them. We often find him incarcerated in the debtor's prison, but even amid its gloom his visions of the future never grew dim, his faith in his ultimate triumph never faltered. Undismayed by discomfitures and sorrows which might well have broken the stoutest spirit, his language everywhere, and under all circumstances, was that of encouragement and of a profound conviction of final success. Not only in the United States did he

thus exert himself to establish and apply to every possible use his invention, but in England, France, and other countries of Europe, he zealously pursued the same career. In 1855 he appeared at the World's Fair in Paris, and the golden medal and the Grand Cross of the Legion of Honor were awarded to him as the representative of his country's inventive genius. Fortune, however, while thus caressing him with one hand, was at the same moment smiting him with the other; for we learn from the testimony that these brilliant memorials passed from the Emperor and reached their honored recipient, then the occupant of a debtor's prison, among strangers and in a foreign land, thus adding yet another to that long sad catalogue of public benefactors who have stood neglected and impoverished in the midst of the waving harvest of blessings they had bestowed upon their race. Throughout all these scenes of trial, so vividly depicted by the evidence, he derived no support from the sympathies of the public. While the community at large seem to have looked on him as one chasing a phantom, there were times when even his best friends turned away from him as an idle visionary, and he was fated to encounter on every side sneers and ridicule, to which each baffled experiment and the pecuniary loss it inflicted added a yet keener edge. The mercenary naturally enough pronounced his expenditures, so freely made, culpably wasteful; the selfish and the narrow-minded greeted the expression of his enlarged and far-reaching views as the ravings of an enthusiast; while it is fair to infer from the depositions that not a few of the timid and plodding, who cling, tremblingly apprehensive of change, to the beaten paths of human thought and action, regarded him as wandering on the very brink of insanity, if not already pursuing its wild and flickering lights. Such in all times has been the fate of the greatest spirits that have appeared on the arena of human discovery, and such will probably continue to be the doom of all whose stalwart strides carry them in advance of the race to which they belong. With such a record of toil, of privation, of courage, and of perseverance in the midst of discouragements the most depressing, it is safe to affirm that not only has the applicant used that due diligence enjoined by law, but that his diligence has been, in degree and in merit, perhaps without parallel in the annals of invention.

Before entering upon an examination of the second leading question, several preliminary issues raised by the contestants must be met and decided.

The amount of expenditures and receipts originally presented, it is admitted, was too general in its terms to be accepted as a compliance with the requirements of the statute. Hence, subsequently, in April an additional or amended account was offered, which, in consequence of the absence of the applicant in England, was not sworn to by him until the 23d of that month, and was not filed in this office, *as thus verified*, until the 8th May. This amended statement was intended not as a substitute for the original, but as a correction of certain inaccuracies which had crept into it, and as furnishing the details which law and usage demand. It is objected that it should not be considered, because when first lodged here it was without the oath of the applicant, and because when that oath was appended on the 8th May

it was too late for the contestants to take their rebutting testimony. It will be observed that there is nothing in the circumstances attending this delay calculated to excite a suspicion of a desire on the part of the applicant to suppress the truth by stifling inquiry; and it must also be borne in mind that, although there is a rule of this office on the subject, the statute is silent as to the *time* when the account shall be filed. It is true that it must be "under oath," and the oath of the patentee was no doubt contemplated by the framers of the law, but it is also true that cases have arisen in which that oath was necessarily and properly dispensed with, as when the patentee had died or become insane. Other cases may well be imagined in which the oath of parties entirely disinterested, and having a thorough knowledge of the subject-matter, would be more satisfactory to the judicial mind than that of the patentee. The amended account was as early as the 8th of April verified by the oaths of a number of disinterested witnesses professing an acquaintance with the transactions to which it relates, and this is claimed to be a substantial compliance with the statute. Assuming that the contestants were not bound to take rebutting testimony until after the account had been sworn to by the applicant, yet they had notice of the existence and character of that account through a copy served on them as early as the 20th April, and this was sufficient to put them upon inquiry. Being thus distinctly apprised of what it was proposed to prove, they could have occupied themselves in discovering such evidence as might exist in their favor, and in taking at least the preliminary steps to the examination of the witnesses. The time for taking the proof having been extended, there were at least sixteen days—between the 8th and 24th of May—allowed for assailing the account by counteracting testimony, and we are warranted from the record in presuming that this time was with the greatest zeal and activity devoted to the taking of depositions, and that all the witnesses who could be found, having knowledge of facts deemed important for the contestants, and who were willing to depose, were examined. It is true that Mr. Cozzens in his deposition expresses the opinion "that there has not been anything like enough time since the filing of the applicant's petition and statement to properly *prepare* an opposition thereto." Waiving the obvious criticism upon this language, it is a complete answer to say that the name of no witness is given whom the contestants were prevented from examining for want of time, nor is any fact material to them alleged to exist and be susceptible of proof, but which they were denied an opportunity of establishing. In the absence of any such specific averment, it is impossible to decide, in the language of a rule of this office, that "a substantial injury has been wrought to the party raising the objection," and hence, according to that rule, such objection cannot prevail on the final hearing. When a party frankly avows that he has committed an error in a judicial oath, and asks the privilege of correcting it under the same sanctions, a tribunal whose mission is the ascertainment of truth should rather encourage him to make such correction than rebuke him for an offer to do so.

Another question to be answered before proceeding to the main inquiry is, whether in determining the adequacy of the remuneration

received by the applicant the receipts of his assignees and licensees—admitted to amount to many millions—should be charged to the patent. The first impression of my mind was favorable to the position taken by the contestants, but a more critical examination of the statute has led me to an opposite conclusion. At the time of the passage of the act of 1836 it was the universal custom of inventors to sell and assign the rights secured to them by their patents, and this course on their part has been constantly contemplated and sanctioned by law. Hence the statute declares that if the "patentee" shall fail, from "the use and *sale* of his invention," to realize a reasonable remuneration, he shall be entitled to an extension. The law, in its enactments, is generally found to be a faithful reflection of the actual life of the world. It was well known that inventors, as a class, were particularly liable to be overreached in their contracts, and to be driven to dispose of their inventions at ruinous rates, under the pressure of poverty, and often before their utility had been fully demonstrated. Hence the generous guarantee was given them that if from such "sales," no matter how made, and from such "use" as they might choose to make of their inventions, they were unable to secure a reasonable compensation, their monopoly should be further extended. There is not the remotest allusion to their assignees and licensees, and, as the reason of the enactment does not reach them, it would be an unsound principle of construction which should embrace them by implication. A further reason why they should not be thus embraced is found in the fact that a very large part of the profits of these assignees, who are generally manufacturers, is the product of their own capital and enterprise in association with the invention, and could not, therefore, be properly charged to its account in this proceeding. Assignees and licensees constitute a very numerous class, scattered throughout the length and breadth of the land, and their profits from inventions must be regarded as the profits of that great public of which they are so important a part. The very large sums which they are alleged by all the witnesses who have spoken on the subject to have made from this invention is but another of the ever-multiplying proofs of its extraordinary value to the world, for it is safe to conclude that the consumers of the fabrics have been equally benefitted with the manufacturers who produced them. If, on an application for an extension, the patentee were chargeable with the receipts of his assignees and licensees, it would then follow that he would be bound to exhibit them in his accounts—a manifest impossibility, it is scarcely necessary to say, in the great majority of cases.

The first step in determining the sufficiency of the remuneration is to ascertain, as far as practicable, the amount of the applicant's receipts and expenditures in connexion with the invention. The apparently discrepant and informal character of the accounts filed has produced much severity of criticism and some denunciation on the part of counsel. It is admitted that they have not the precision and symmetry which belong to the products of the counting-room, and which might have been imparted to them by the applicant had he been a merchant's clerk, instead of the brilliant and impulsive genius that he is. In explanation of the generality and uncertainty for

which, it is insisted, they are marked, it is in proof that the applicant never kept any books or memoranda from which more reliable statements could be prepared. In this respect his course of life has been in entire harmony with that of the class to which he belongs. Inventors and other men of high creative genius have ever been distinguished for a total want of what are called "business habits." Completely engrossed by some favorite theory, and living in the dazzling dreams of their own imagination, they scorn the counsels and restraints of worldly thrift, and fling from them the petty cares of the mere man of commerce as the lion shakes a stinging insect from his mane. The law, in its wisdom, takes cognizance of human character, and deals with men, and with classes of men, as it finds them. It seems, in this instance, to have assumed, and justly, that if we would have the magnificent creations of genius we must take them with all those infirmities which seem as inseparable from them as spots are from the sun. Hence the statute does not require that the accounts of inventors shall have that formality and that severe exactitude which might well have been claimed of a merchant with his ledger open before him. All that is insisted on is that the statement furnished shall be "*sufficiently* in detail to exhibit a true and faithful account of *loss* and *profit* in any manner accruing to him from and by reason of said invention." It is manifest that it is to the results, which indicate "loss and profit," rather than the minute elements of the transactions which form the subject of the account, that the law looks. The applicant's statement, as amended, appears to have been compiled with the most laborious care, and from every source of information accessible to him or his attorneys. It is regarded as fully conforming to the letter and spirit of the statute. The principal discrepancy between the original and amended statement is satisfactorily explained. The applicant held at the same moment three patents for processes connected with the manufacture of India-rubber, viz: that of Chaffee, that of Hayward, and that for his own vulcanizing process. In all his contracts he transferred these three patents together, making no designation, in the body of the assignments, of the estimate placed upon either of them separately. In his original statement he inadvertently charges to his own patent the whole of the receipts from this source; in his amendment he sets the Chaffee and Hayward patents down as properly chargeable with one-fourth of the proceeds of such sales, and makes, accordingly, a corresponding deduction from his exhibit of receipts. The language of his first statement, properly interpreted in the light of the assignments themselves, justified this step. Whatever those patents may have cost him, they were his property, and it was due to truth and to the claim now under consideration that their actual value should have been ascertained. The witnesses who speak of them prove conclusively that the applicant has rather under than over-rated them, which relieves him from all imputation in the matter.

What, then, has been the amount of the applicant's remuneration? His account, as amended, exhibits $162,894 09 of receipts, and $129,535 46 of expenditures, thus showing a profit of $33,358 63. Numerous intelligent and unimpeached witnesses, having intimate

relations with the applicant and acquainted with his business affairs, have deposed in reference to this account, and their testimony, without an exception, powerfully supports its truth. Considering the remoteness and complicated character of the transactions, the statements in this paper are illustrated and sustained with singular force. The rebutting evidence assails directly no item either of the receipts or expenditures, but consists of the opinions and conjectures of a large number of witnesses who clearly had no means of knowing either the truth or falsehood of the matters set forth in the account. They profess to believe that the applicant could not have expended such large sums in his experiments because he was poor; and this is the sole basis of almost every opinion expressed on the subject. Had these witnesses known, what this record makes so apparent, the overwhelming debts which have hung over the applicant throughout his long and self-sacrificing career, and many of which still bear him down, his enormous outlays would not have been to them so impenetrable a mystery. The very elaborate report of the examiner, after a severe scrutiny of the expenditures and receipts as exhibited, restates the account, and in doing so increases the applicant's profits to $114,128 09. In arriving, however, at this conclusion, he has excluded two items of expenditure which I am well satisfied should have been retained. The first is for $13,310, and is not allowed because for disbursements occurring *before* the invention or discovery was made. The act of Congress directs an inquiry into the "loss and profit in *any manner* accruing to him (the inventor) from and by reason of said invention." Whether we consult the letter or reason of the law, I entertain no doubt but that expenditures made in the progress of experiments *preceding* the invention but looking to it, are as clearly chargeable to the patent as those made afterward, either in perfecting it or introducing it into use. The other item is for $46,084 46, as set forth in Exhibit No. 2, and I am at a loss to perceive any sufficient reason for its rejection. The applicant alleges expressly in his sworn statement that the whole of this sum "was expended by him in perfecting his said invention and bringing the same into use." De Forest, who advanced the money, and who holds the drafts specified in the exhibit, when interrogated on the point, says explicitly that it was applied by the applicant to "experiments in developing his improvements, and new applications and branches of the India-rubber manufacture;" and this statement is uncontradicted. The fact averred and not denied, that De Forest has not been reimbursed these advances which constitute a subsisting debt on the part of the applicant, furnishes no argument against their being charged to the patent. All moneys expended upon the invention and its introduction into use are properly so chargeable, no matter whence or how obtained. Restoring, then, these items, and adopting the other corrections of the examiner, there will still remain to the credit of the invention a clear profit of $54,733 63. The applicant, in his amended statement, acting under the promptings of the same high sense of honor which led him to satisfy an indebtedness of $35,000, from which he had been discharged by a certificate of bankruptcy, shrinks from debiting the patent with any expenditures the particulars of which he cannot

recall with some degree of certainty, but, while doing so, unhesitatingly expresses the belief that they were quite as large as the sums set forth in gross in the first account. It is probable—indeed, in view of the whole testimony, it is my firm conviction—that if it were possible to extract from the tangled mazes of the multifarious and now half-forgotten transactions connected with the invention all the moneys expended therein, it would be found that, instead of there being a balance to his credit, the balance would be on the other side. I am justified in arriving at this conclusion from the fact that although the applicant has had no other occupation or business, yet, instead of having now in hand this sum of $54,733 63, he is admitted to be pennyless and overwhelmed with debt—and this, too, notwithstanding his life is shown to have been temperate, frugal, and in all respects self-denying. Being reimbursed his actual "expenses," is this sum of $54,733 63 a reasonable remuneration to the applican for the "INGENUITY and TIME" bestowed on the invention, and the introduction thereof into use?

An earnest endeavor has been made to depreciate the ingenuity displayed in the invention by representing the discovery to have been the result rather of "accident" than of scientific investigation. As early as 1834–'35, Mr. Goodyear seems to have formed a most exalted estimate of the capabilities, as a material for manufacture, of the gum known as caoutchouc, or India-rubber. This gum had been previously extensively employed in the fabrication of a variety of articles, but, owing to their indifferent quality, all concerned in these enterprises, as well as in those which followed for a series of years afterward, were involved in bankruptcy and ruin. The fabrics thus made could not keep the market, because they were found to grow rigid under the influence of cold, and to soften and become sticky under that of heat, while they rapidly decomposed when brought into contact with perspiration and the animal oils. The applicant was thoroughly convinced that these qualities which had proved so disastrous to the trade could be removed, and he set himself resolutely to work to ascertain the process of accomplishing this result. Sulphur had already been advantageously combined with India-rubber by Hayward, so that the discovery had been approached to its very verge. The step, however, which remained to be taken, short as it was, was indispensable, and without it all those which had preceded it would have been unavailing. Science could afford but little assistance in the inquiry, for, as the event proved, the most potent element in the process was too subtle to be disclosed by the severest chemical analysis. The applicant had, therefore, to pursue the investigation gropingly; but he persisted in it with an ardor and a courage which nothing could abate or daunt. His aim was definite, his conviction as to its attainability complete. As one who searches for a hidden treasure in a field where he knows it is to be found, so pursued he his explorations in quest of this secret. He sought it on the right hand and on the left, by day and by night, in the midst of ceaseless toil and lavish expenditure, and by the light of every form of experiment which his most fertile genius and daring spirit could suggest. He became completely master of everything knownin regard to the properties of the material which it was his ambition to improve, and so thoroughly was he imbued with the soul of his inquiry, and so intensely quickened was his vigilance, that no phenomenon, however minute, could meet his eye, no sound, however faint, could fall upon his ear without his at once detecting and appreciating its bearing upon the great problem whose solution he was seeking. From four to five years were passed in these unremitted labors, when an incident occured which at once revealed the long-sought truth. And it is a singular coincidence, that the spark of light yielded by this incident was elicited by a collision, so to speak, the result of that intense zeal which, so far as health and fortune were concerned, had been the consuming fire of his life. In one of those animated conversations so habitual to him, in reference to his experiments, a piece of India-rubber combined with sulphur, which he held in his hand as the text of all his discourses, was by a violent gesture thrown into a burning stove near which he was standing. When taken out, after having been subjected to a high degree of heat, he saw—what, it may be safely affirmed, would have escaped the notice of all others—that a complete transformation had taken place, and that an entirely new product—since so felicitously termed "elastic metal"—was the consequence. When subjected to fuller tests, the thrilling conviction burst upon him that success had at length crowned his efforts, and that the mystery he had so long wooed now stood unveiled before him. His history in this respect is altogether parallel with that of the greatest inventors and discoverers who have preceded him. The lamp had swung for centuries in the Cathedral of Pisa, but of the thronging multitudes who worshipped there, none had heeded the lessons which it taught. It was reserved for the profound and observant intellect of young Galileo to extract from its oscillations the true laws of the pendulum, which led to the creation of an infallible measure of time. The theory of universal gravitation loses nothing of its grandeur or value because suggested by the falling of an apple from the tree. In all lands, by teeming millions, this phenomenon had been observed, but to none had it imparted instruction—to none had it spoken of that wonderful secret which lurked beneath its simple features. At length its "still small voice" fell upon the delicate and appreciative ear of one whom it startled into inquiry. The light thus afforded, to which all had been blind, was, indeed, dim and twinkling; but following its guidance as one who traces back the dawn, the great Newton soon plunged into the full-orbed splendors of a discovery confessedly the most brilliant which has gilded and ennobled the annals of science. On all the hearth-stones of the civilized world, for thousands of years, the kettle had boiled and lifted its lid by the expansive power of its steam; yet for none had this seemingly trite and ever-recurring incident been significant—to none had it announced that measureless power of which it was the humble but distinct exponent. At length the movement caught the eye of a lonely student of nature, then a prisoner in the Tower of London, and in the soil of his prolific mind it proved the rapidly-expanding germ of that steam-engine whose triumphs have changed the social, political, and commercial aspects of the globe. So India-rubber, in combination with sulphur, may by

accident have been exposed to a high degree of heat often before, without attracting the attention of any; and it is safe to allege that it might have been thus exposed a thousand times afterwards without the world having been the wiser or wealthier for it. The thorough self-culture and training of the applicant, and his unweared researches, prepared him at once to seize upon, to comprehend, and embody in a practical form, the truth he sought the moment it presented itself, no matter how dimly, to him. This was his merit—the same in kind with that of the most illustrious inventors who have appeared in the world, and by that of but few of them surpassed in degree. It is a figure of speech, but an exalted mode of expression, which assigns to man any part in the work of *creation*. In his very best estate he is but a ministering priest at her altar, and when he has reached the highest walk in the drama of intellectual power to which his feeble steps can ascend, he is still but an humble translator of the languages of nature. It is a fact which singularly increases the credit due to this inventor, that the very path in which he finally achieved success was the one which the experience of the past had taught him to shun. A low degree of heat had been applied to a combination of India-rubber and sulphur, and it had melted under it, so that heat—the increased intensity of which consummated the discovery—was the very element which he had felt himself admonished to avoid. The discovery being made, the applicant soon thereafter added white lead to the combination, which rendered it complete, and assuming that his mission was but begun, he bravely bent himself to the task of surmounting the obstacles which still frowned upon him on every side. These obstacles, so graphically sketched in the testimony, seem to have been almost unprecedented. Capitalists shrunk away from the discovery, so confidently announced, as a chimera, and manufacturers who had suffered so deeply by the India-rubber business denied it their confidence. Its practicability had to be demonstrated by a long series of illustrations, which the total want of experience rendered protracted, and often ruinously expensive. Every inch occupied in the enlarging field of its usefulness had to be conquered by many sacrifices, while of the Protean-formed applications to which it was destined to attain, there was not one that did not involve an outlay of treasure, of toil, and high artistic skill. All these, from the beginning to the present hour, have been bestowed—unceasingly bestowed—upon it, and as the fruits of all these have been and are still being reaped by the public, the applicant is entitled to remuneration for them.

Has the applicant been remunerated for the TIME which he has devoted to this invention, and to its introduction into use?

It is extremely difficult to estimate in the coin of dollars and cents the worth of eighteen years of the prime of human life, especially so when that life is one of lofty genius, of indomitable enterprise, and of stainless virtues. It is, however, about that period of precisely such a life that has been consecrated to the pursuit and development of this discovery; nor would a shorter period of time have sufficed for the arduous and perplexing task. This declaration may be made with the more emphasis because in all the volumes of testimony filed

there is not one word found tending to its contradiction. Throughout those long and toilsome years it is apparent that there has been no compromise with the suggestions of avarice, or with the claims to self-indulgence and ease. It has been already fully shown that the applicant's fortune, his health, the comforts of his family, the freshness of his early and the patient energies of his latter manhood, have all been unhesitatingly melted down in the crucible of this inquiry, and he is now seen tottering toward that grave which must soon open in his path, with nothing left of the heroic and athletic man but what remains of the maimed and scarred soldier on the battle field—a wreck which every great and generous people have taken fondly to their bosom. The time of the indolent, the selfish, the dissolute, and the dull, is little worth to a world which they rather cumber than bless by their presence; but the time of the gifted, the brave, the philanthropic, and unconquerable sons of genius has for mankind a value which we should but feebly express in the arithmetic of dollars. But while we may have no means by which to measure with unerring accuracy the intrinsic worth of the ingenuity and time which have been expended, and cannot by any analysis weigh or compute their ingredients, there remains to us one standard by which a proximate estimate at least may be reached—that is, *the results which have been produced*. What that time and ingenuity have yielded to the public is the true test of their value, alike to that public and to the inventor; for what the former have received the latter must, upon every principle of sound logic, be held to have parted with. What, then, have been the results of the discovery and introduction into use of the vulcanizing process? The testimony is very full upon this point. We learn that through this instrumentality a large foreign commerce has been created in the raw material, and an inland trade in the India-rubber fabrics, amounting to between four and five millions of dollars annually; that extensive India-rubber manufactories have grown up, giving profitable investment to some seven millions of dollars of capital, and active employment to some ten thousand operatives; and that a large portion of these fabrics is intimately connected with human comfort and the preservation of human life. Not to enumerate more of the articles produced by this process, it would be hazarding nothing to say that the shoes and wearing apparel perfected by it, and now cheaply and abundantly made, and almost universally in use, have saved thousands from a premature death, and may save millions in the ages which are to come. In the presence of these vast and still expanding achievements of this invention, the criticisms which have been made upon the applicant's accounts, as though they were some petty grocer's bill, shrink into insignificance, and, indeed, can scarcely be listened to without a blush. We have, however, a yet more definite basis on which to rest our judgment—the testimony of Hayward and Haskins. Both have long been India-rubber manufacturers under the vulcanizing process, and the former made the valuable discovery of combining sulphur with the gum, for which a patent was granted to him. Their depositions are marked by frankness, and leave no doubt of their perfect acquaintance with this great interest in all its ramifications and aspects. Hayward says that the vulcanizing process for the next seven years would be worth to the public

one million of dollars. If so, it should have been worth two millions for the last fourteen years. Haskins does not hesitate to estimate the process at "many millions of dollars." It should be observed that the evidence of the contestants does not reduce these estimates. It is not possible to escape from the conclusion to which statements so emphatic, and coming from sources so fully entitled to credit, lead us. If, then, this process is worth two millions of dollars, the applicant has received but a little more than one-fortieth part of the remuneration which he was entitled to claim.

It has been assumed, as a means of avoiding the force of these estimates, that the applicant is entitled to receive from the public, not what the invention is now worth, developed and established as it is, but what it was worth when the patent issued. This view has been urged with much persistence and plausibility, but it has not impressed me as liberal or sound. When the invention came, timid, and struggling into existence, meeting in every quarter with scoffs and distrust, had it been offered for sale in the market, it would probably have commanded a few thousand dollars—possibly less. But to say that its value is to be measured by what it was then considered to be worth, would be to determine that the character of the tree is to be judged rather by the green than by the ripe fruit found upon its branches. The present expanded and prosperous condition of the invention is mainly owing to the genius and unceasing struggles of the applicant, and he may justly reap what he has sown and so diligently cultivated. In the adjustment of machinery to accomplish the ends so distinctly pointed out by the inventor, and in the manipulations of the gum and treatment of the fabrics in the various stages of their manufacture, it is admitted that many improvements have been made by skilful mechanics and operatives, and these have their utility and importance; but to allow such labors to rival or depreciate the claims of the applicant, would be to rank the simple ploughman of the fields with that sublime and beneficent Providence which creates alike the soil out of which the harvest springs and the sunshine and the shower by which it is nurtured and matured.

Another and most potent reason why this patent should be extended is found in the acknowledged fact that the public have not kept the faith which they plighted with the applicant when he covenanted to surrender to them a product which was, in effect, the concentrated essence of the physical and intellectual energies of his entire life. That public stipulated with him that he should peacefully enjoy for fourteen years the monopoly created by his patent, and had he been permitted to do so, he would, no doubt, long since have realized an ample remuneration; but, so far from this having been the case, no inventor probably has ever been so harassed, so trampled upon, so plundered by that sordid and licentious class of infringers known in the parlance of the world, with no exaggeration of phrase, as "pirates." The spoliations of their incessant guerilla warfare upon his defenceless rights have unquestionably amounted to millions. In the very front rank of this predatory band stands one who sustains in this case the double and most convenient character of contestant and witness; and it is but a subdued expression of my estimate of the deposition he has lodged to say, that this Parthian shaft—the last that he could hurl

at an invention which he has so long and so remorselessly pursued—is a fitting finale to that career which the public justice of the country has so signally rebuked.

Important as are to the parties to this issue the immediate consequences bound up with it, they are insignificant indeed as compared with the value to the public of the principle involved. From the very foundation of this government it has been its settled policy to secure a just reward to all inventors, and it is to the inflexible maintenance of this policy that we are indebted for the unparalleled advancement which, as a people, we have made in the useful arts. All that is glorious in our past or hopeful in our future is indissolubly linked with that cause of human progress of which inventors are the preux chevaliers. It is no poetic translation of the abiding sentiment of the country to say that they are the true jewels of the nation to which they belong, and that a solicitude for the protection of their rights and interests should find a place in every throb of the national heart. Sadly helpless as a class, and offering in the glittering creations of their own genius the strongest temptations to unscrupulous cupidity, they, of all men, have most need of the shelter of the public law, while, in view of their philanthropic labors, they are, of all men, most entitled to claim it. The schemes of the politician and of the statesman may subserve the purposes of the hour, and the teachings of the moralist may remain with the generation to which they are addressed, but all these must pass away, while the fruits of the inventor's genius will endure as imperishable memorials, and surviving the wreck of creeds and systems, alike of politics, religion, and philosophy, will diffuse their blessings to all lands and throughout all ages.

However much the seeming perplexity in the applicant's accounts may expose him to cavil and to that vituperation which is so ready a coinage of professional zeal, and however short some of the points in the case may fall of that complete elucidation which could have been desired, there is one fact established beyond all controversy, and which stands out from this record with painful prominence. At the close of all his toils and sacrifices, and of the humiliations he has been called on to endure, this public-spirited inventor, whose life has been worn away in advancing the best interests of mankind, is found to be still poor, oppressed with debt, and with the winter of age creeping upon his shattered constitution. It is perfectly manifest that this is in no degree the result of vice or of improvidence on his part, but is an inexorable consequence of the impoverishing experiments inseparable from the prosecution of his great enterprise, and of that prolonged and exhausting strife in which unscrupulous men have involved him. He now begs of that country to which the energies of his manhood have been so freely and so faithfully given, that he may be allowed to enjoy for a few years longer that precarious protection which our most feeble and imperfect laws extend to the fruits of intellectual labor; and were the appeal denied, I feel that I should be false to the generous spirit of the patent laws, and forgetful of the exalted ends which it must ever be the crowning glory of those laws to accomplish.

The patent will, therefore, be extended for seven years from the 15th June, 1858.

J. HOLT, *Commissioner.*

UNITED STATES PATENT OFFICE,
November 14, 1857.

On appeal to the Commissioner from the decision of the examiner rejecting the application of John McLarty for letters patent for an improved "policeman's club."

The model of the "club" on file is twelve inches long, is round, and about an inch and a quarter in diameter. It has a smooth and polished surface, and resembles the baton generally borne by police and other officers. In practical use it would be lengthened, and would, no doubt, in accordance with the views of the inventor, generally take the form of an ordinary walking cane. Its exterior gives no indication of its real character or capabilities. Its barrel is hollowed, and within it is an ingenious mechanism connected with four longitudinal rows of "spurs or lancets," which lie concealed in the tube. On touching a spring these lancets leap from their hiding places, and through them, by a single wrench of the weapon, a most fearful mutilation is inflicted on the hand of any adversary that may have grasped it. In the technics of street rencontres, it may then be "clubbed," and its lancets made to bury themselves at will in the head and body of the victim. Its operation must prove as instantaneous as it would be irresistible. The professed object of the inventor in fashioning this club was to supply what he states has long been a desideratum, to wit: a weapon not deadly, dispensing with the necessity of a resort to pistols, which policemen might use effectively, but which could not be wrested from them by the rowdies and malefactors with whom their official duties might bring them into conflict. There are on file the depositions of the superintendent and deputy superintendent of the New York city police, fortified by the certificates of fifteen members of the corps, all of whom concur in stating that this club will accomplish the end proposed by the inventor. They also declare, most emphatically, that they regard it as an important and valuable improvement; and a part of them express the opinion that it is not only harmless, but humane. These views have been carefully examined and considered, but they have not seemed the less startling because of the sincerity with which they are unquestionably entertained. They present a strange, if not a melancholy, illustration of the power of professional prejudice over the higher convictions and gentler impulses of our nature. The purpose sought to be obtained by the inventor—the safety of conservators of the public peace, and their triumph in contests with lawless men—is one which must command the approbation of all good citizens; but even this end may become unhallowed from the means employed to attain it. The law, happily, enjoys a wider range of vision than that which these witnesses seem to have allowed themselves; and while it would gladly secure the protection of all, it unhesitatingly recognizes the fact that it has the charge of interests, social and political, compared with which even the safety of policemen is but as the dust of the balance.

Justice to the inventor demands the admission that the mechanism

of this miniature infernal machine displays sufficient novelty to support a patent. The law, however, in its wisdom, has declared that something beyond mere novelty must be established before a patent can issue. The invention must not only be new, but it must be important and useful. It should be distinctly stated, at the threshold of the inquiry, that this instrument, with a view of mitigating that abhorrence with which the overhumane might regard it, disclaims all designs upon human life, and moderates its ambition in the drama of blood to the more humble work of mayhem and laceration. Thus operating, the testimony on file shows that it would be eminently useful to policemen. Conceding this assumption, it is still obvious that this is too limited a measure of utility to satisfy the requirements of the law. An invention to be patentable must not be useful to the few with a chance of being pernicious to the many, but it must clearly appear that, in view of the interests of the whole community, the good resulting from it would decidedly preponderate over the evil. If the officers of public justice, and those law-abiding citizens who love peace and pursue it, could be induced to defile themselves with this instrument, and could its use be restricted to such, it might be comparatively harmless; but when it passes from the workshop of the mechanic who has fashioned it, it is manifestly beyond the control of the government, and will find its way into the service of the brawling profligate as certainly as the stiletto seeks the belt of the bravo. Its manufacture and distribution through society, under the expectation that good would result therefrom, would be an act of folly equalled only by that of strewing our pathways with thorns in the delusive trust that they would bud and blossom into flowers at our approach. It is barbarous in its every characteristic, and is as repugnant to the genius of our institutions, and to the morality of that faith in whose shining foot-prints our legislation strives to follow, as is the scalping-knife of the border savage. As national war is one of those scourges to which every country is exposed, it is fully within the scope of an enlightened public policy to encourage the manufacture of weapons for its efficient prosecution. But private war—the rude and sanguinary conflict of members of the same community with each other—stands upon an entirely different footing. It is everywhere denounced under heavy penalties, so that the blow can only be justified when it has been stricken in self-defence. This plainly-marked distinction determines the character of the weapons whose manufacture can claim the fostering care of the government. There can be no difficulty in deciding to which class the one under consideration belongs. It puts forth no pretension to rank as an instrument of national warfare. In this higher walk of human carnage it would be as lame and impotent as would be an ordinary squirt in the presence of a conflagration Nor is there any mechanical pursuit in which it could possibly be employed, nor any household or personal want to which it could possibly minister. It is intrinsically, in its inception and consummation and aim, a weapon of ferocious personal conflict, whose function is that of brutal mutilation. To bring it, then, within the range of the principle laid down, it must be shown that, however cruel may be its mode of operation, yet, from its structure, and the manner in which

it will be wielded, its mission upon the arena will be that of self-defence. Can this be done? In the first place, its deceptive form, quieting all apprehension, incites him who wears it to assaults upon others, by securing to him the advantages of a perpetual ambuscade. On the other hand, for the same reason, instead of repelling, it tends rather to invite attacks from others, by falsely presenting to them a seemingly unarmed front. When to this is added the consideration that disguise is ever a stratagem of the aggressor, and that he who, in good faith, seeks only his own defence, practices no concealment, we are forced to the conclusion that this policeman's club would be most generally wielded by men of violence and crime, and would play the part rather of the assailant than of the assailed. The fact that it could be used for purposes of defence does not meet the stern exactions of the principles to which I have adverted. In determining the morality and policy of encouraging the fabrication of a weapon, the inquiry is, not what use might be made of it by officers and law-abiding citizens, but to what purpose, in view of its peculiar characteristics, would it most probably and most generally be applied.

The government of almost every civilized people has striven with painful anxiety to repress the habit of wearing concealed weapons. With none of the frankness which distinguishes true courage, it is a usage whose fruits have been evil, and altogether evil, and which has written its own sad history in the blood of some of the purest and noblest men of the times. But, of all concealed weapons, the concealment of this is the most cunning and complete. In its spirit it is not merely unmanly, but skulking; and shocks, by the meanness of its cowardice, not only the chivalry, but the civilization of the age. With an inoffensive form, its polished yet simple exterior seems radiant with the smile of peace, but it is a smile destined to prove but the dagger's gleam before it stabs for all who trust it. No deceit could be more subtle or profound than the crouching of its lurking spear points, which display in the suddenness of their spring the mingled ferocity of the tiger and the treachery of the kiss of Judas. Whether viewed as a weapon of offence or defence, it is adapted to the hands only of the most dissolute and the most dastardly, and evidently belongs to the same class with the slung-shot of the burglar and the brazen knuckle of the political ruffian. The national honor would not be more tarnished by granting a patent for the one than for the other.

Let the application be rejected.

J. HOLT, *Commissioner.*

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IN THREE VOLUMES.

VOLUME III.

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1859.

IN THE HOUSE OF REPRESENTATIVES,

March 2, 1859.

Resolved, That there be printed of the Mechanical part of the Patent Office Report five thousand copies for the use of the Patent Office, and fifteen thousand for the use of the members of the House of Representatives.

Attest:

J. C. ALLEN, *Clerk*.

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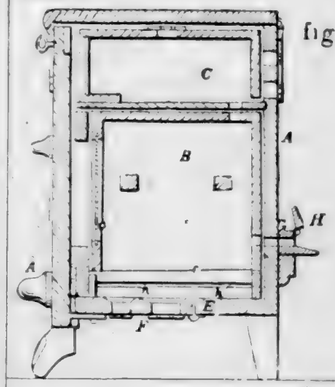
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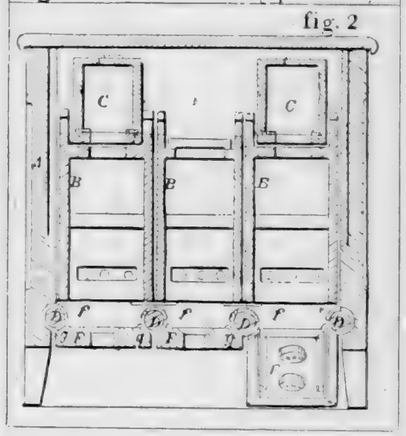
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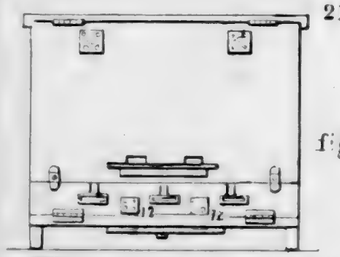
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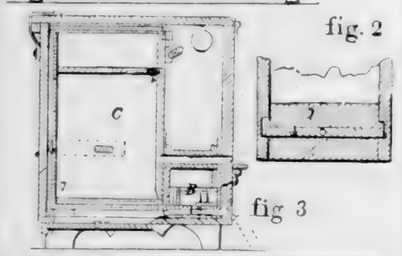
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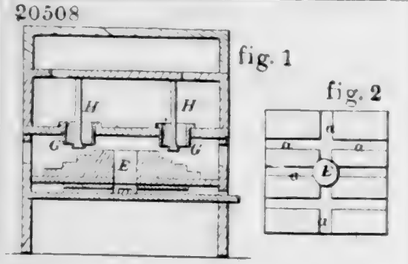


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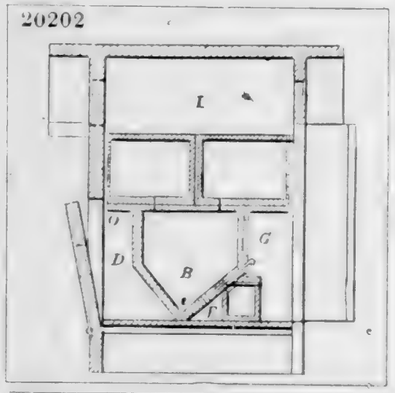




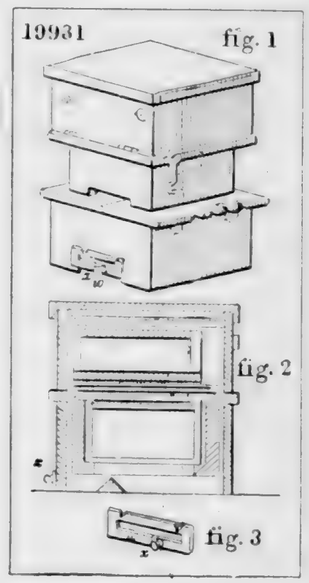
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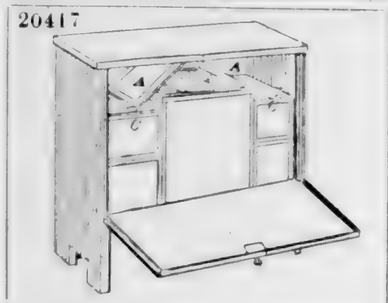
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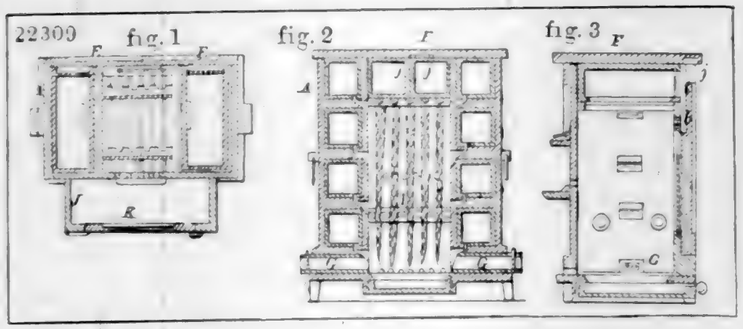
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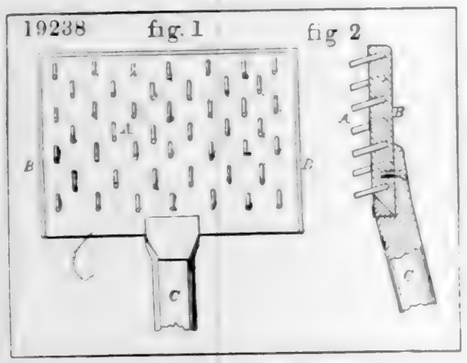
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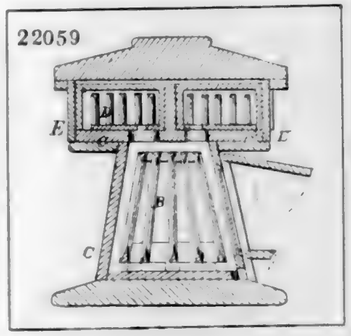
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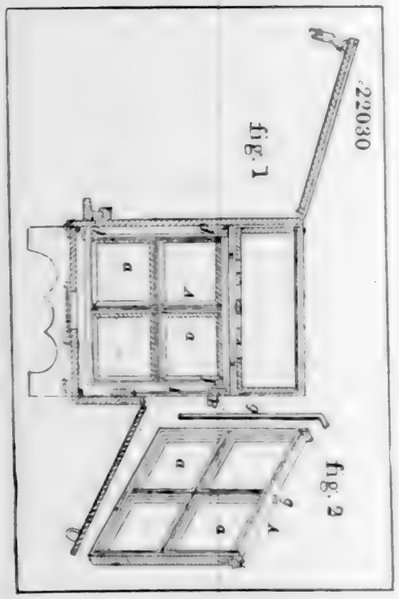
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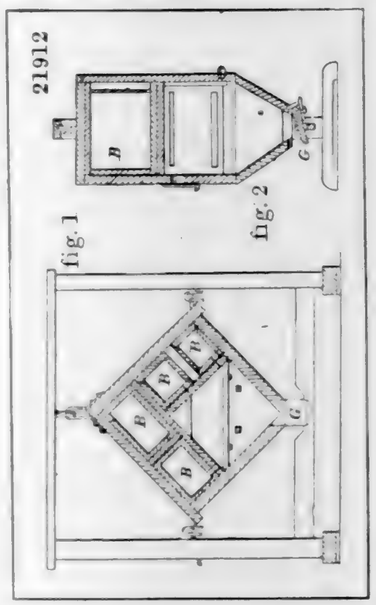
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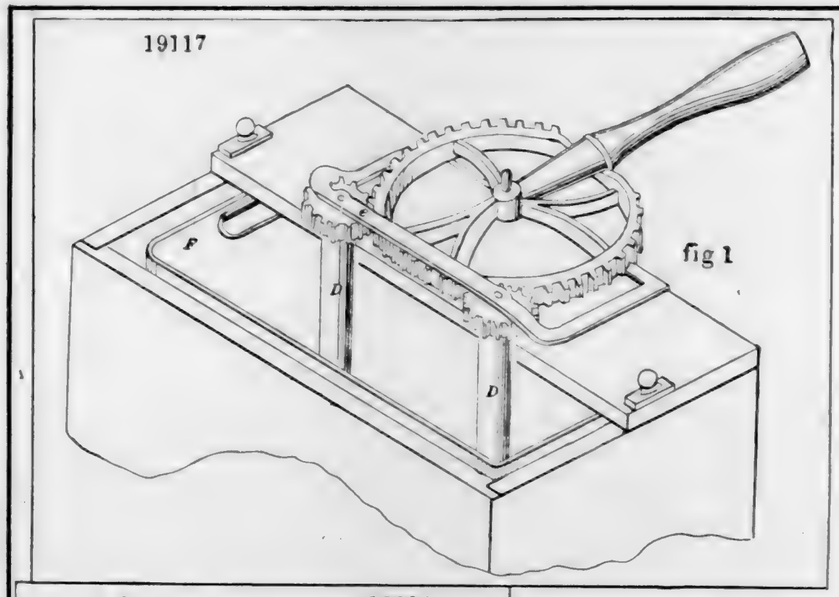
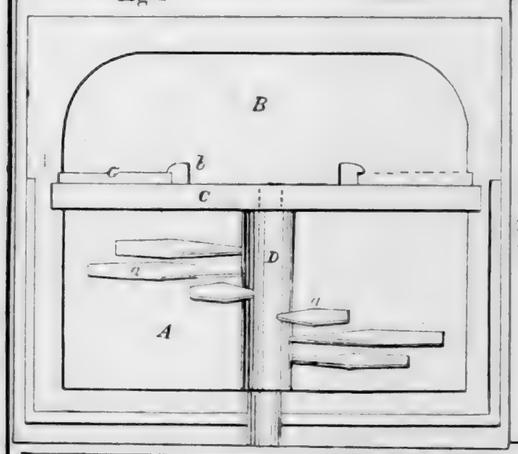


fig 2 19034



19117 fig 2

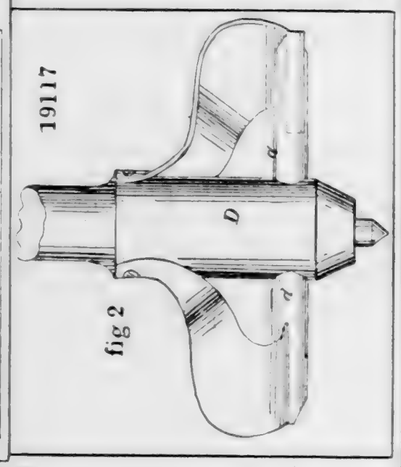
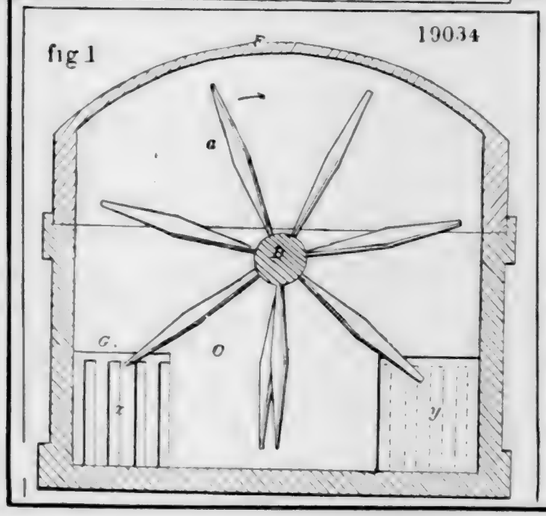
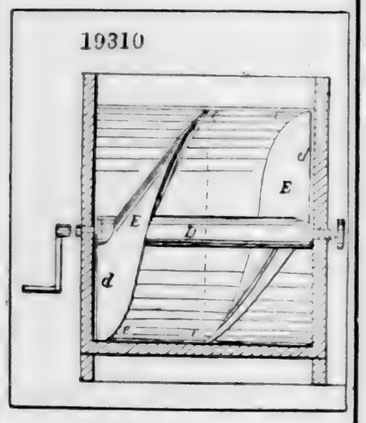


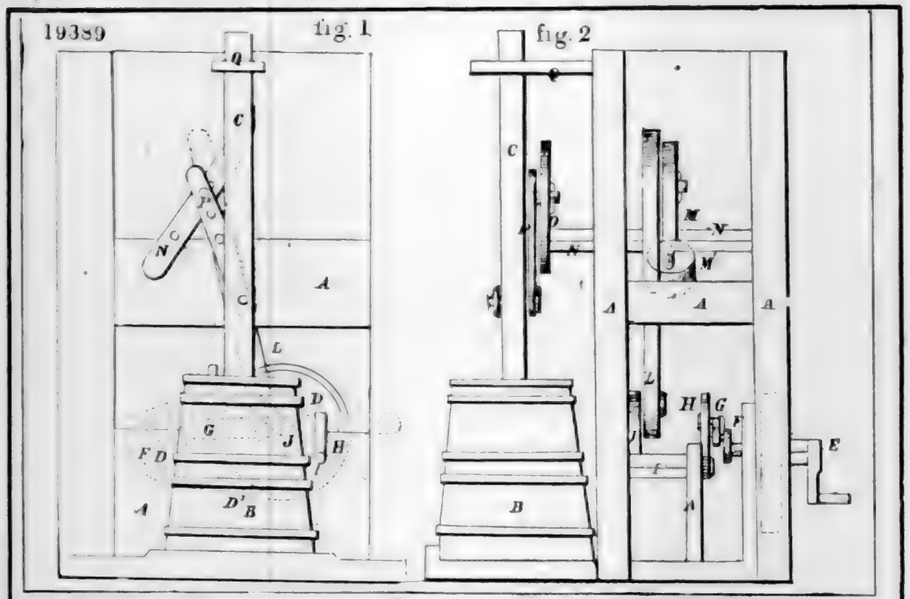
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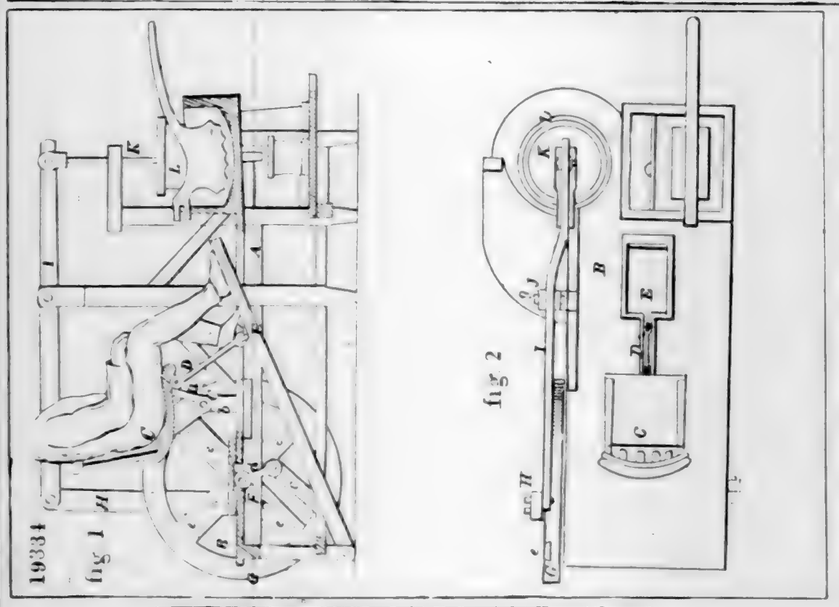
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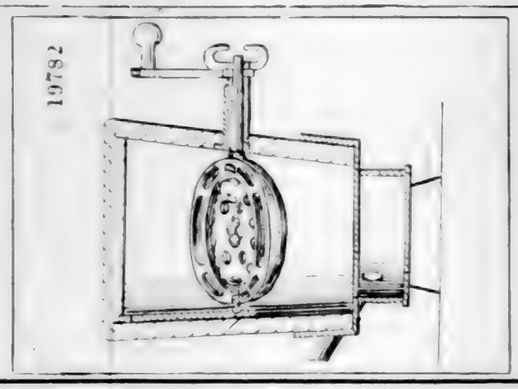
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19334 fig 1 fig 2



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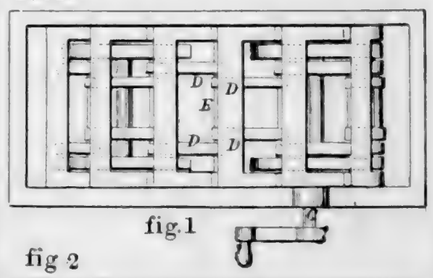
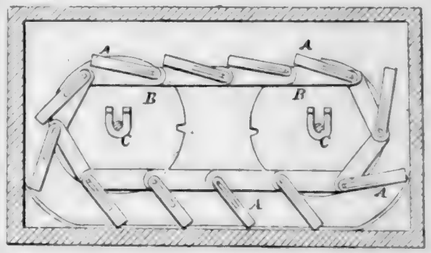
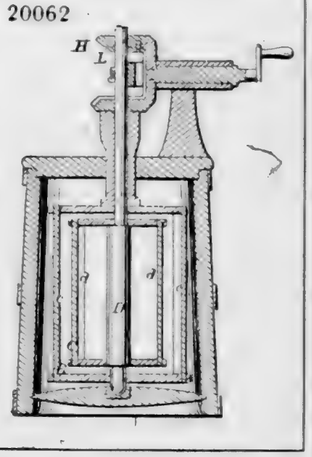


fig.1

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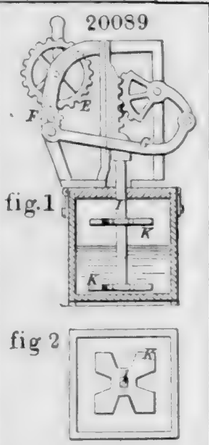
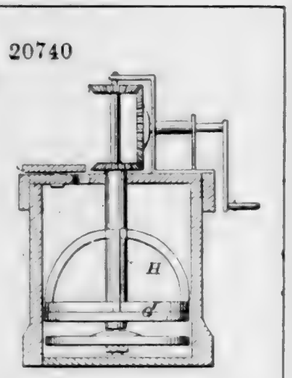
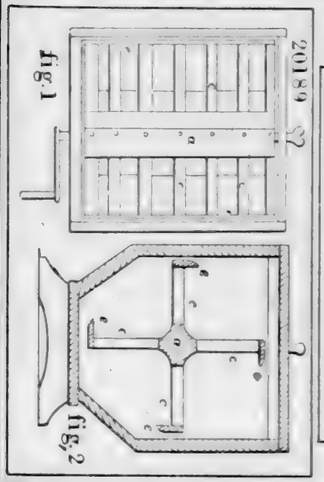


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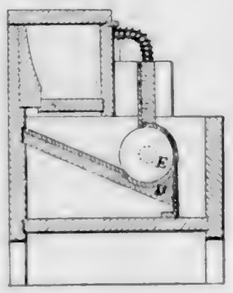
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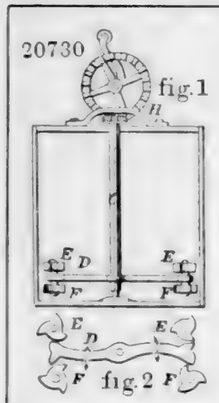
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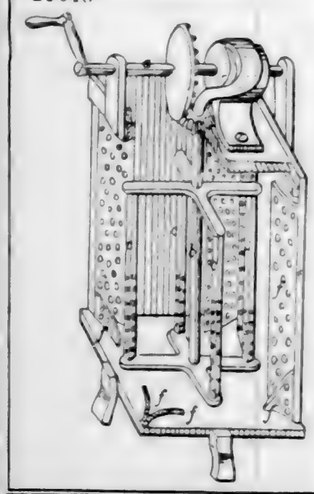
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20730 fig.1 fig.2



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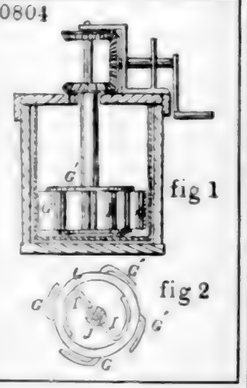


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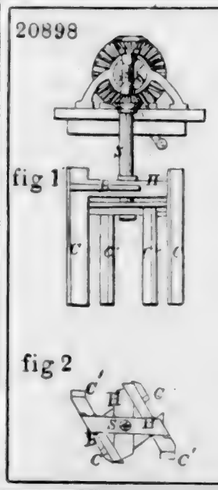
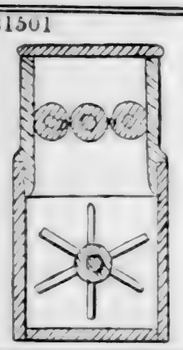


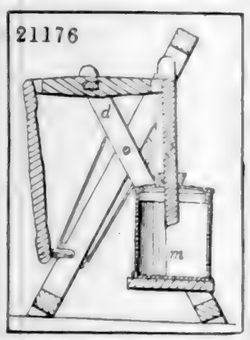
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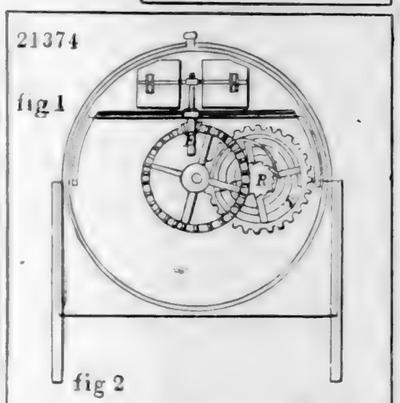


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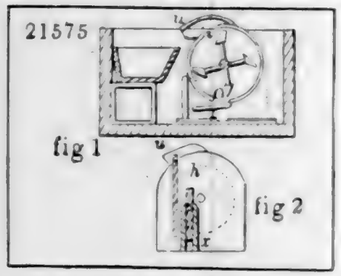


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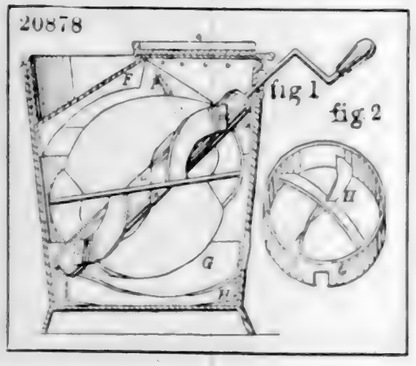
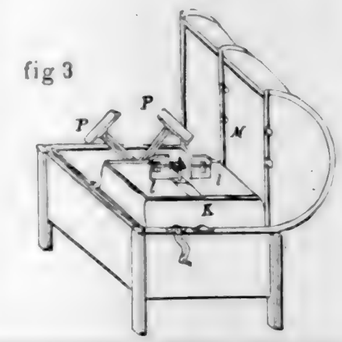


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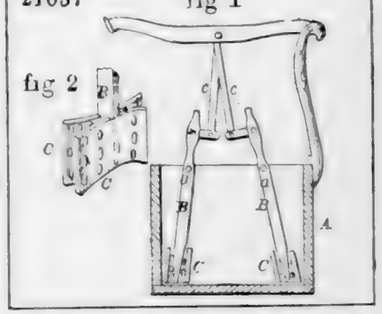
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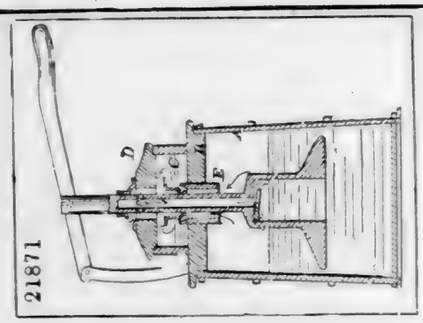
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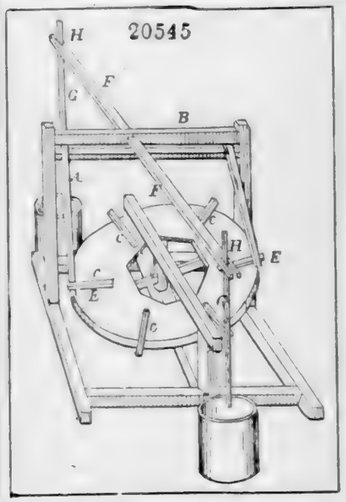
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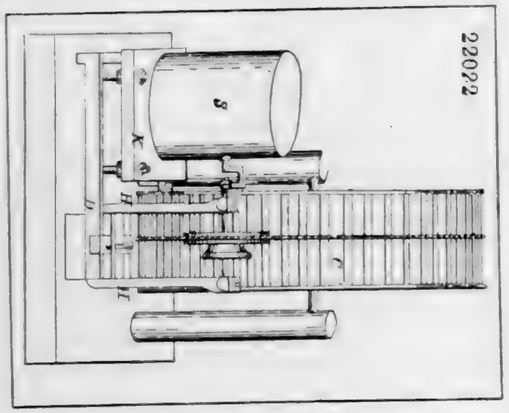
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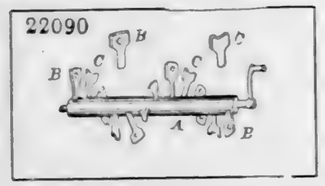
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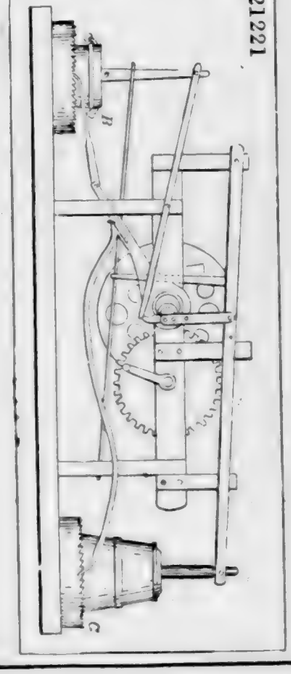
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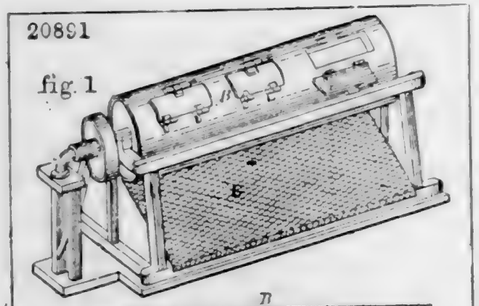
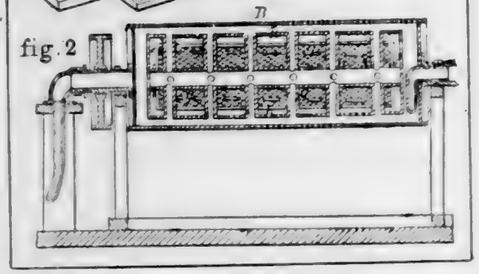
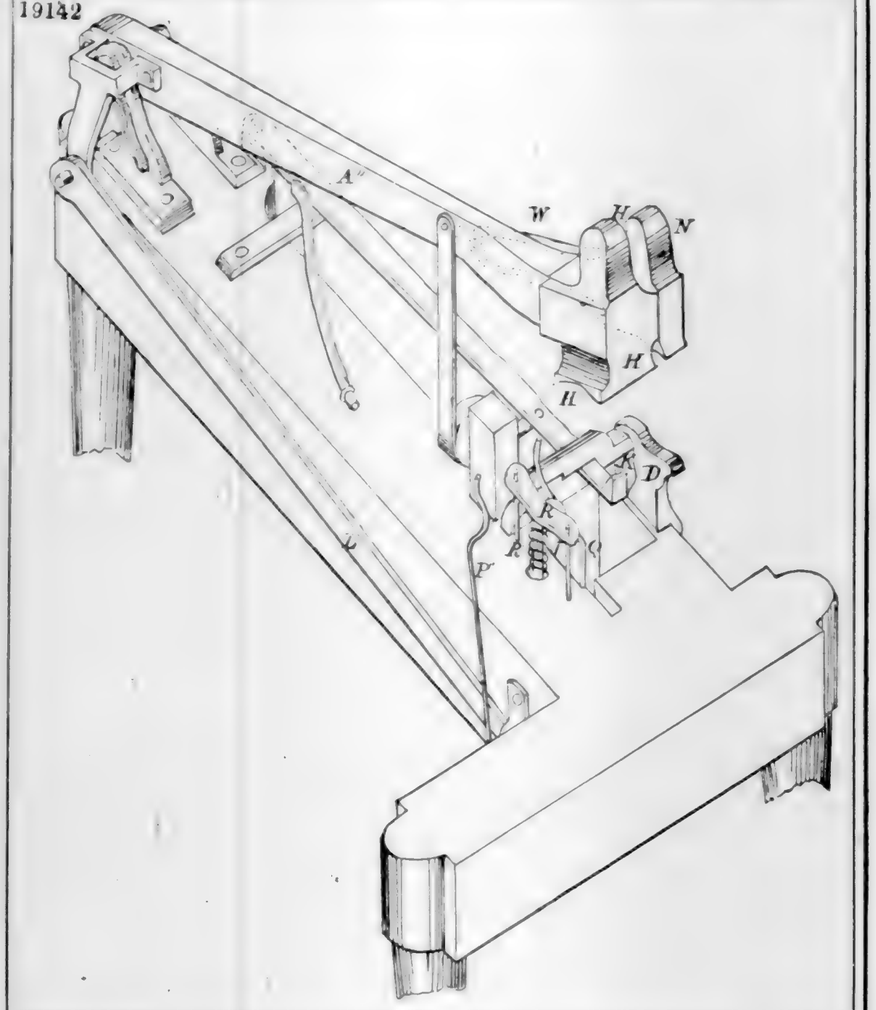


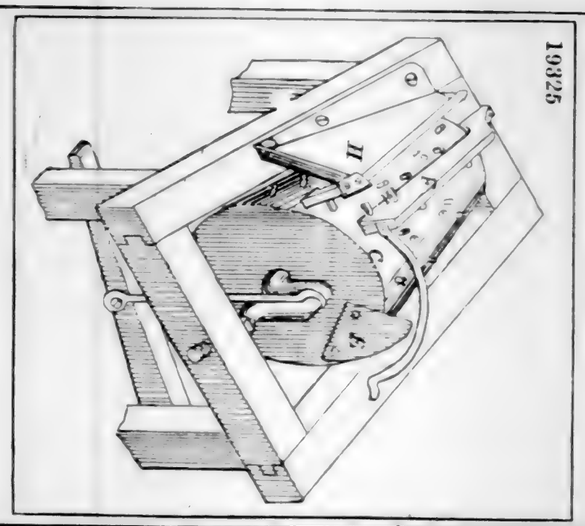
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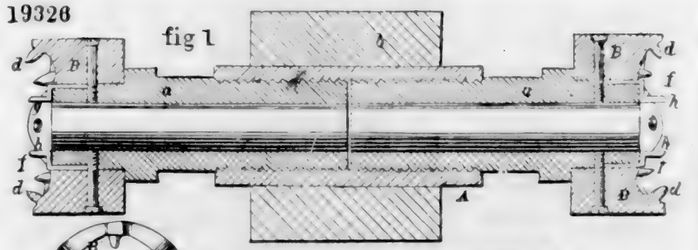


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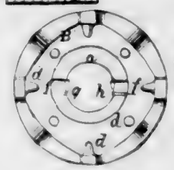
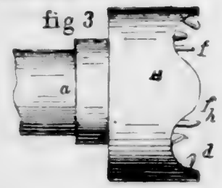
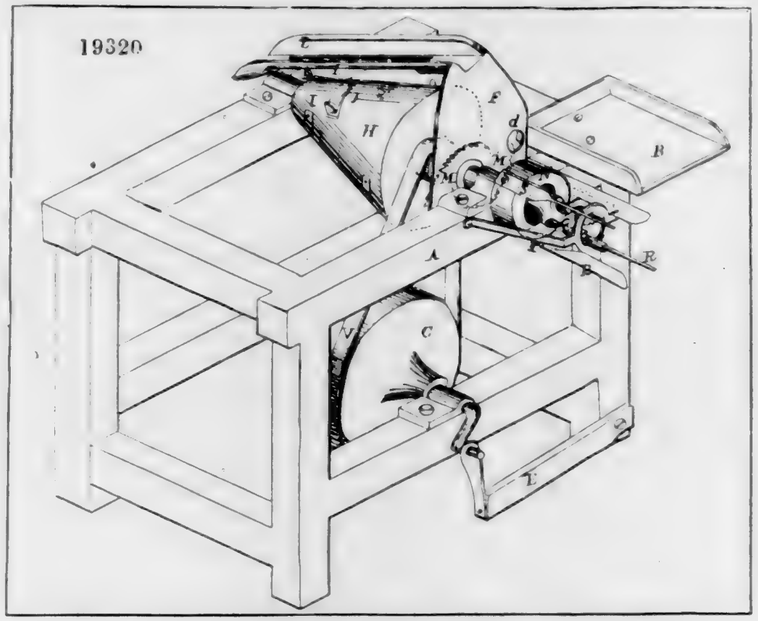


fig 3



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19458

fig 2

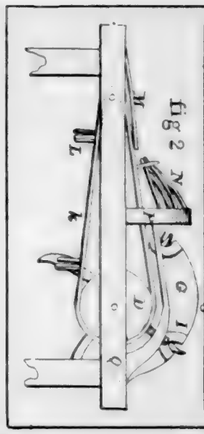
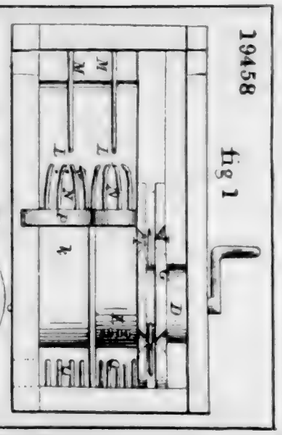


fig 1



20163

fig. 1

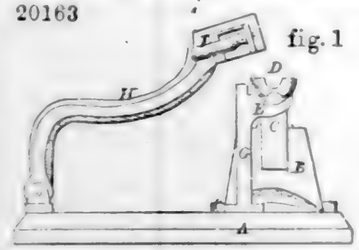
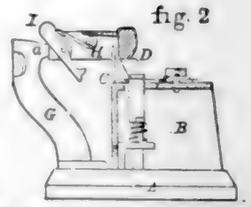
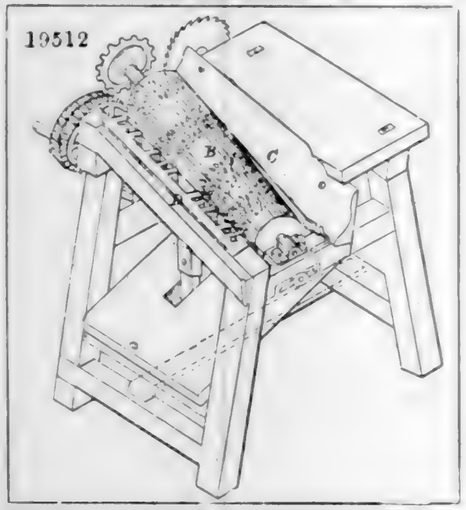


fig. 2



19512



20360

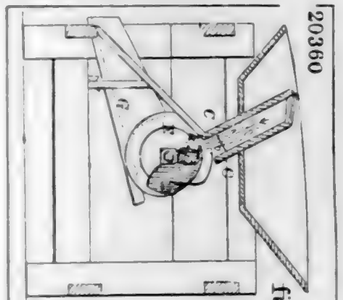


fig. 1



fig. 2

19552

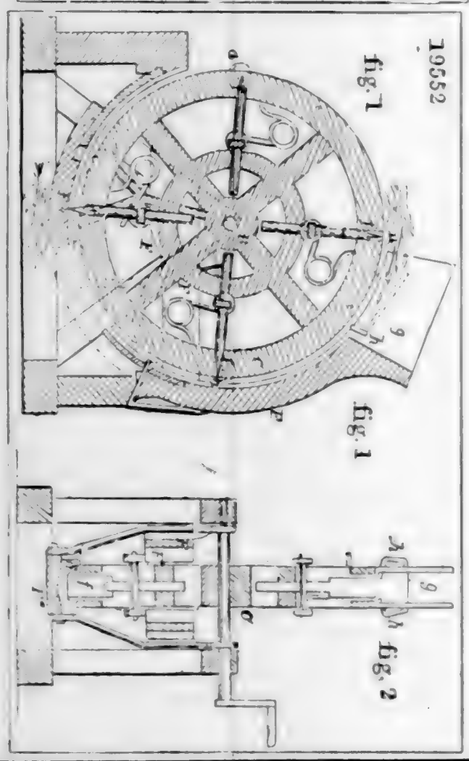
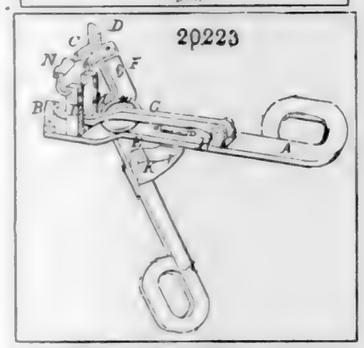


fig. 1

fig. 2

20223



20253 fig. 1

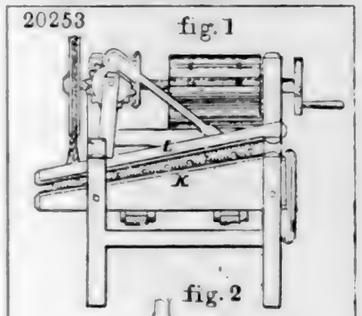


fig. 2

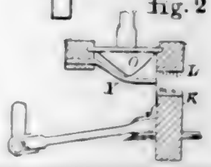
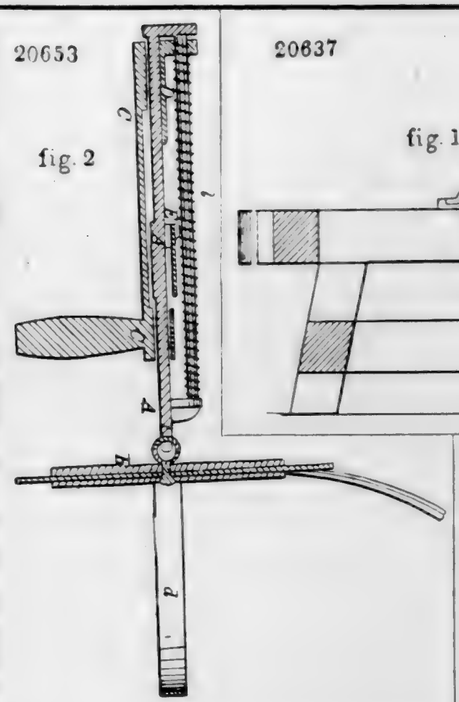


fig. 2

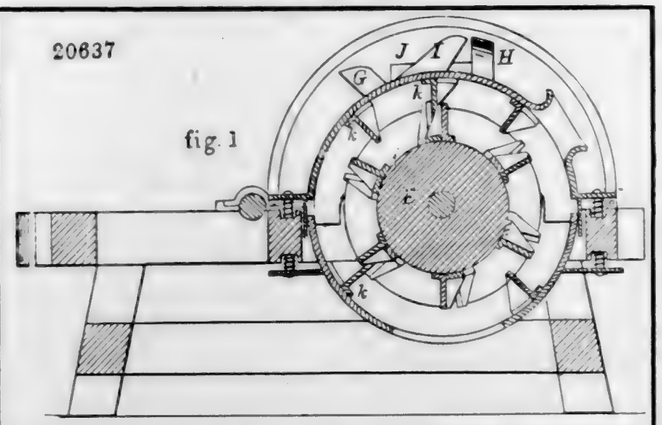
20653

fig. 2

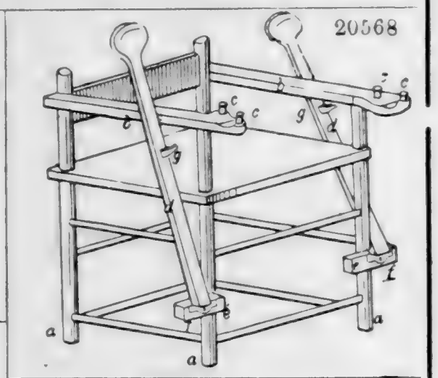


20637

fig. 1



20568



20637

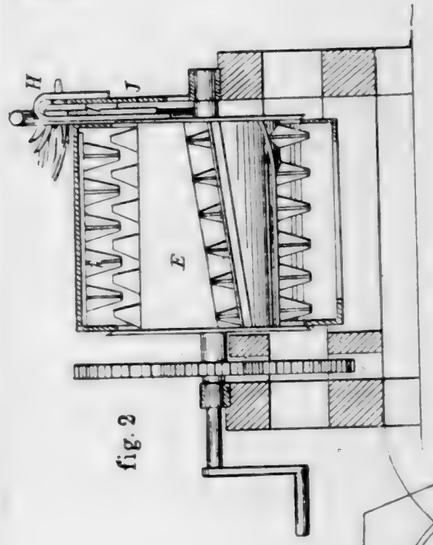


fig. 2

20653

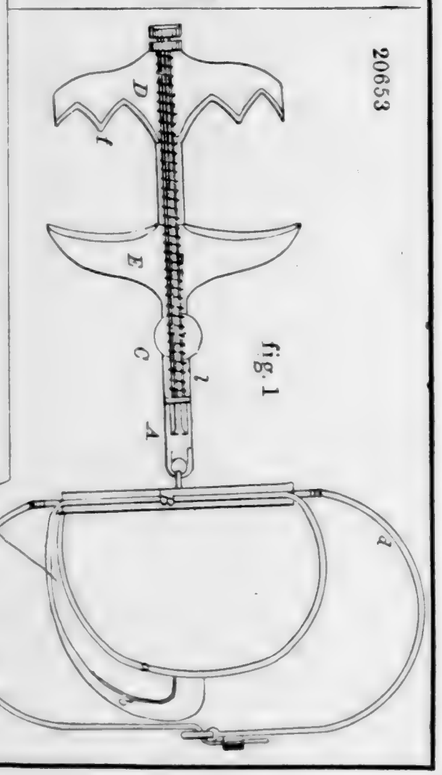
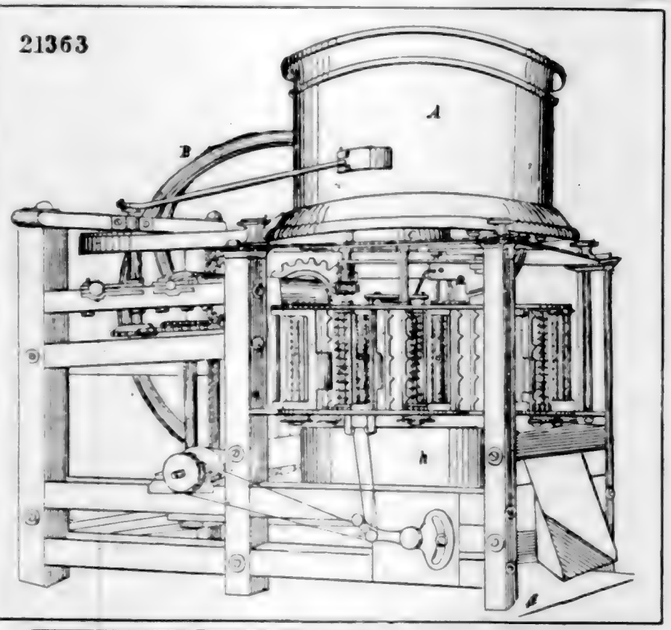


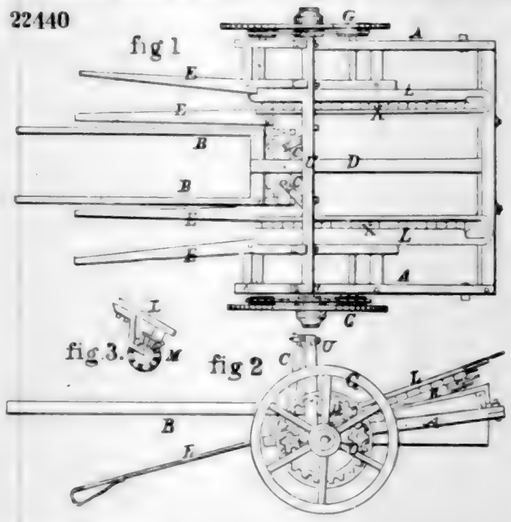
fig. 1

21363

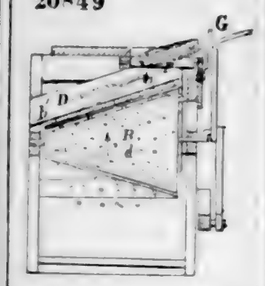


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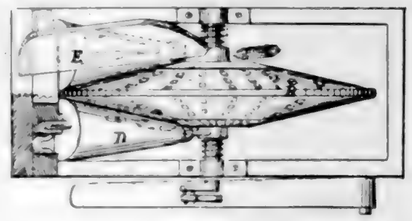
fig 1



20849



21522



19160

fig 1

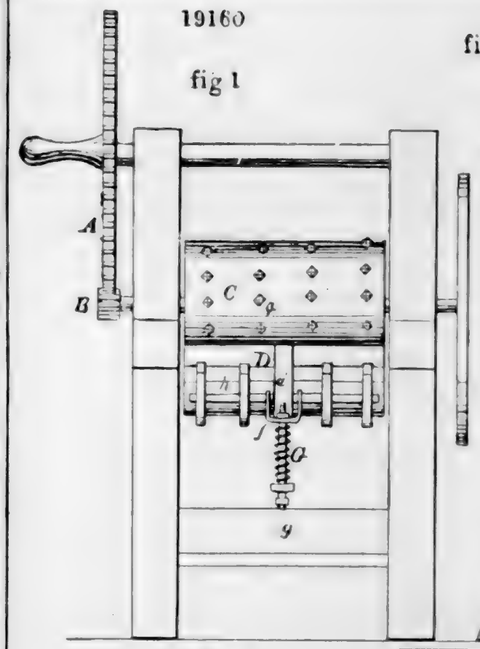


fig 2

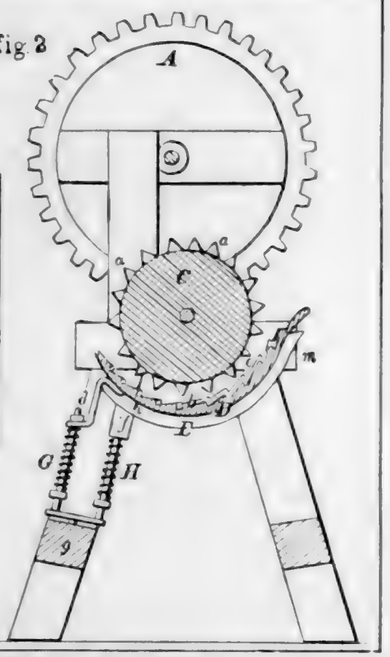
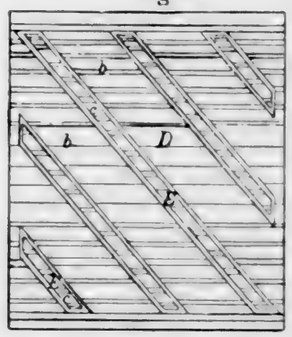
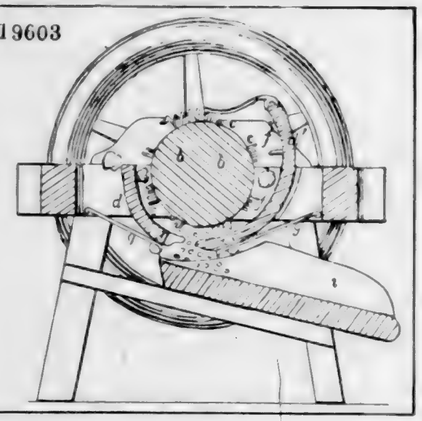


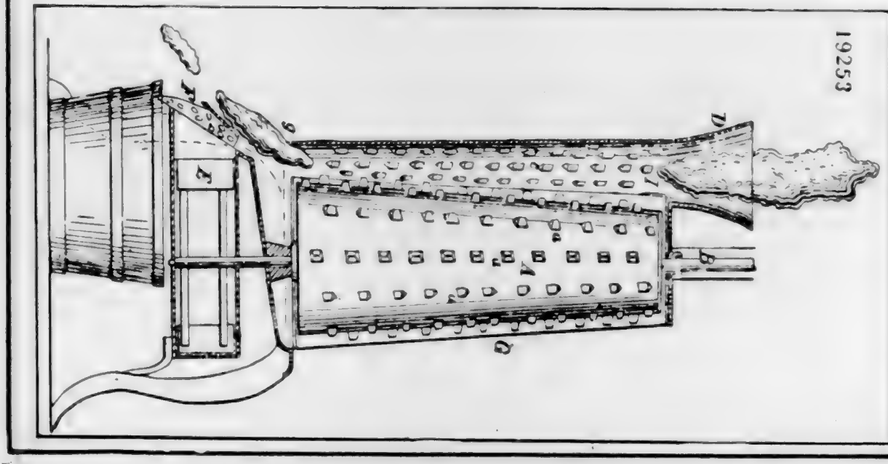
fig. 3



19603



19253



19862

fig. 1

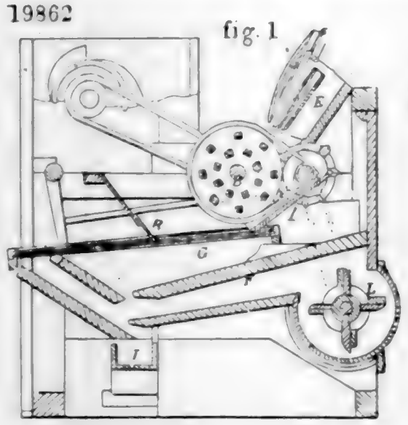
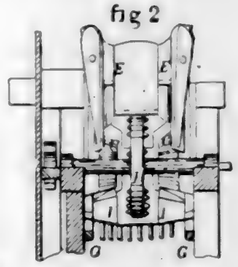
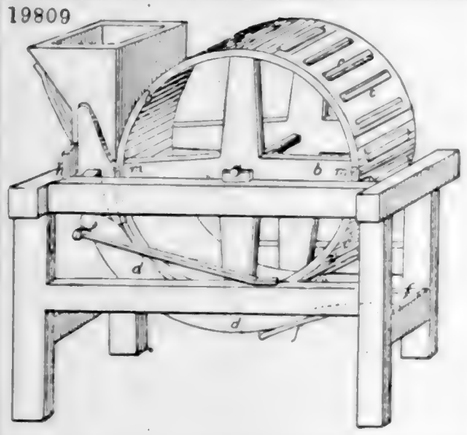


fig 2



19809



20266

fig. 1

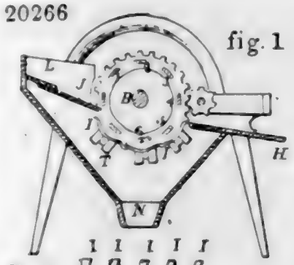
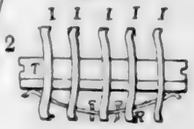


fig 2



19915

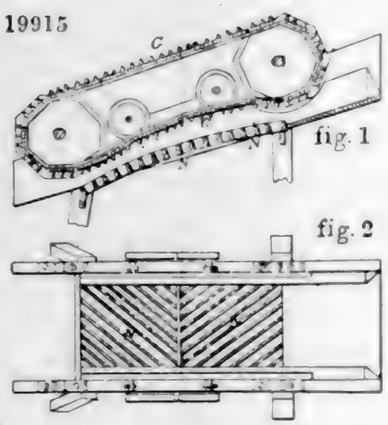
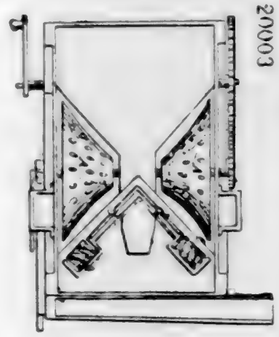


fig. 1

fig. 2

20003



20650

fig. 1

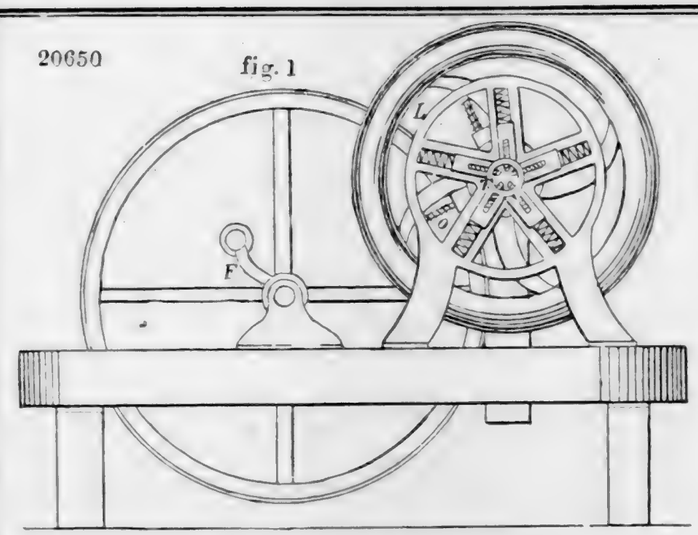


fig. 2

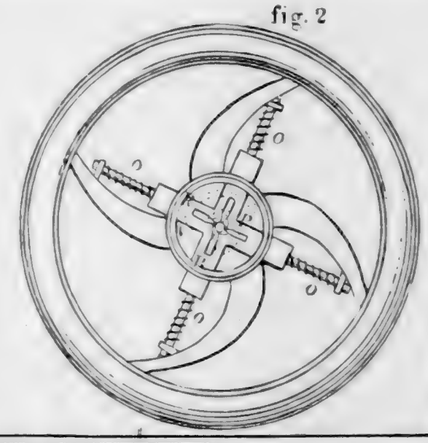


Fig 3



20831

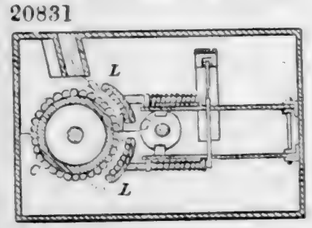


fig. 2

fig. 1



21174



fig. 1

fig. 2

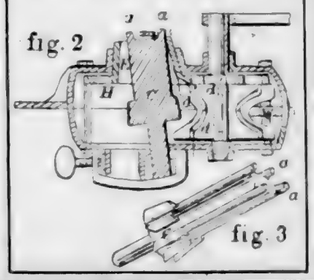


fig. 3

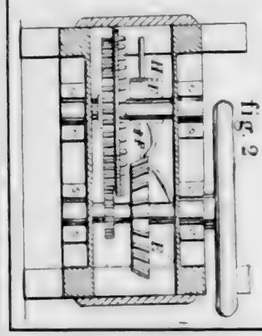


fig. 2

21504

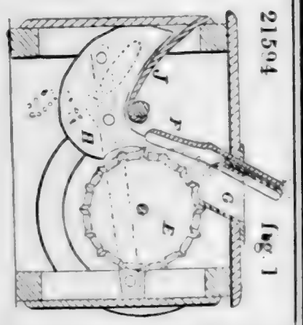
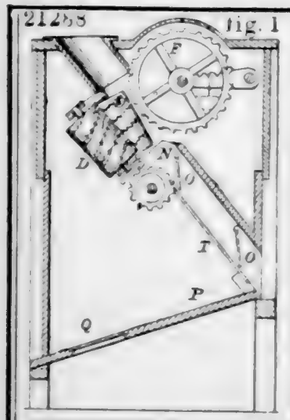


Fig. 1

21258 fig. 1



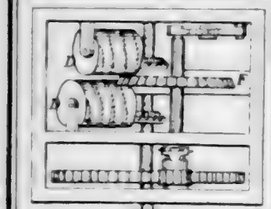


fig. 2

22206

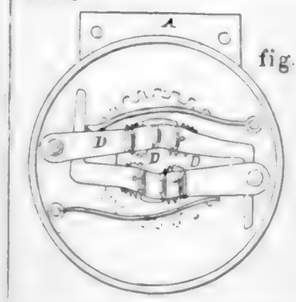


fig. 1

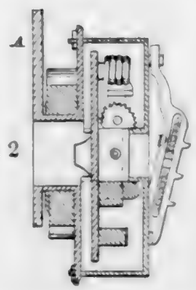
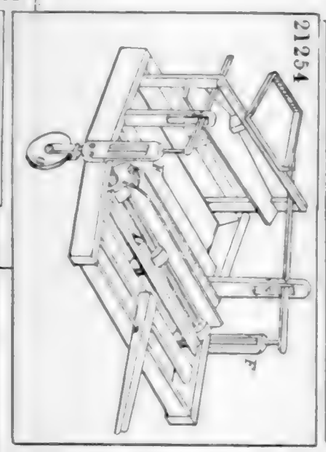
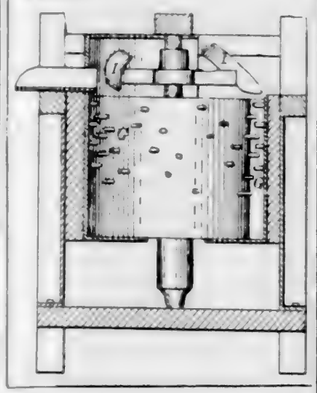


fig. 2



21254

19561



19311

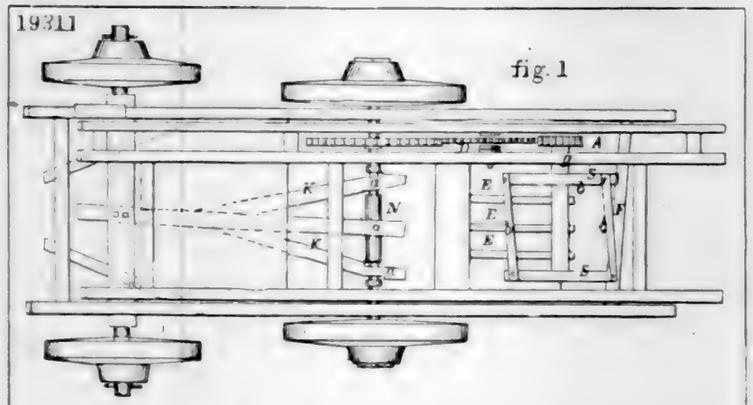


fig. 1

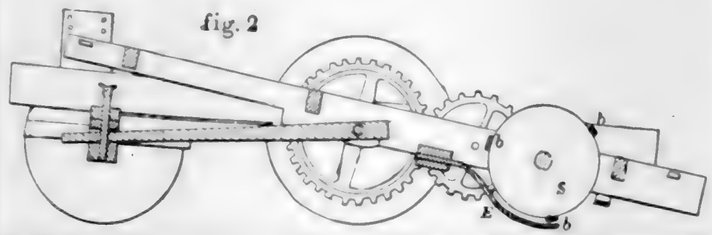


fig. 2

21667

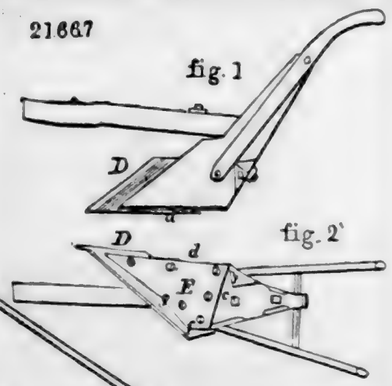
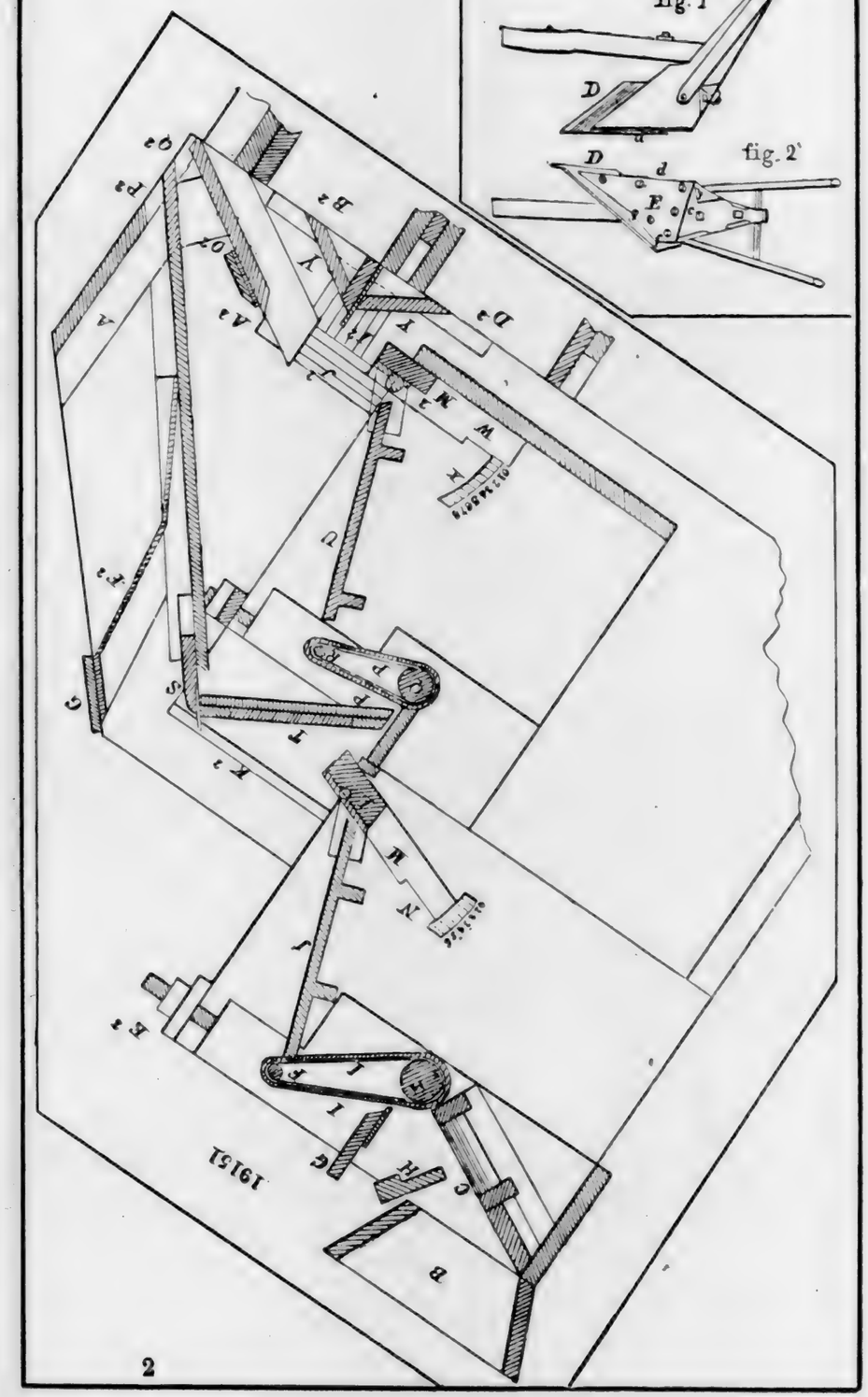


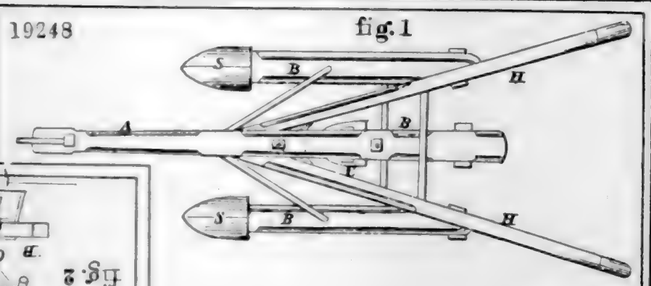
fig. 1

fig. 2



19248

fig. 1



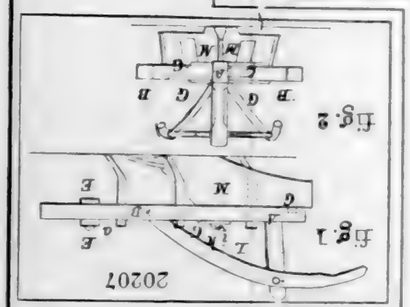
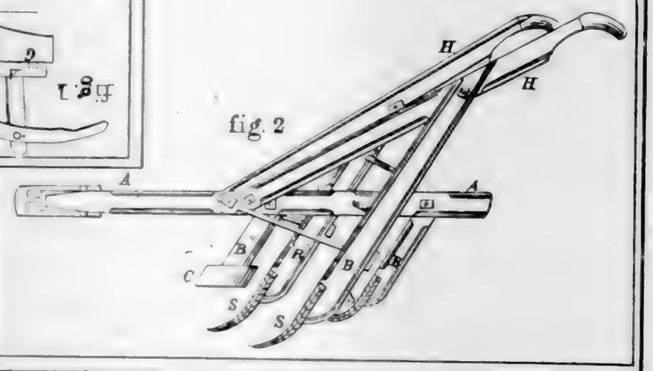


fig. 2



19684

fig. 3



fig. 2

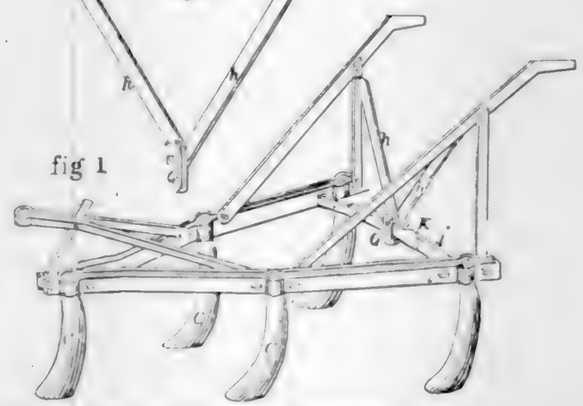


fig 1

19742

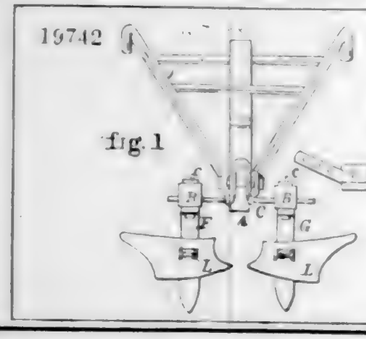
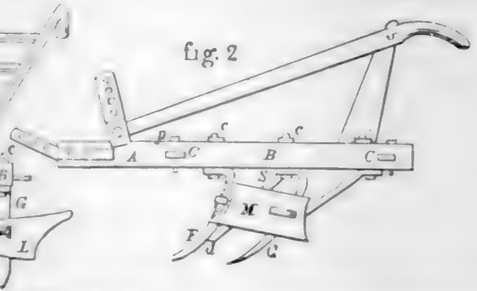
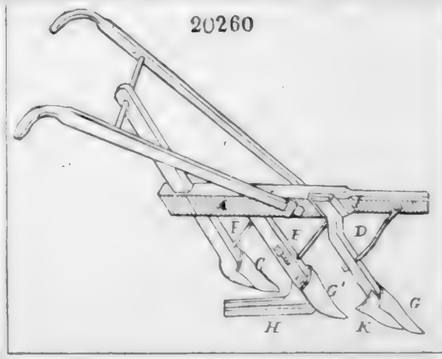


fig. 1

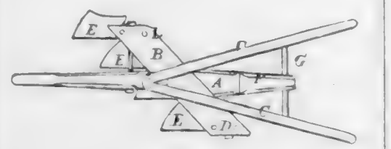
fig. 2



20260



20712



21170

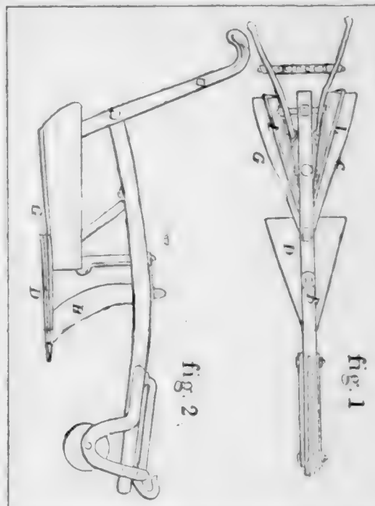


fig. 2

fig. 1

20798

fig. 1

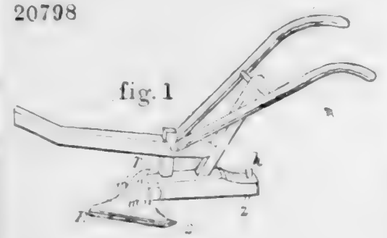
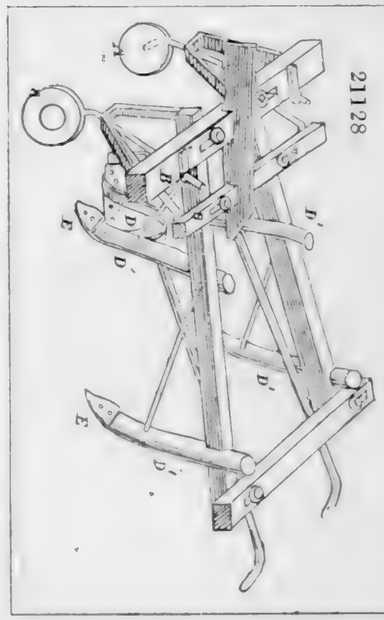


fig. 2



21128



21055

fig. 1

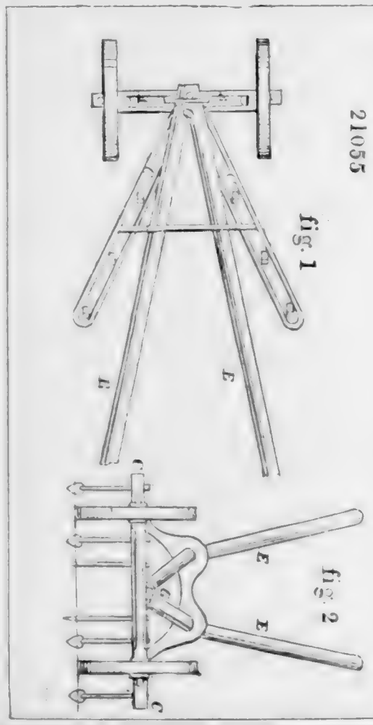
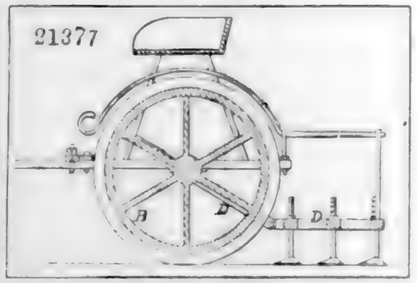
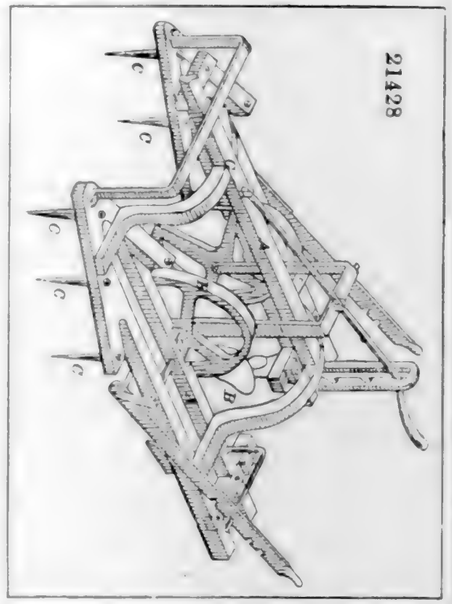


fig. 2

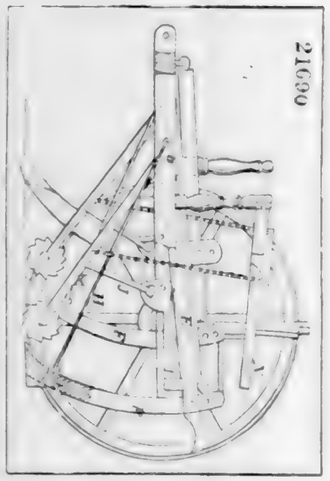
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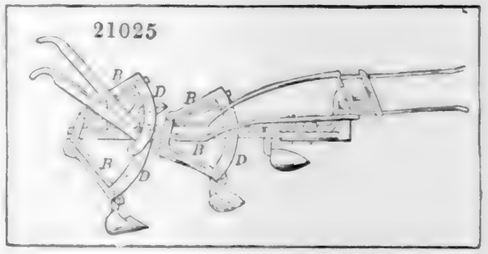
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21690



21025



21739

fig. 1

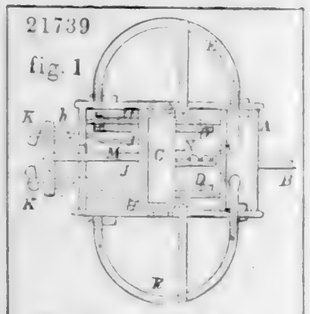
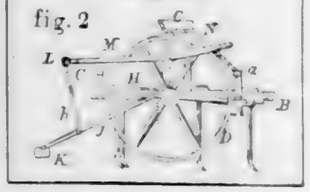


fig. 2



21789

fig. 1

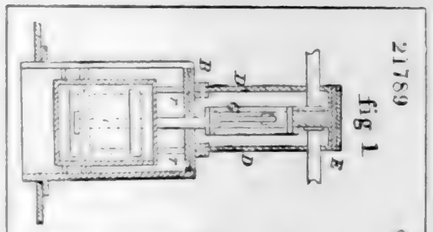
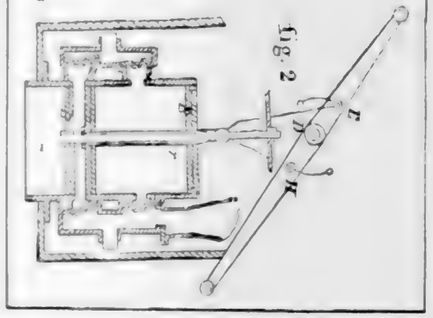


fig. 2



21857

fig. 1

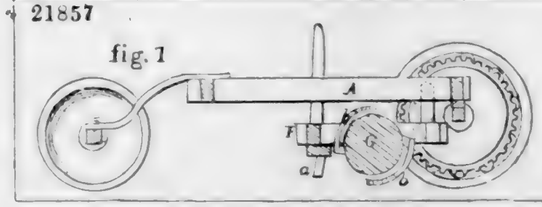
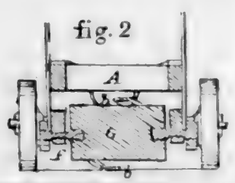
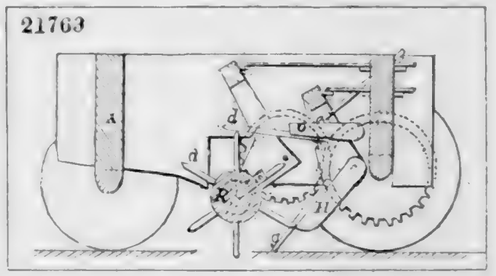


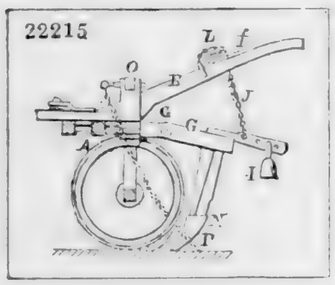
fig. 2



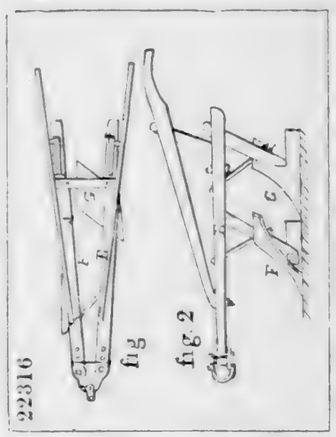
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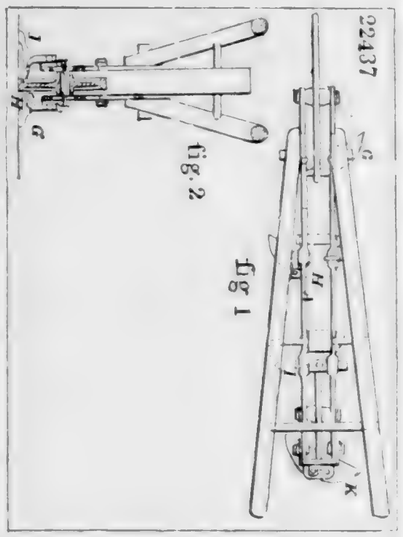


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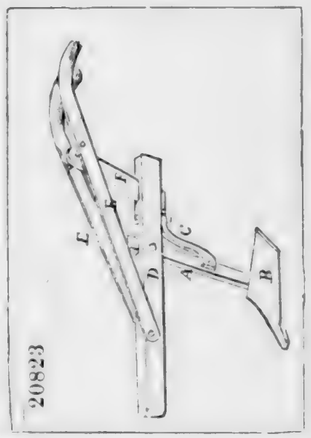


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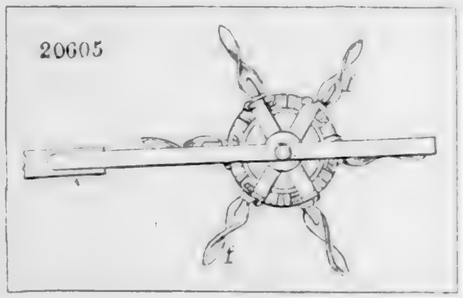
fig. 2



20823



20605



19234

fig. 1

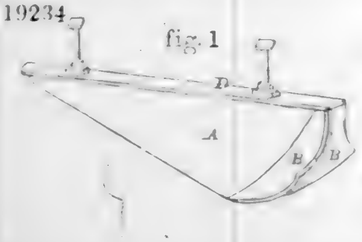
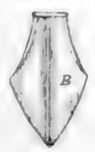
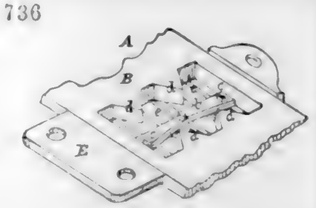


fig. 2



21736



21212

fig. 1

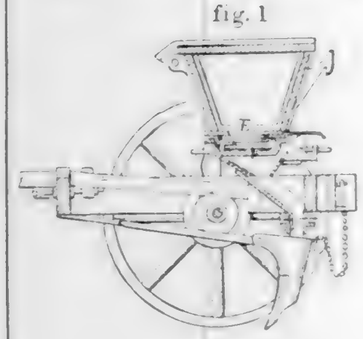
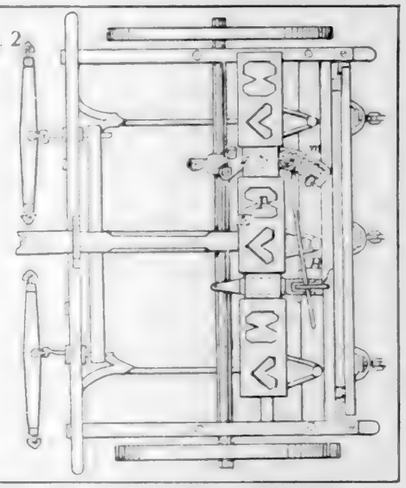


fig. 2



19633

fig. 1

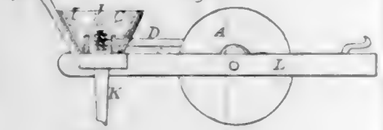
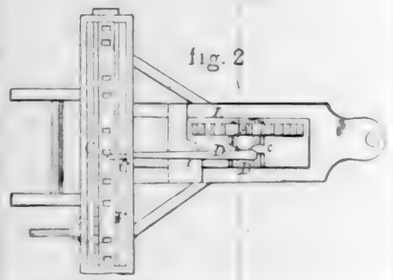
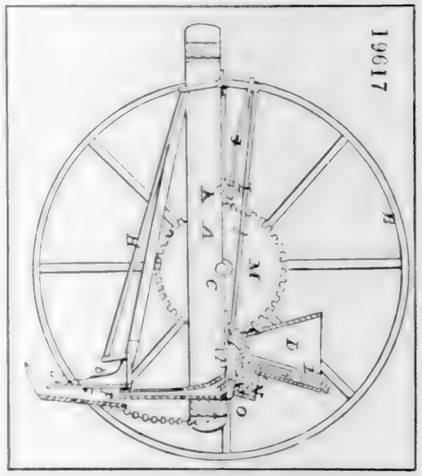


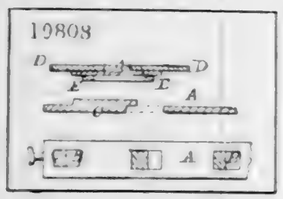
fig. 2



19617



19808



19924

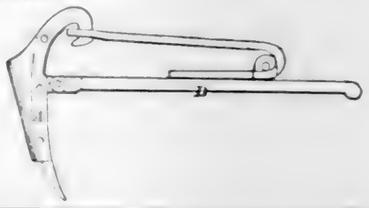
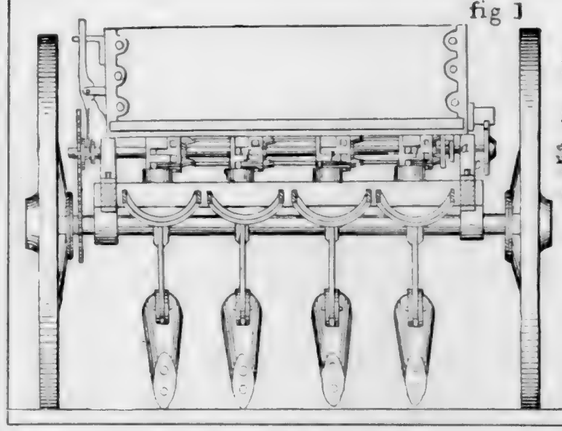
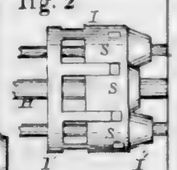


fig 1



20603

fig. 2



20946

fig. 1

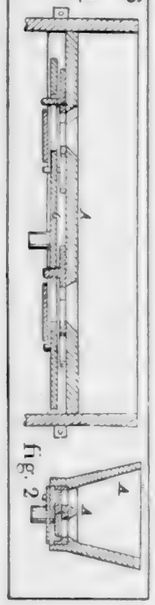


fig. 2



20377

fig. 1

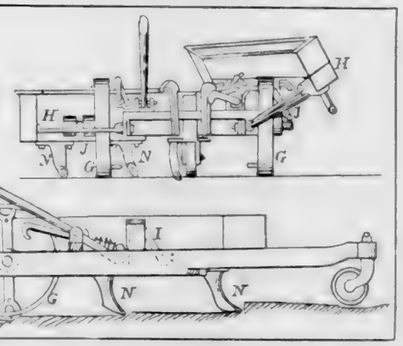


fig. 2

21042

fig. 1

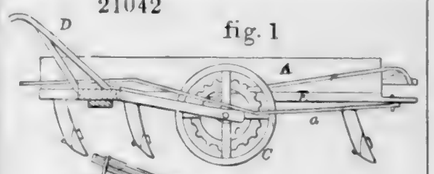
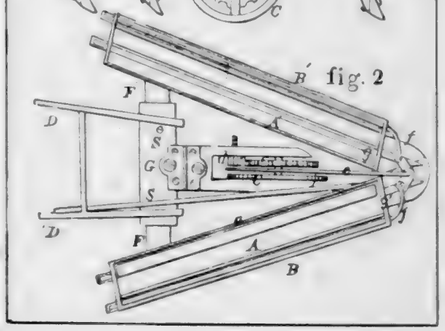


fig. 2



21316

fig. 1

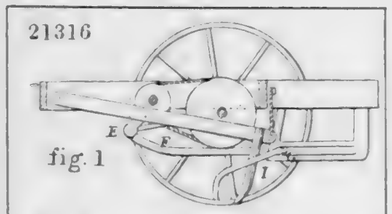
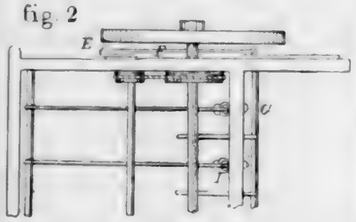
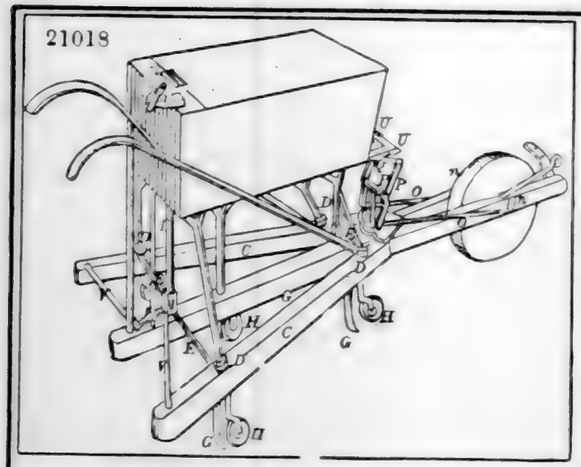


fig. 2



21018



22078

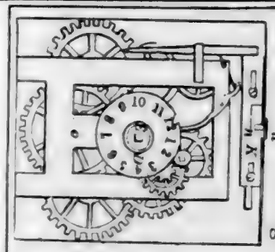


fig. 1

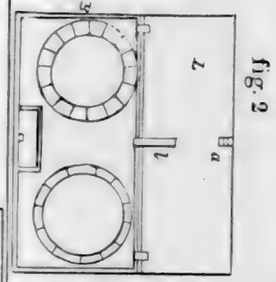


fig. 2

21715

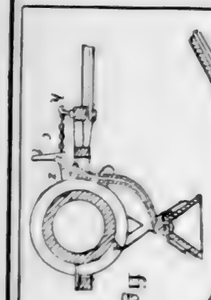


fig. 2

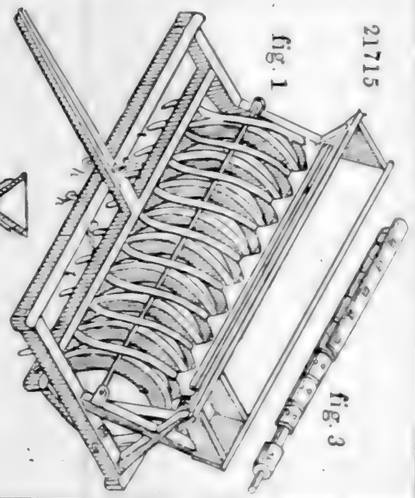


fig. 1

fig. 3

19457



19663

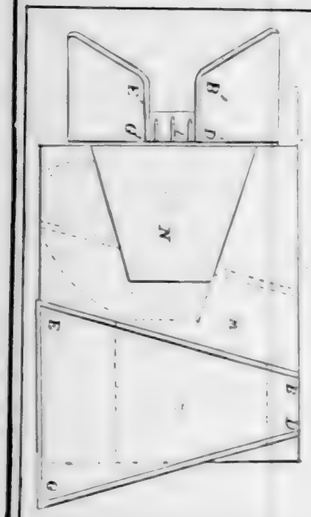


fig. 2

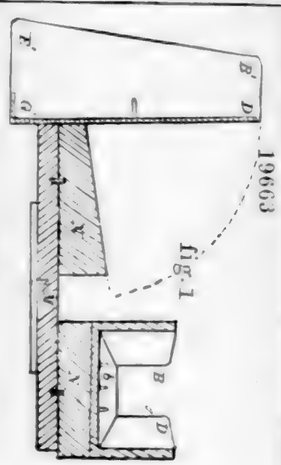
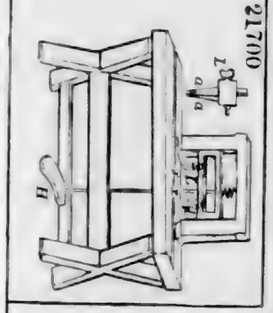


fig. 1

21700



20196

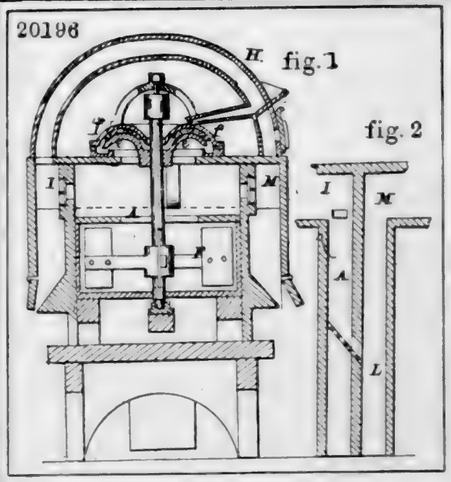


fig. 1

fig. 2

20899

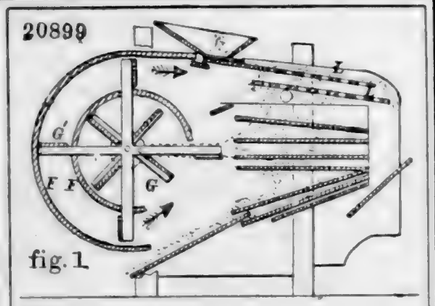


fig. 1

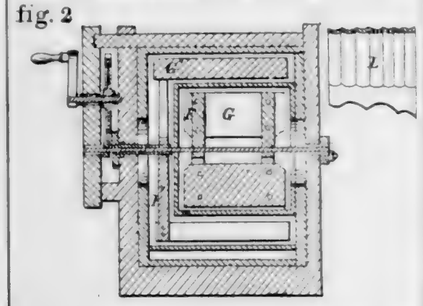


fig. 2

20581

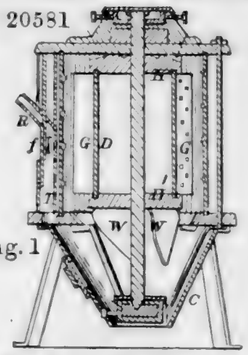


fig. 1

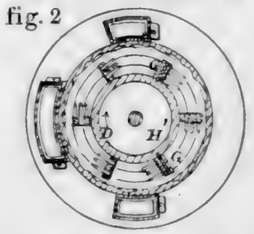
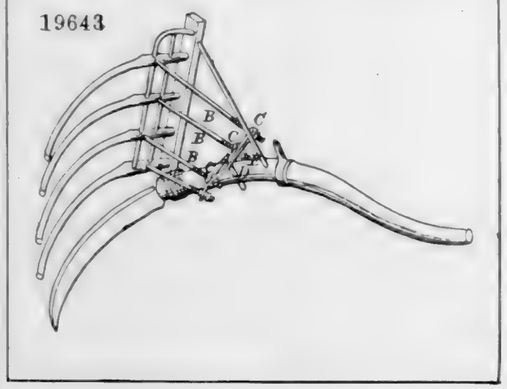
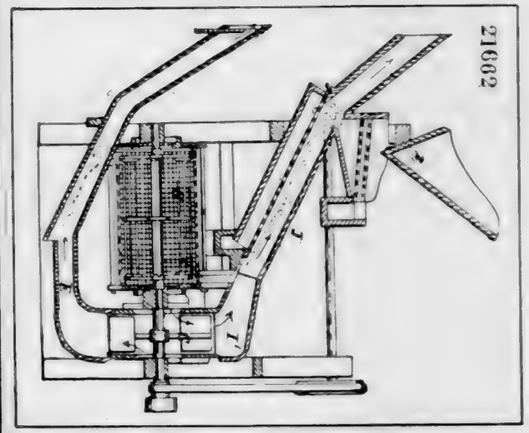


fig. 2

19643



21692



20425

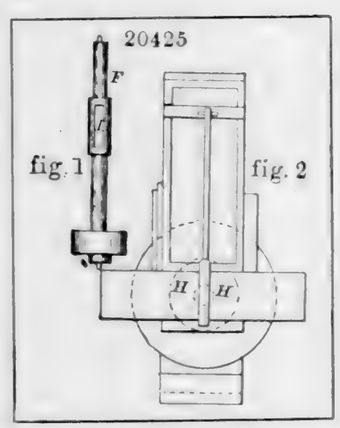
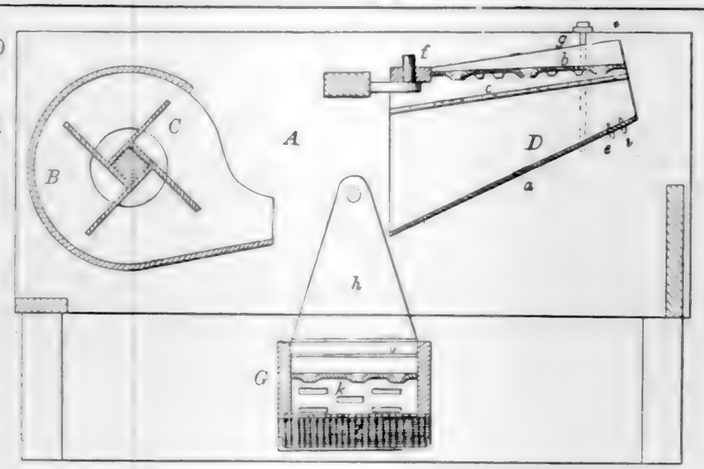


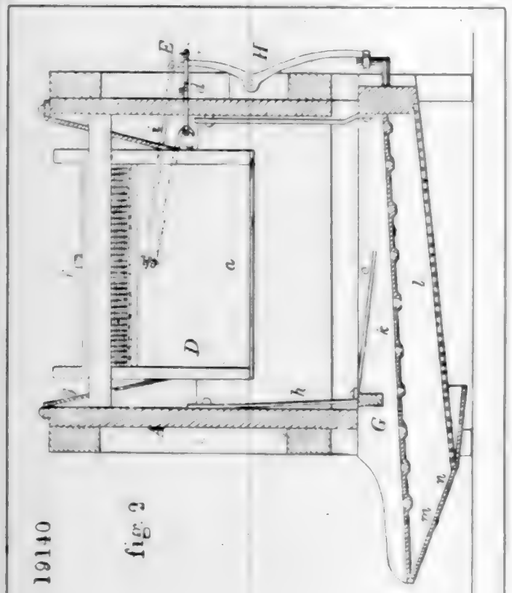
fig. 1

fig. 2

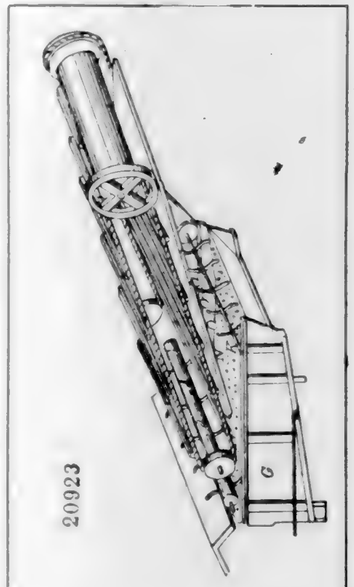
19140

fig. 1





19140 fig. 2



20923

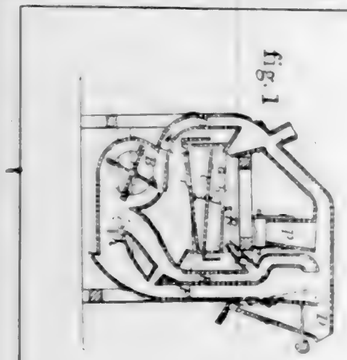


fig. 1

21036

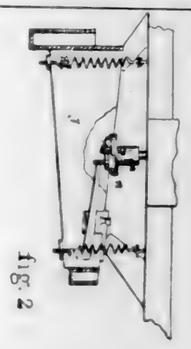


fig. 2

19899

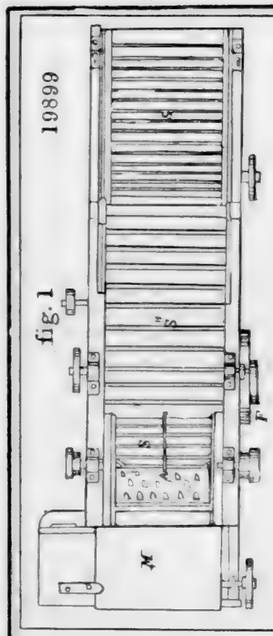


fig. 1

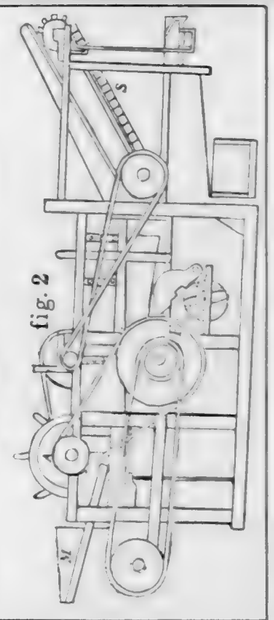


fig. 2

19877

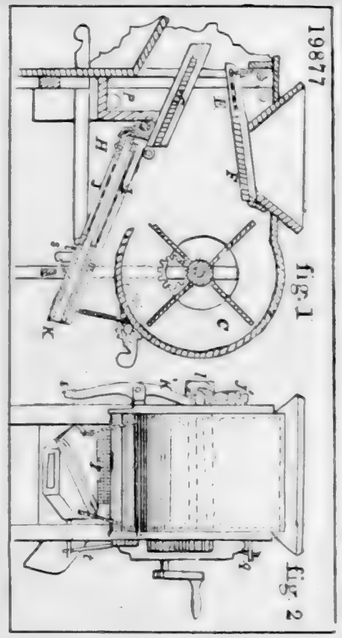


fig. 1

fig. 2

21227

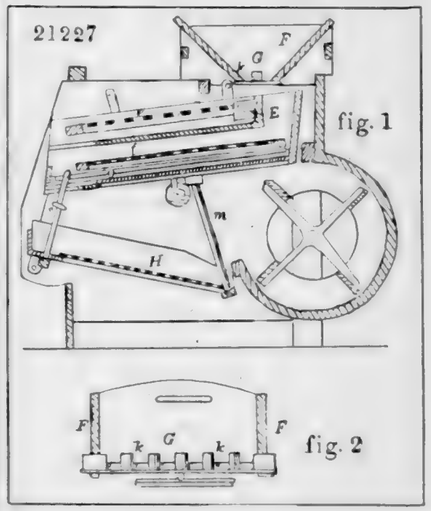
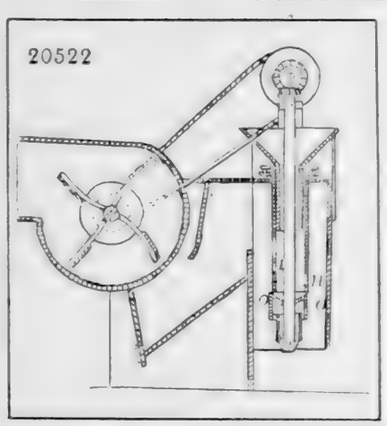


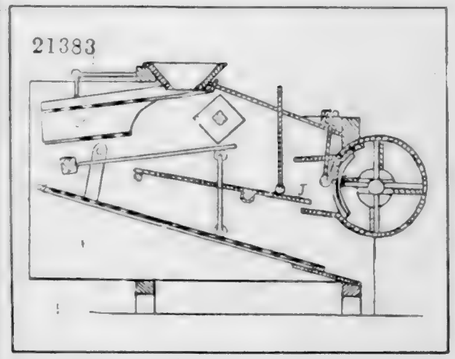
fig. 1

fig. 2

20522



21383



20735

fig. 1

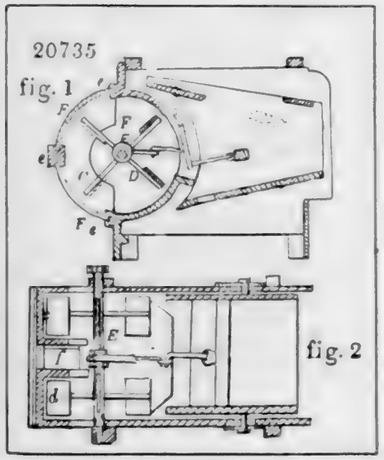


fig. 2

21573

fig. 1

fig. 2

21877

22212

21945

19281

fig. 1

fig. 2

19259

fig. 1

fig. 2

19489

20185

fig. 1

fig. 2

19494

20325

fig. 1

fig. 2

21113

fig. 1

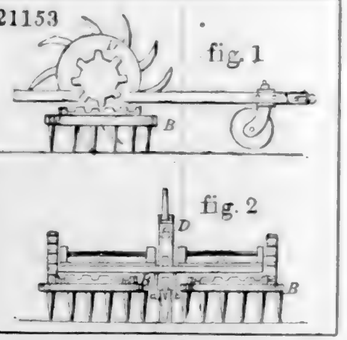
fig. 2

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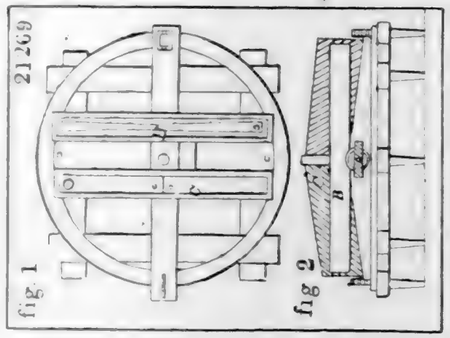
fig. 1

fig. 2

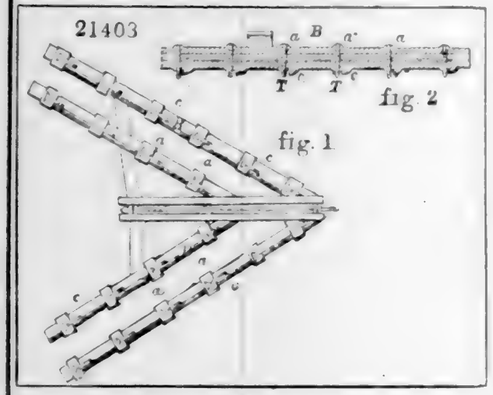
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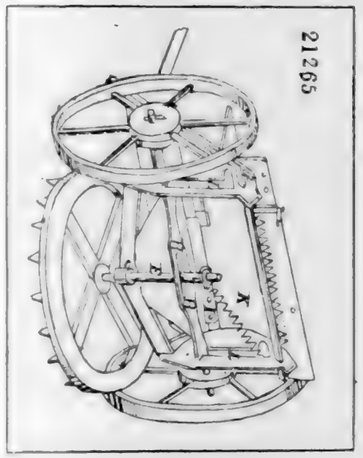
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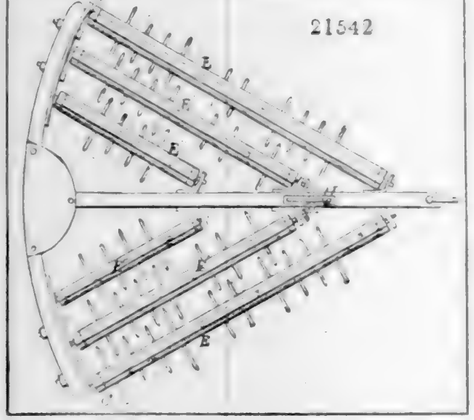
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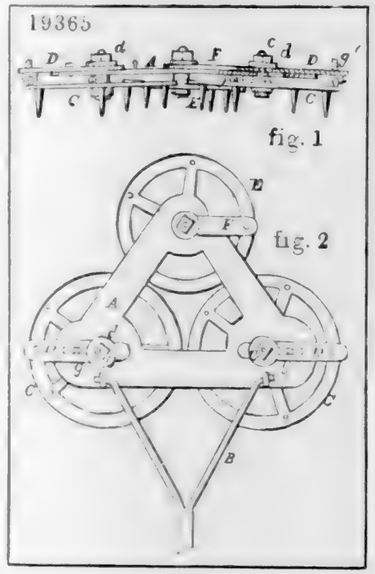
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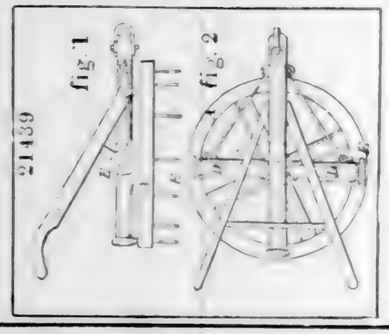
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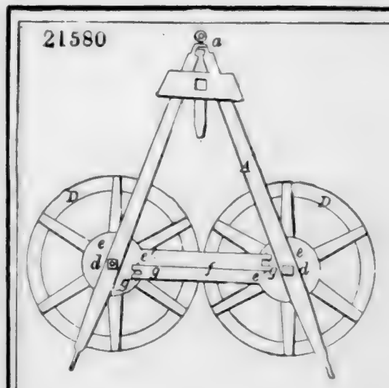
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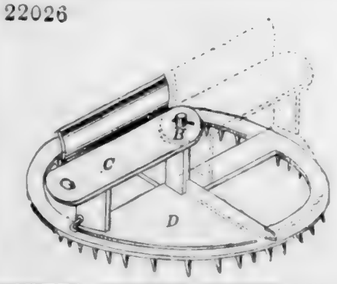
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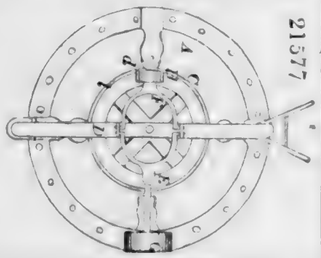
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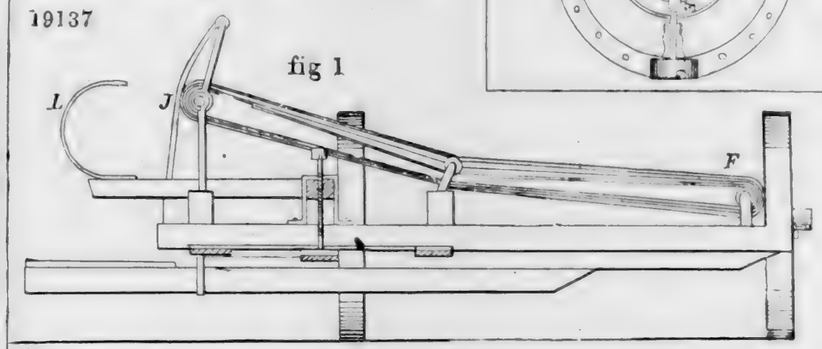
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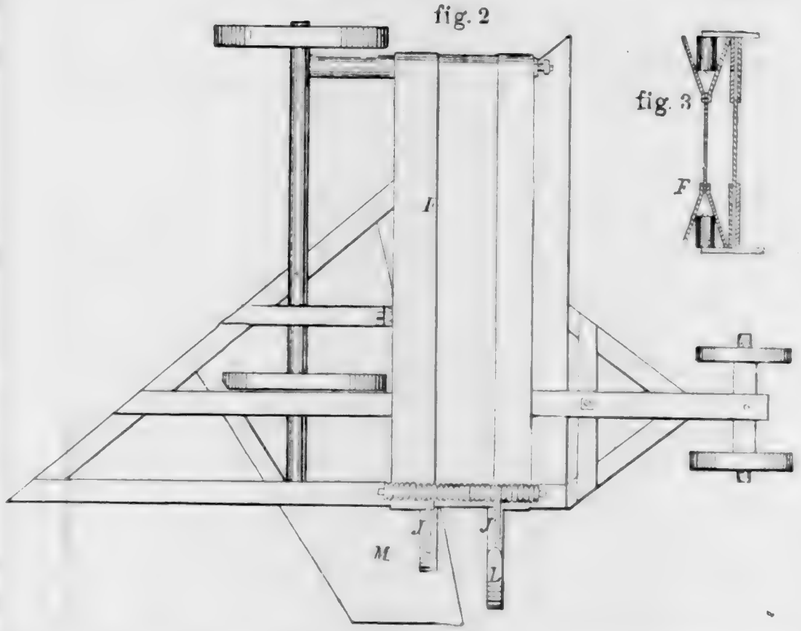


21577



19137





19055

fig. 1

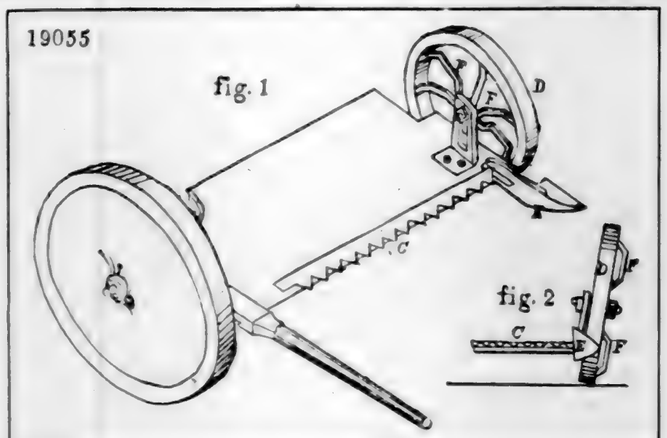


fig. 2

19218

fig. 1

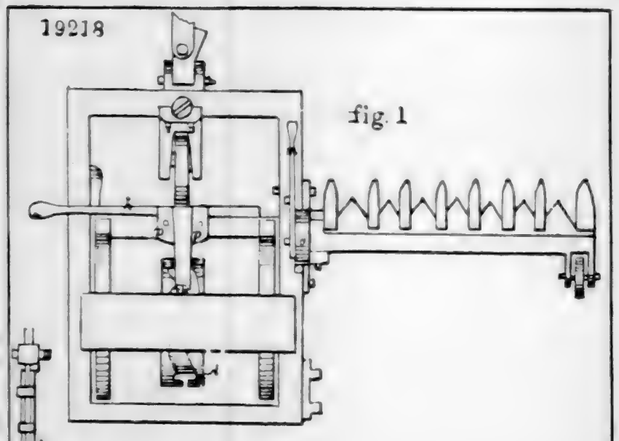
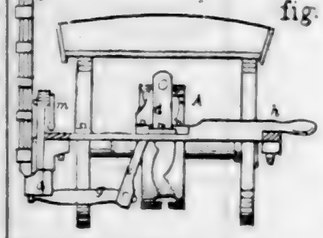
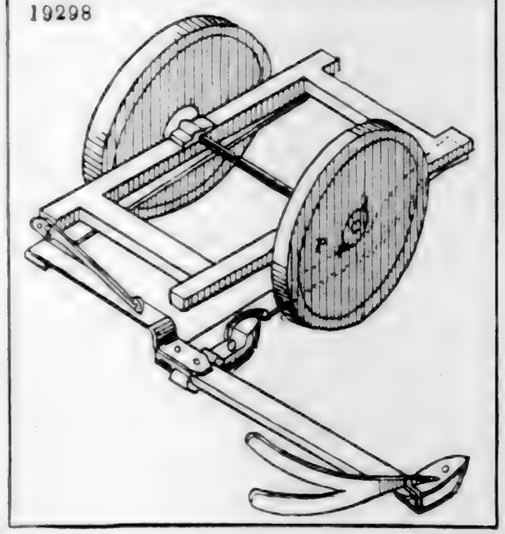


fig. 2



19298



19377

fig. 1

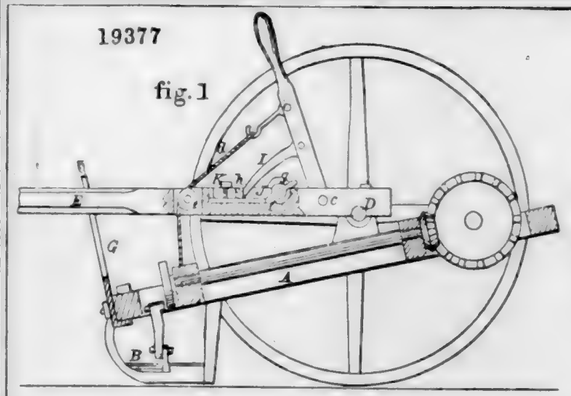
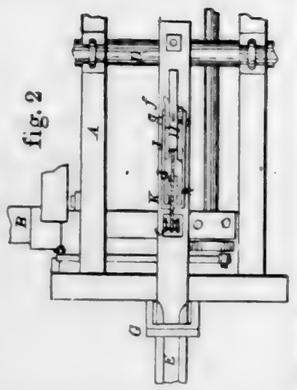


fig. 2



19447

fig. 1

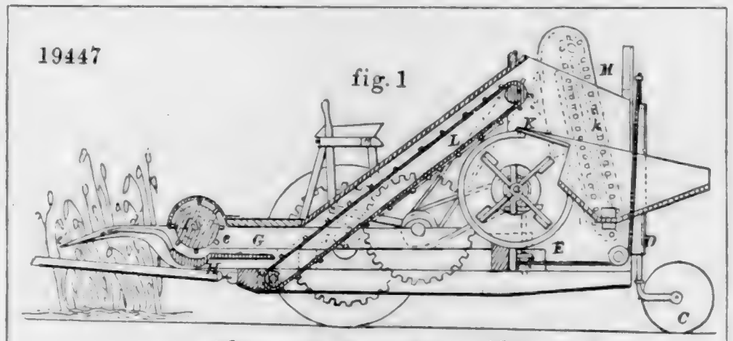
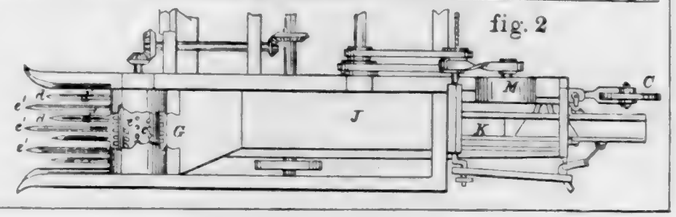
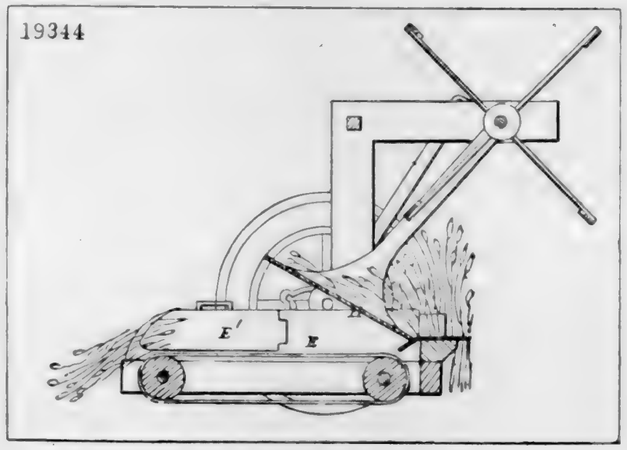


fig. 2



19344



3

19411

fig. 1

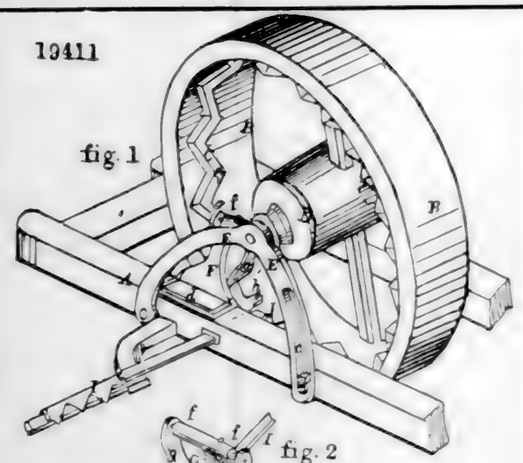
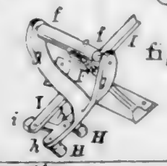


fig. 2



19463

fig. 4



fig. 3

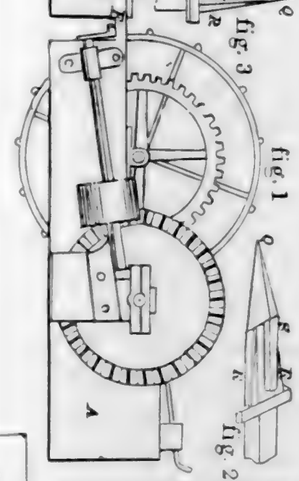


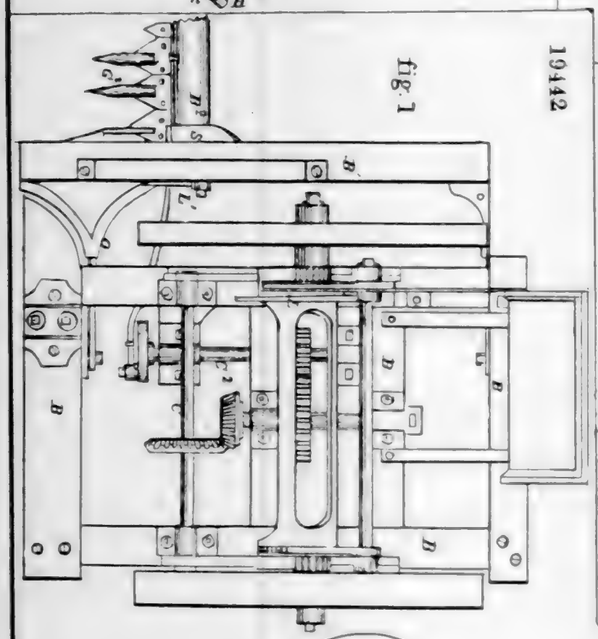
fig. 1



fig. 2

19442

fig. 1



19422

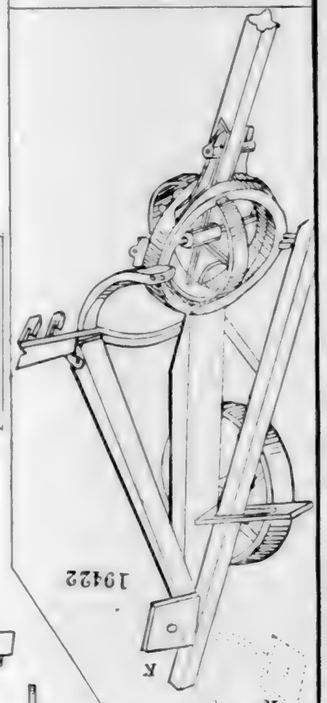


fig. 2

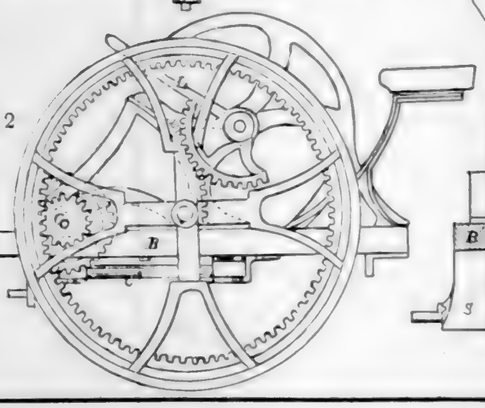
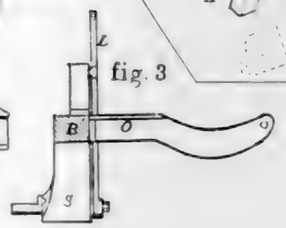


fig. 3



19486

fig. 1

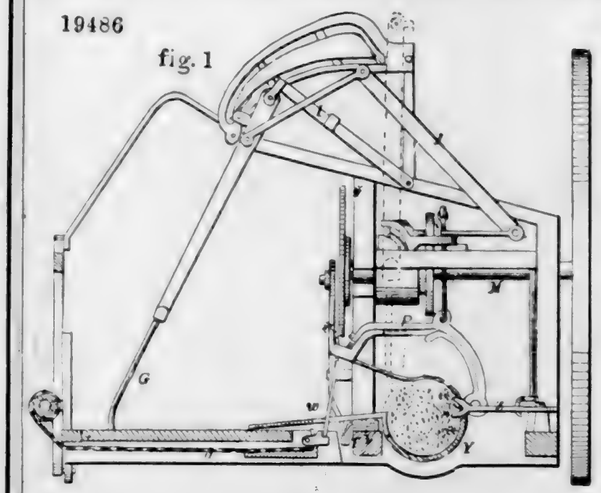
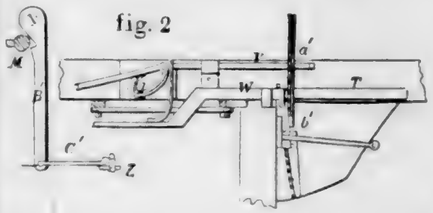
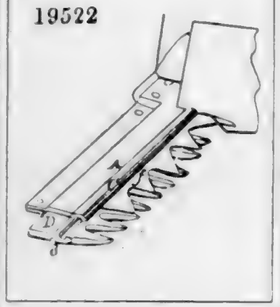


fig. 2



19522



19590

fig. 1

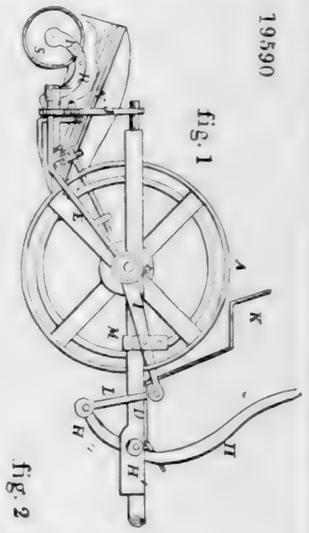
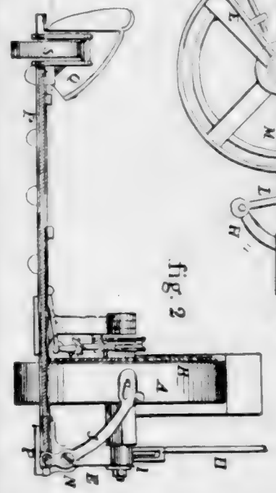


fig. 2



19483

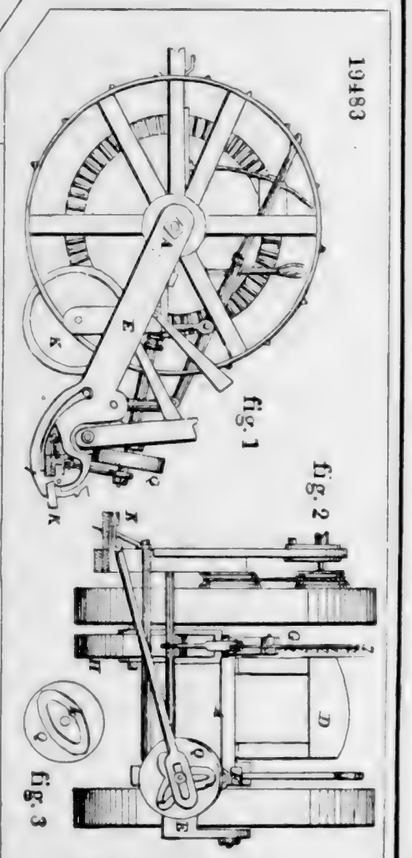


fig. 1

fig. 2

fig. 3

19703

fig. 1

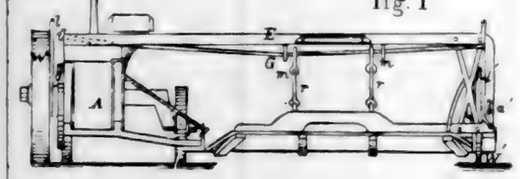
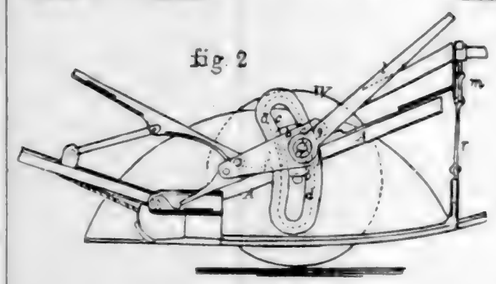


fig. 2



19803

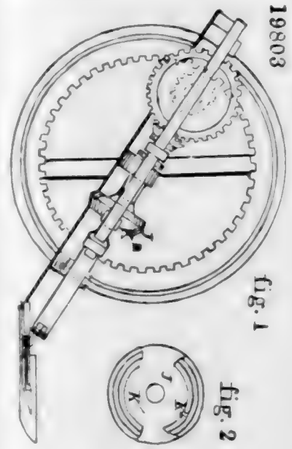


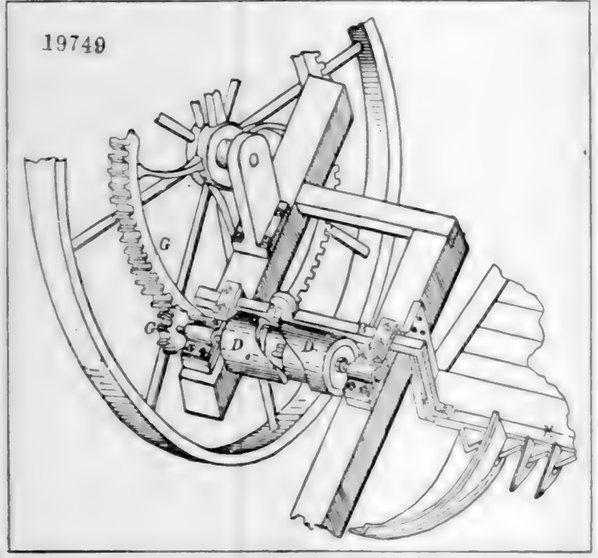
fig. 1

fig. 2



fig. 3

19749



19864

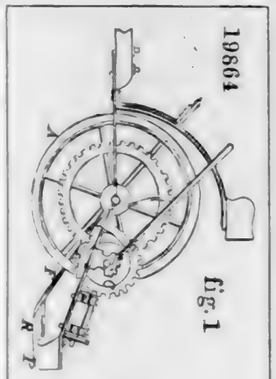


fig. 1

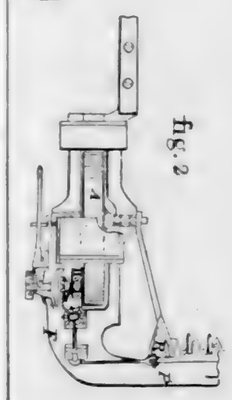


fig. 2

fig. 1 19884

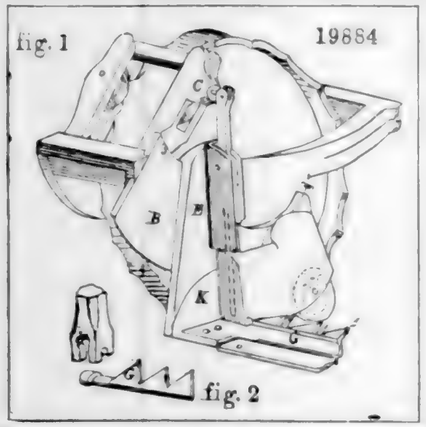


fig. 2

19999

fig. 1

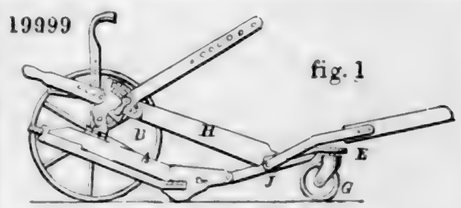
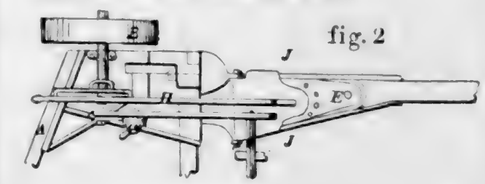


fig. 2



20080

fig. 1

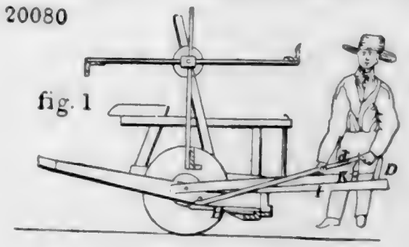
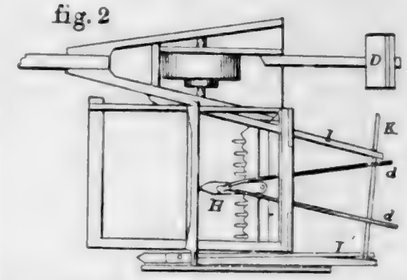


fig. 2



20180

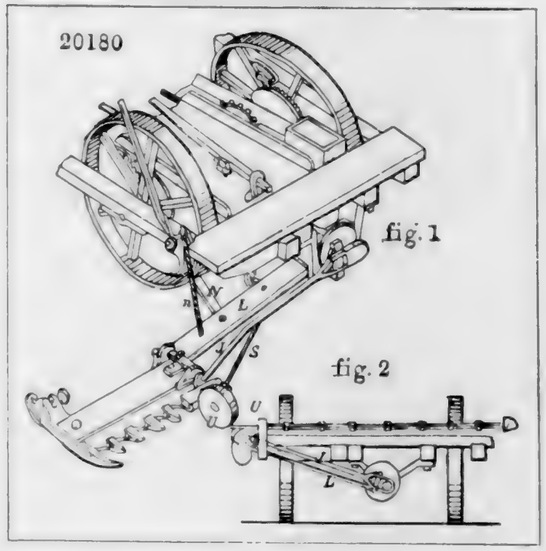


fig. 1

fig. 2

20050

fig. 1

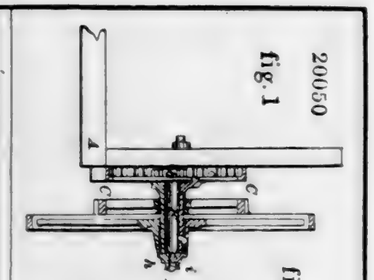
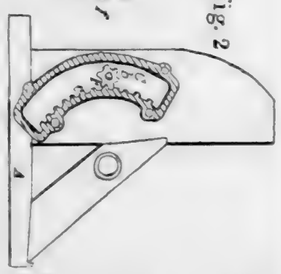


fig. 2



20181 b8e

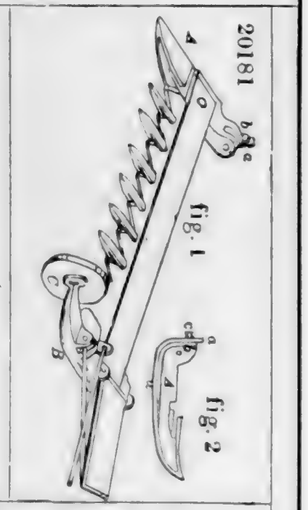


fig. 1

fig. 2

20152

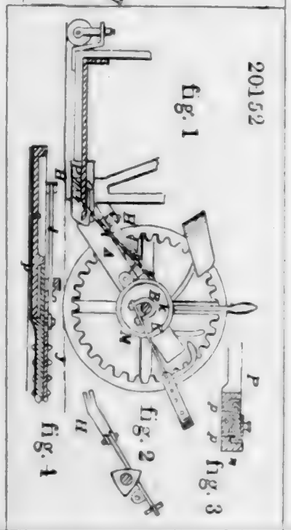


fig. 1

fig. 2

fig. 3

fig. 4

20182

fig. 1

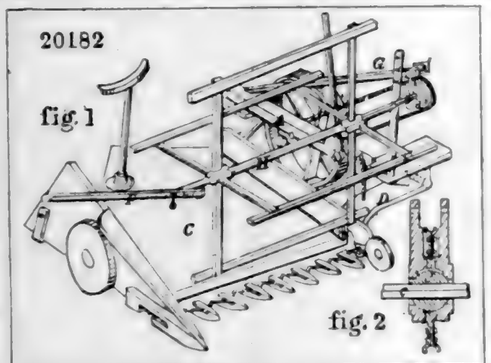
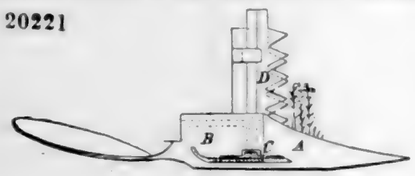
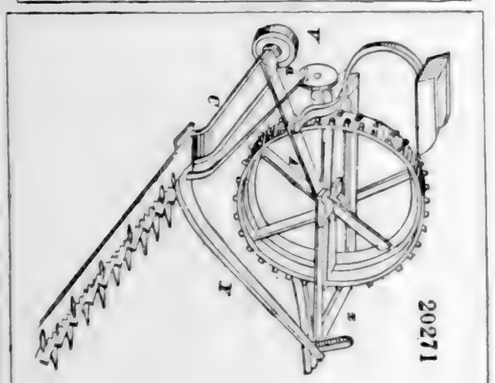


fig. 2

20221





20271

20225 fig. 1

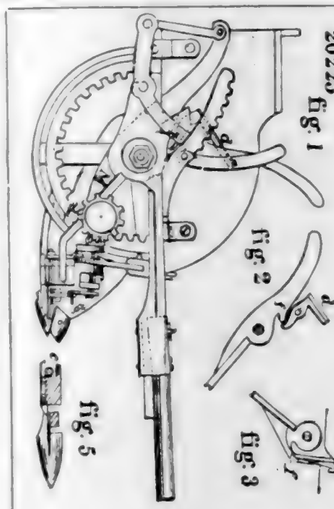


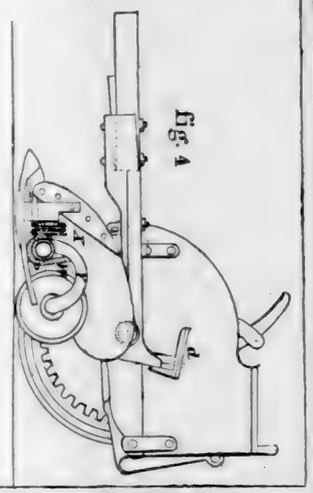
fig. 2

fig. 3



fig. 5

fig. 4



20227

fig. 1

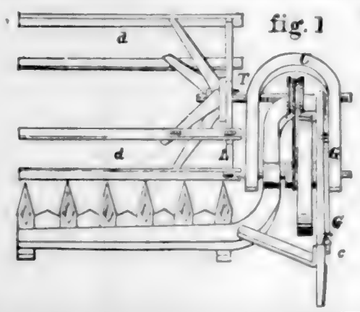
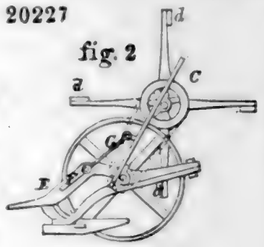
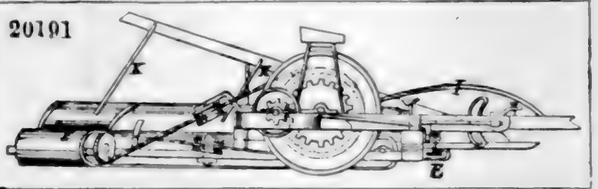
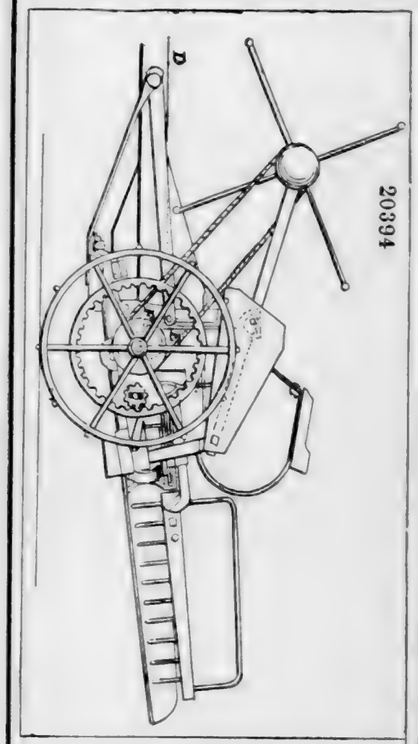


fig. 2



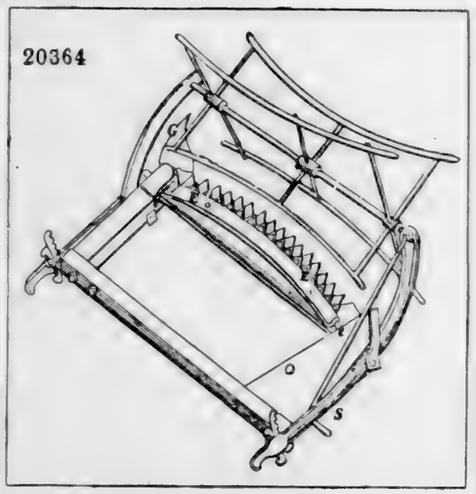
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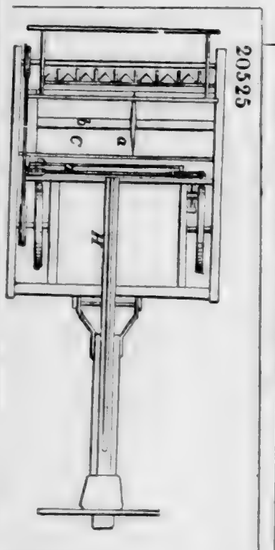


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20364



20525



20457

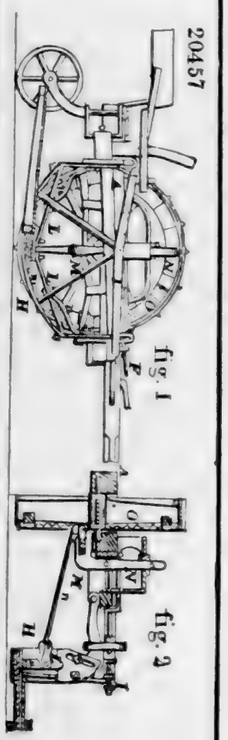


fig. 1

fig. 2

20272

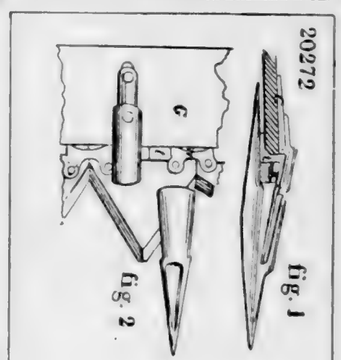
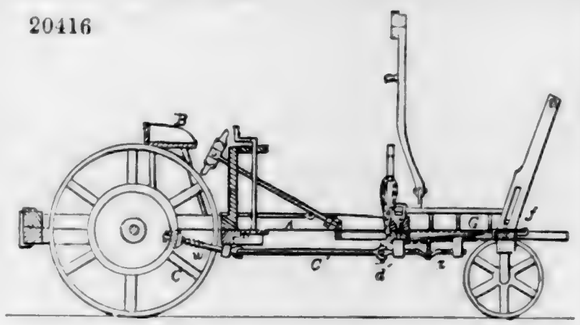


fig. 2

fig. 1

20416



20600

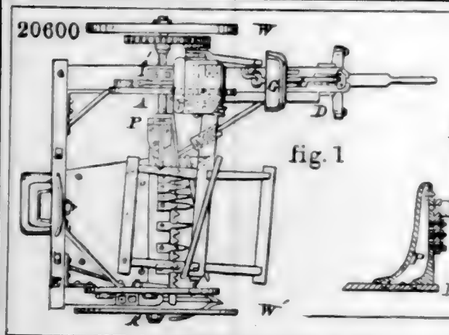


fig. 1

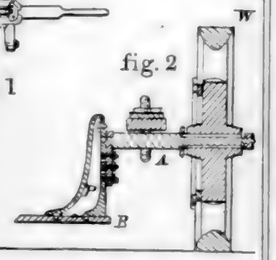


fig. 2

20719

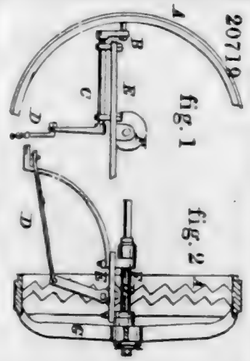


fig. 1

fig. 2

21093

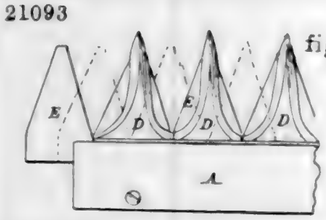


fig. 1

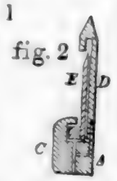
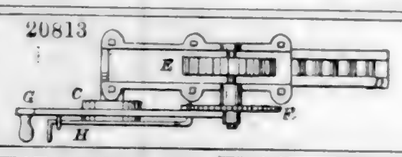
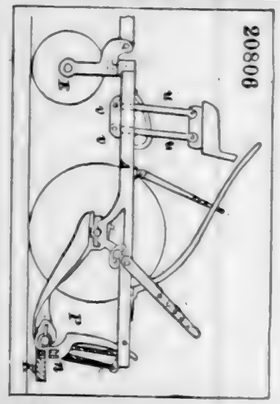


fig. 2

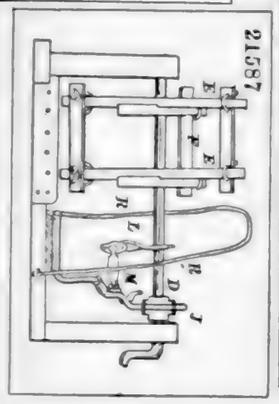
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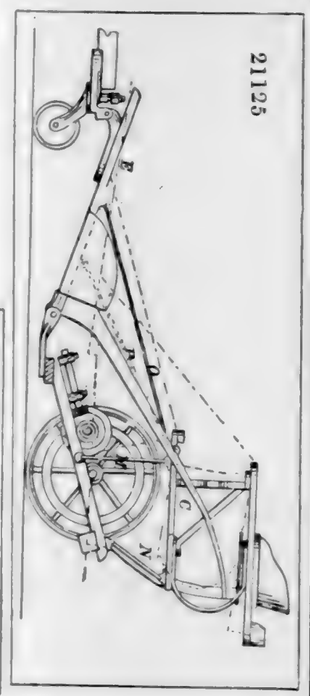
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21587



21125



21401

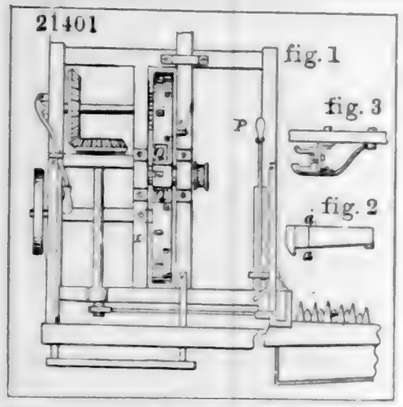
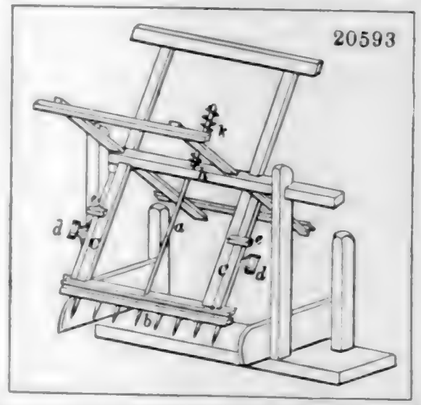


fig. 1

fig. 3

fig. 2

20593



21612

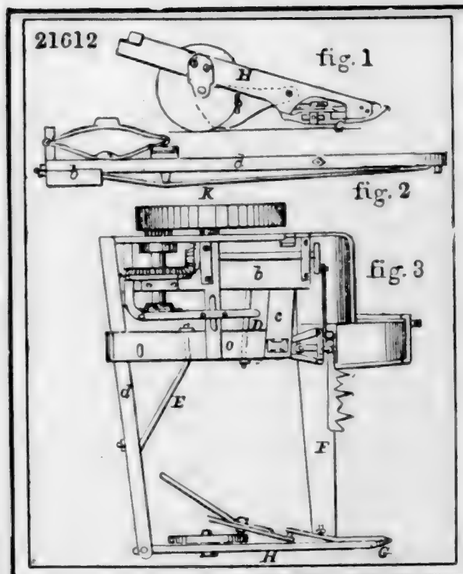


fig. 1

fig. 2

fig. 3

21741

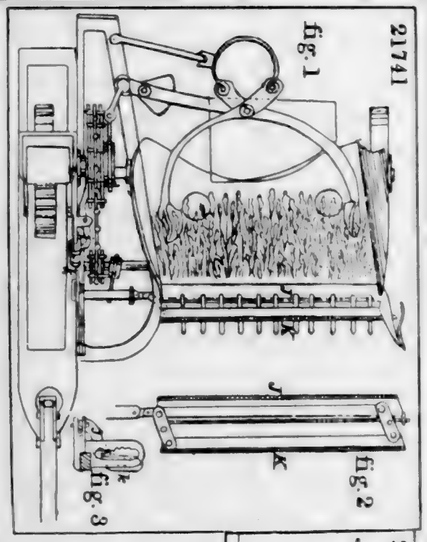


fig. 1

fig. 2

fig. 3

21792

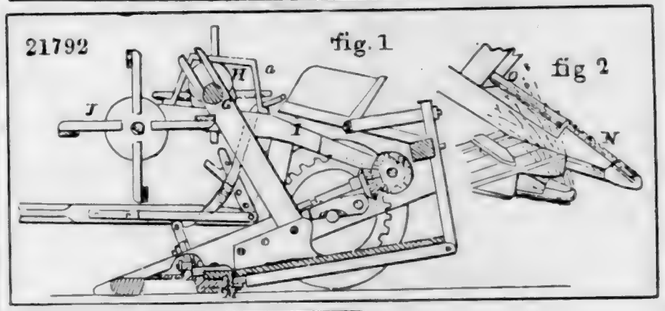
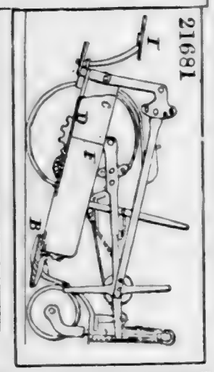


fig. 1

fig. 2

21681



21804

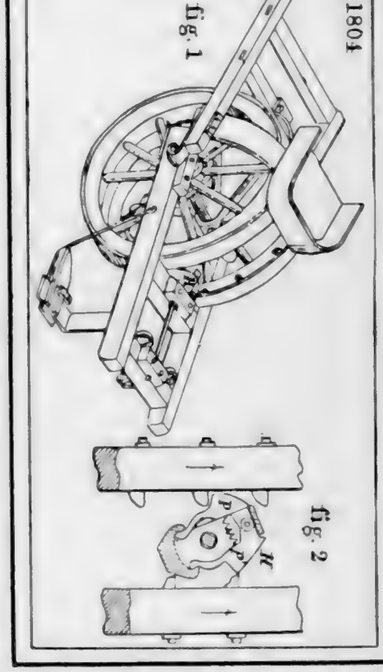
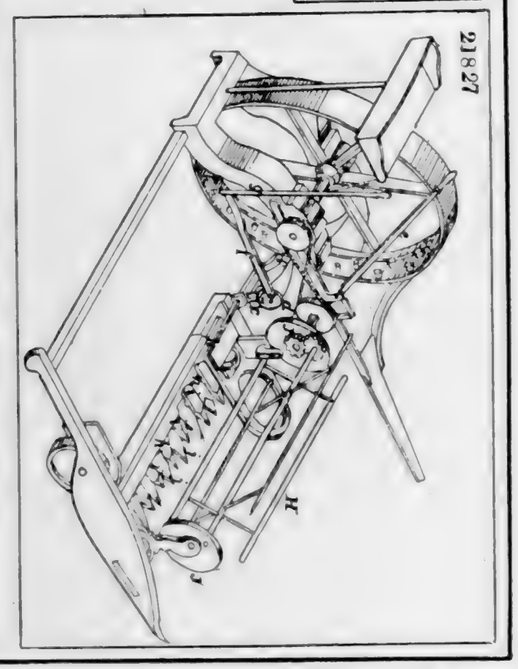


fig. 1

fig. 2

21827



21854

fig. 1

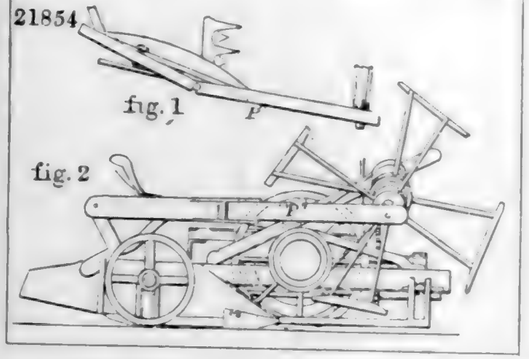
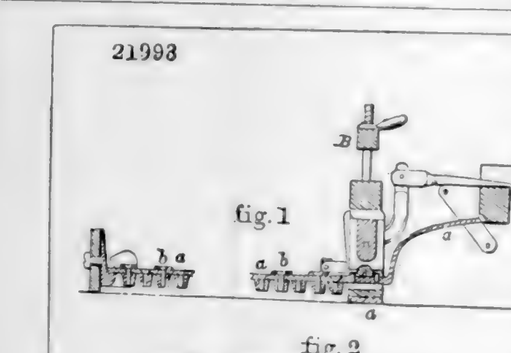
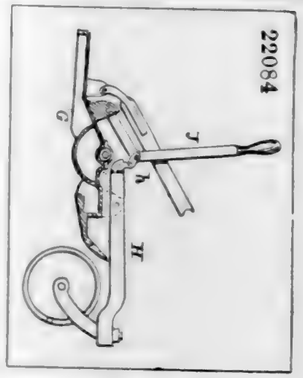


fig. 2



22084



21993

fig. 1

fig. 2

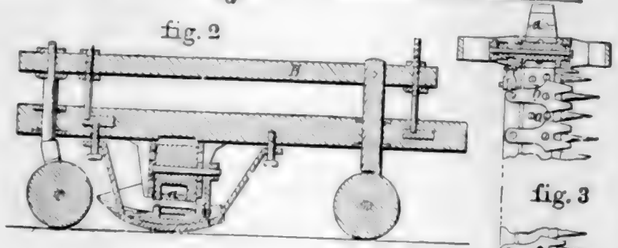
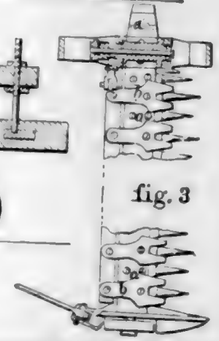


fig. 3



22032

fig. 1

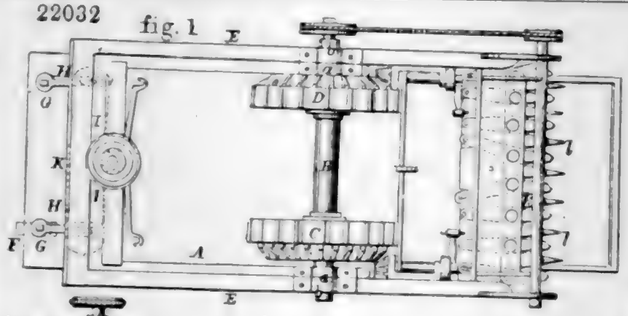
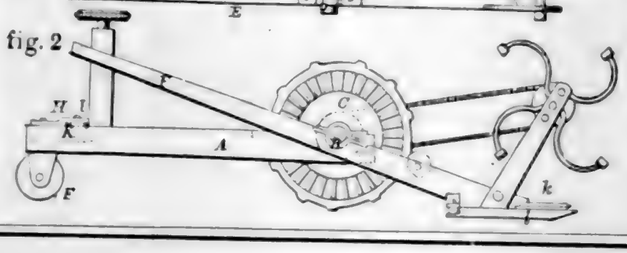
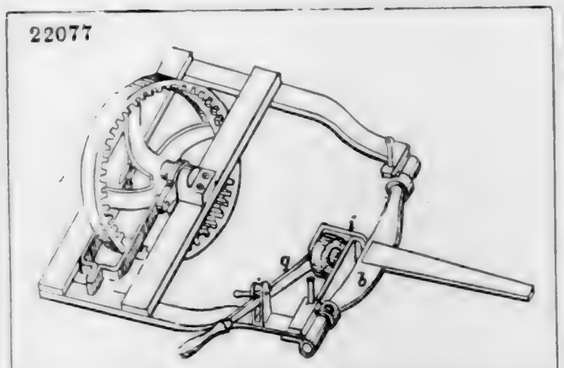


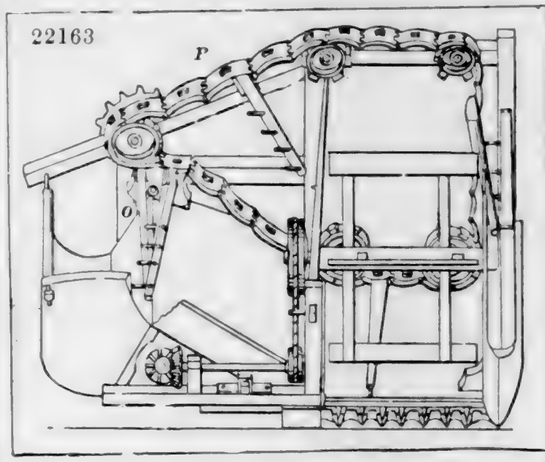
fig. 2



22077



22163



22208

fig. 1

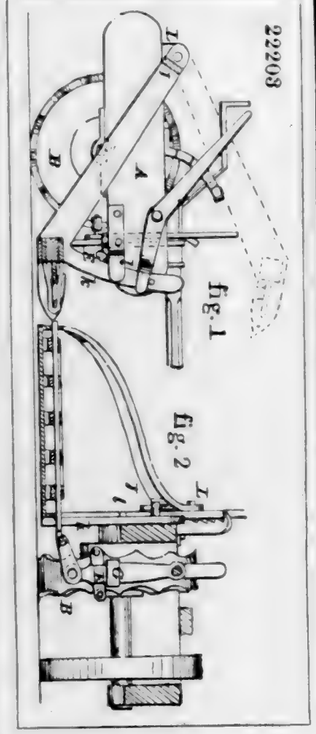
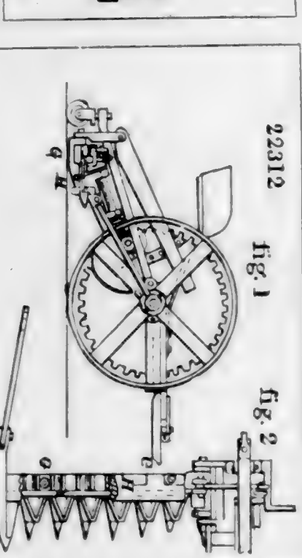


fig. 2



22312

fig. 1

fig. 2

22237

fig. 1

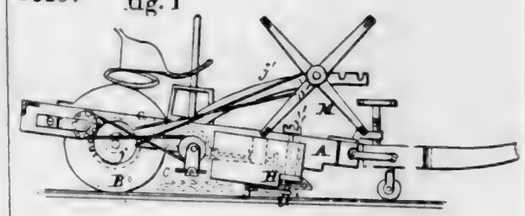
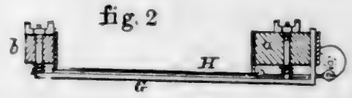


fig. 2



22345

fig. 1

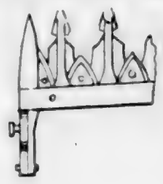
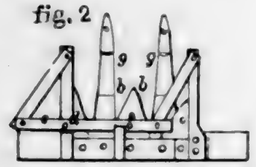


fig. 3



fig. 2



22074

fig. 1

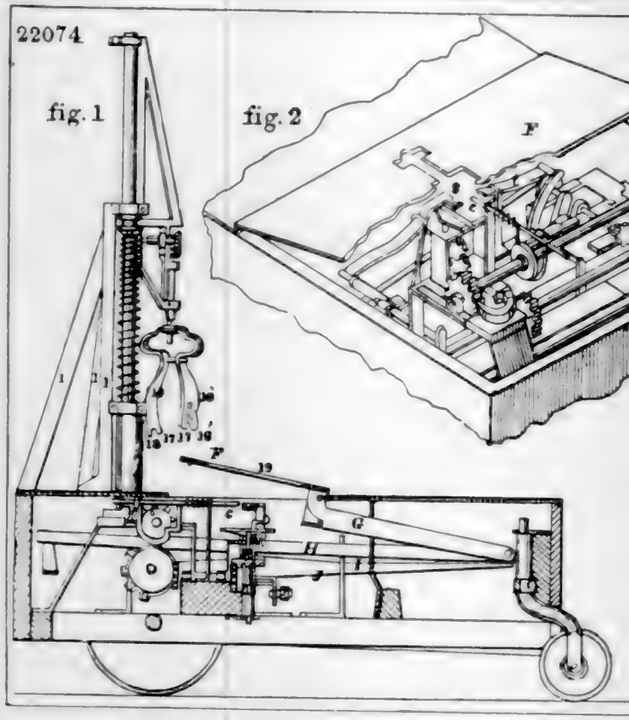
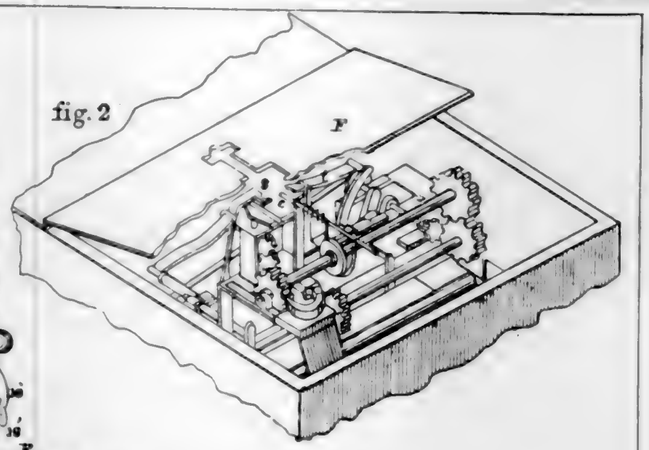


fig. 2



20215

fig. 1

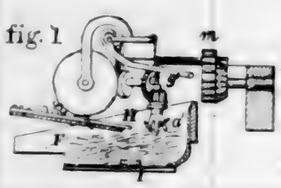
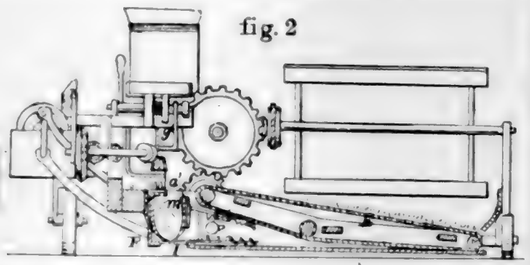


fig. 2



22341

fig. 1

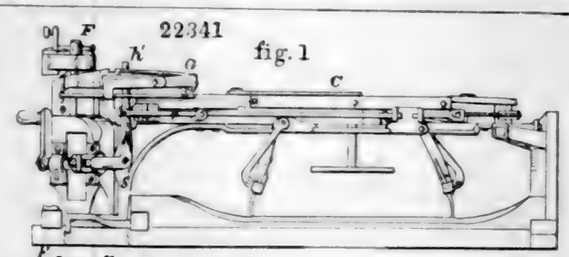
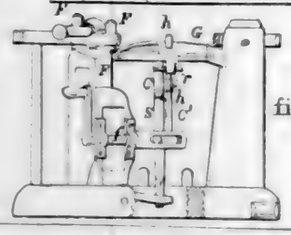


fig. 2



19221

fig. 1

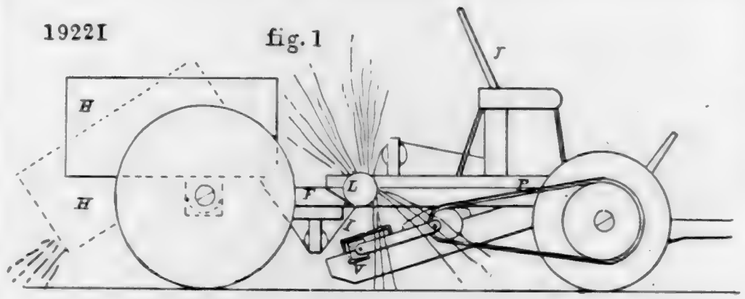
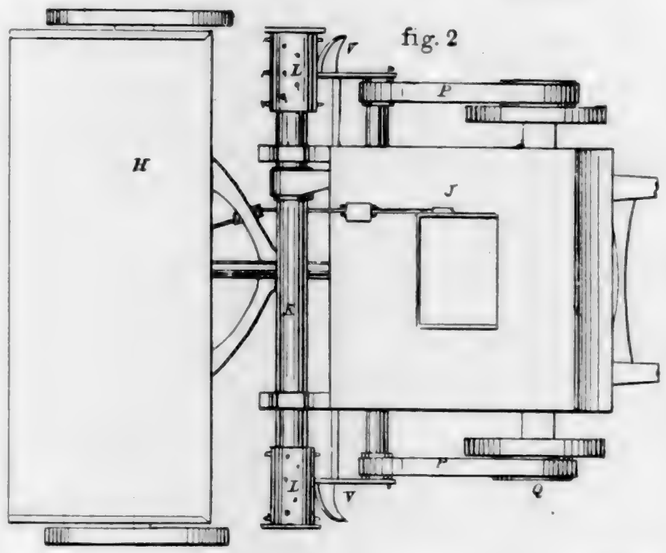


fig. 2



19716

fig. 1

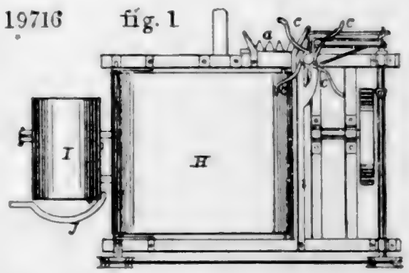
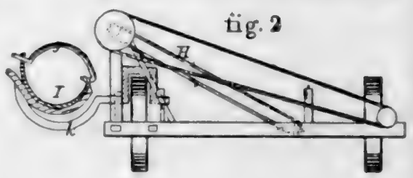
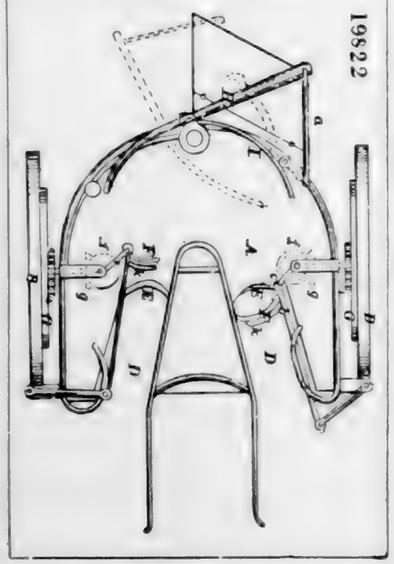


fig. 2



19822



20645

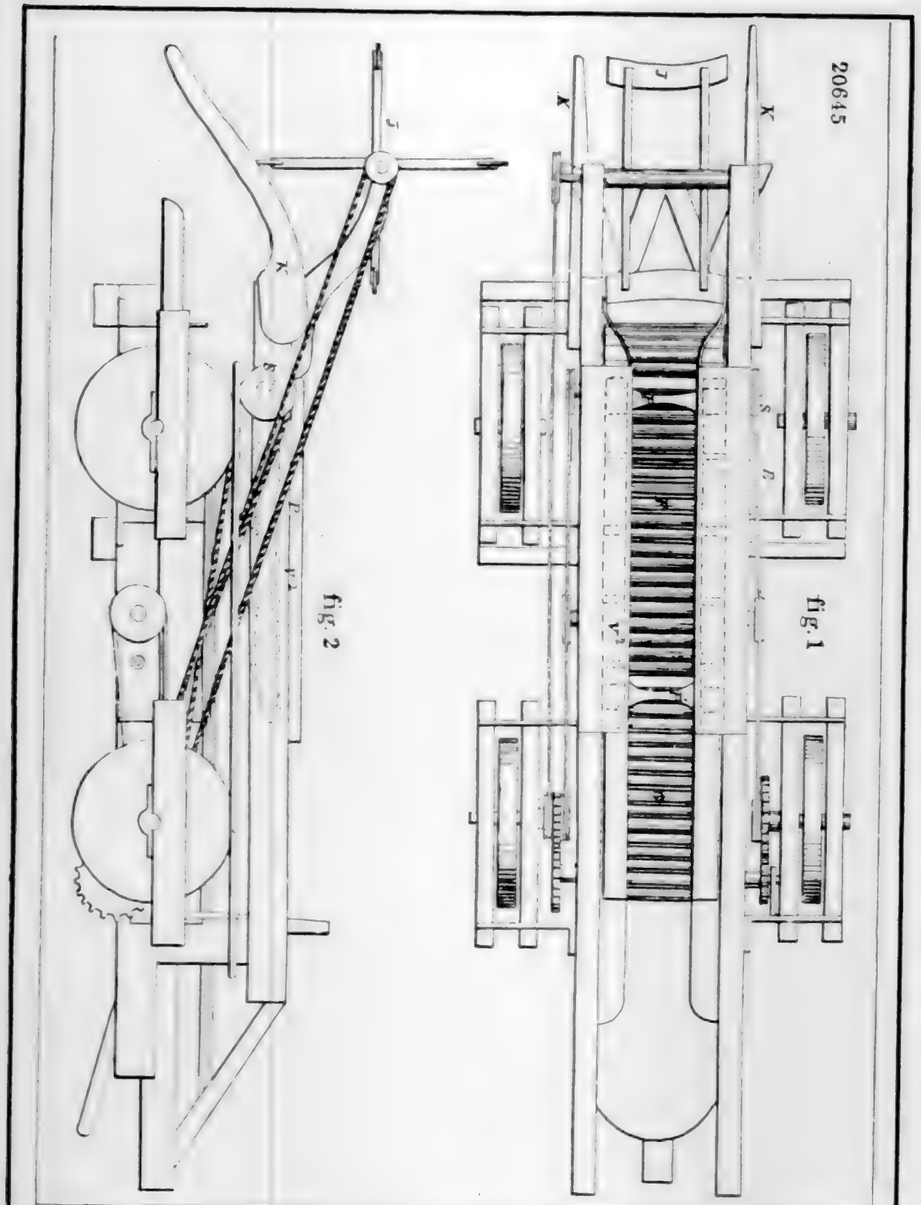
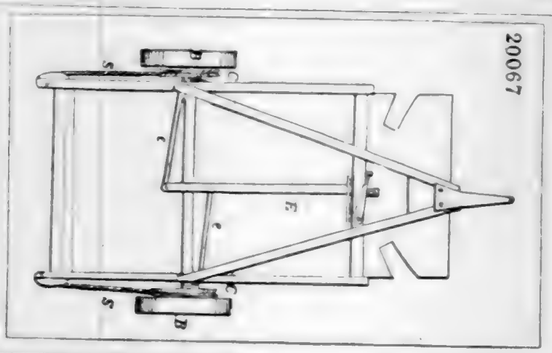


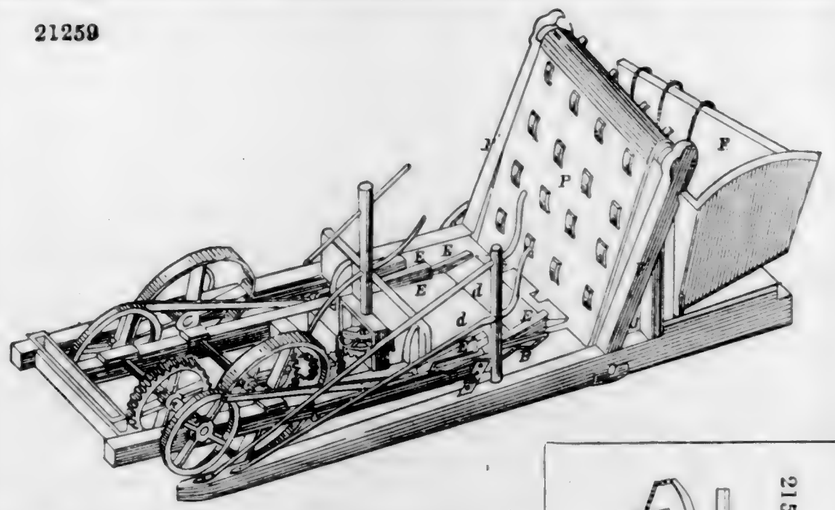
fig. 2

fig. 1

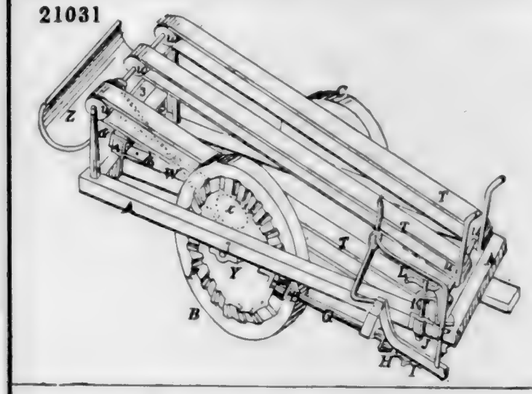
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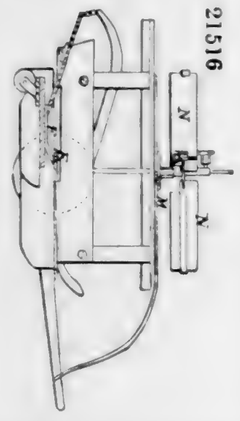
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21031



21516



20628

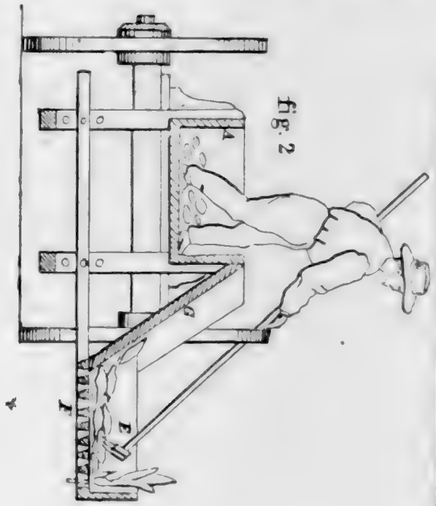


fig. 2

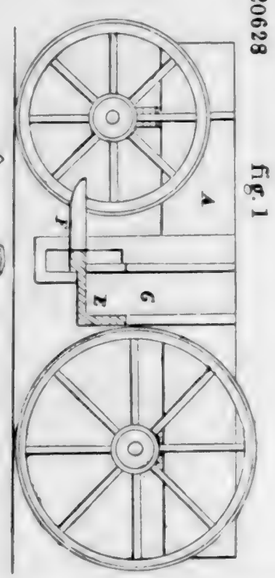


fig. 1

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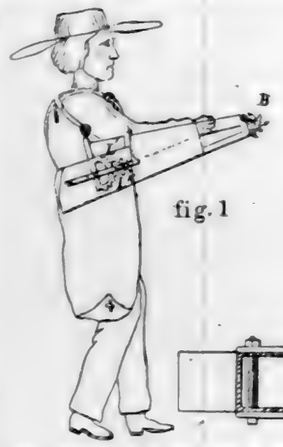
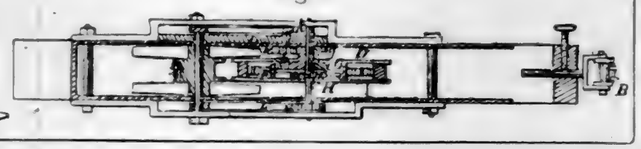


fig. 1

fig. 2



19360

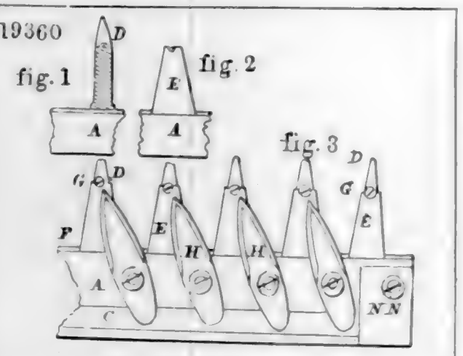


fig. 1 fig. 2 fig. 3

22468

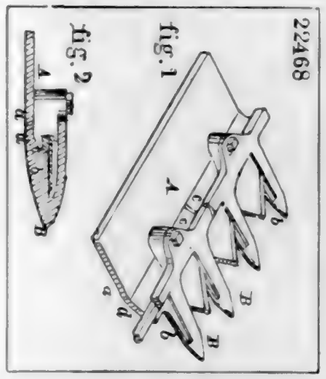


fig. 2 fig. 1

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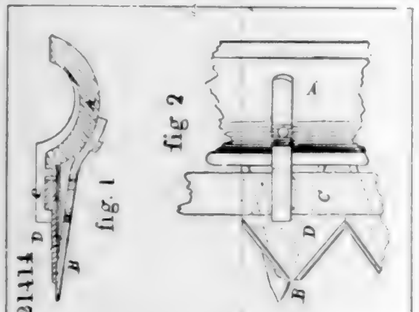


fig. 1 fig 2

21499

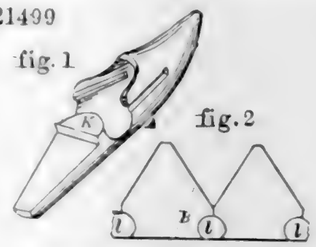


fig. 1 fig. 2

19920

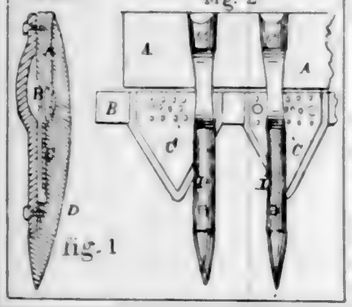


fig. 1 fig. 2

20243

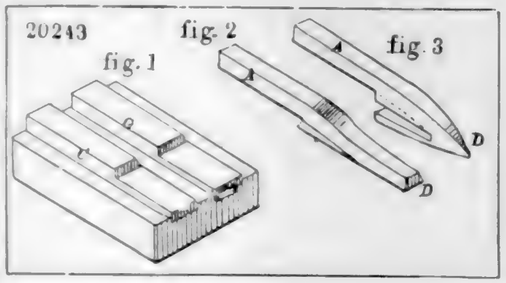


fig. 1 fig. 2 fig. 3

19518

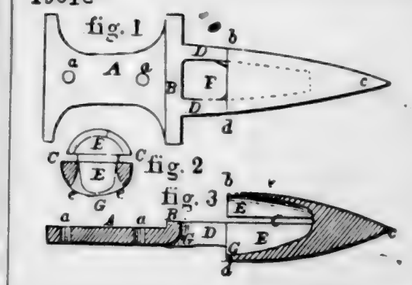
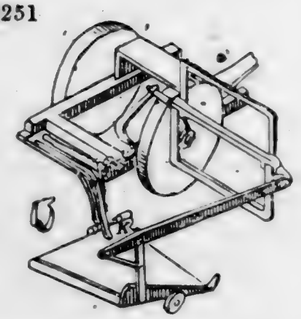
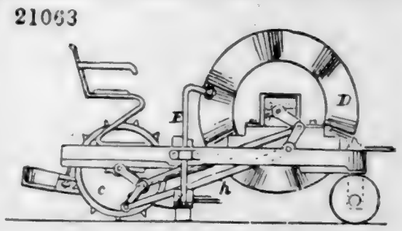


fig. 1 fig. 2 fig. 3

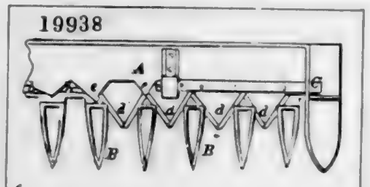
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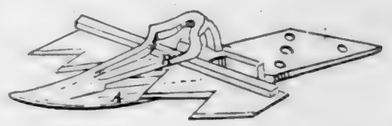
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21533



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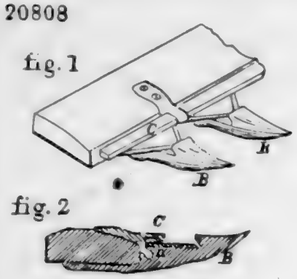


fig. 1 fig. 2

19319

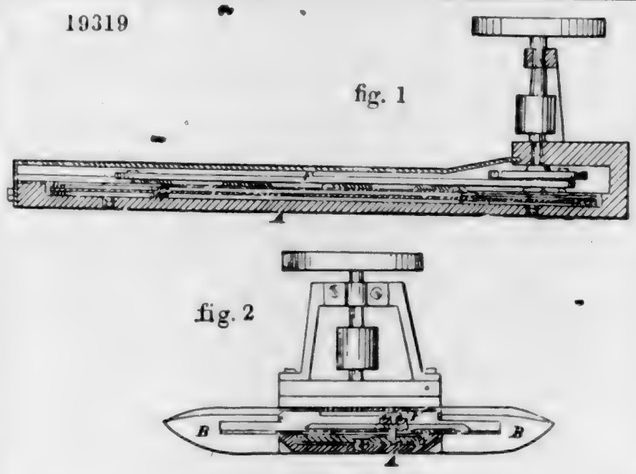
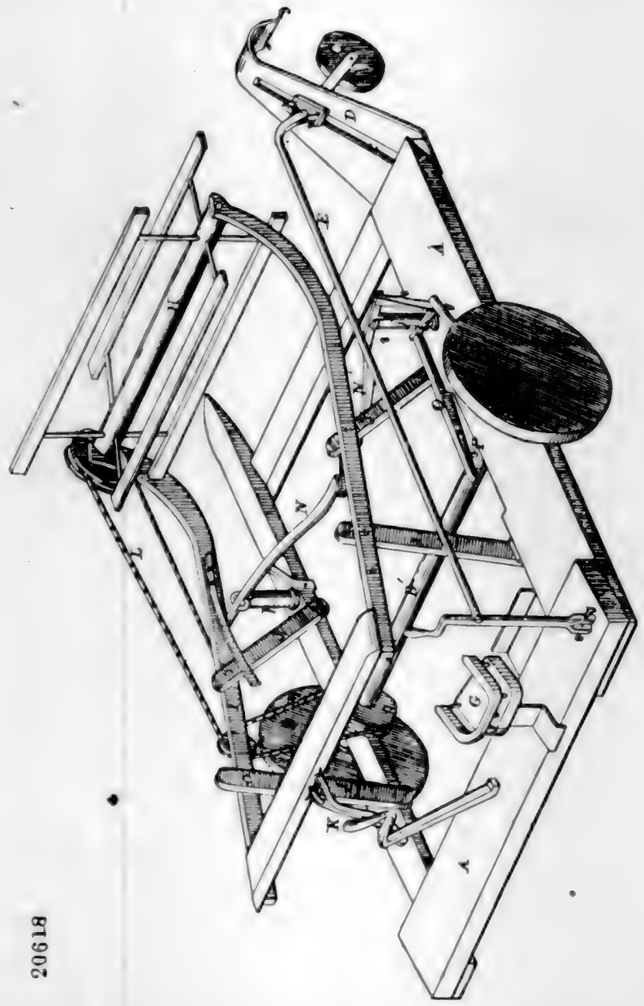


fig. 1 fig. 2

20618



21840

fig. 1

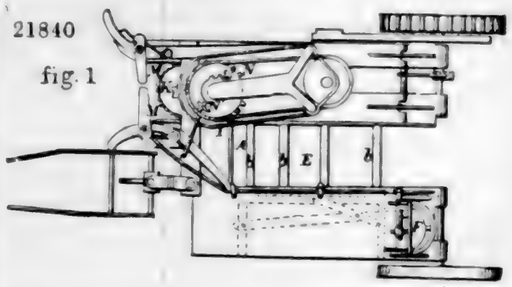
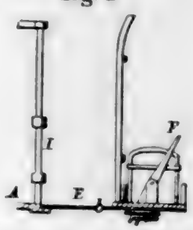
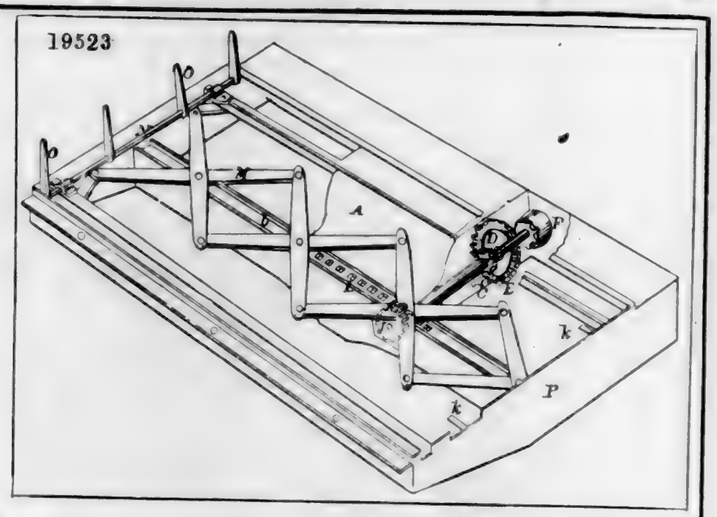


fig. 2



19523



19019

fig. 1

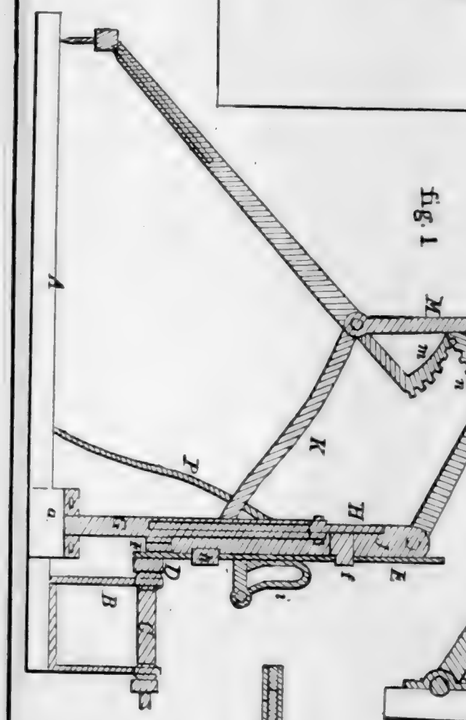


fig. 2

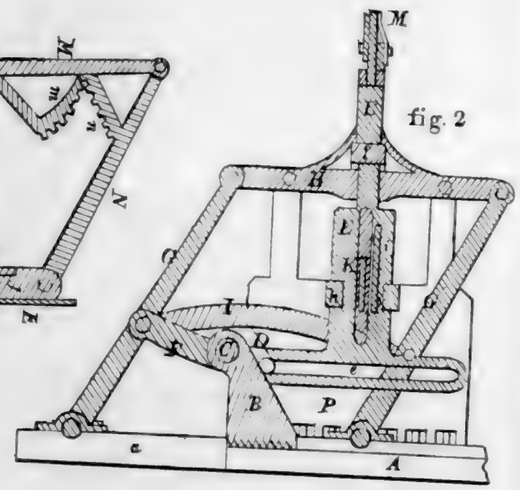
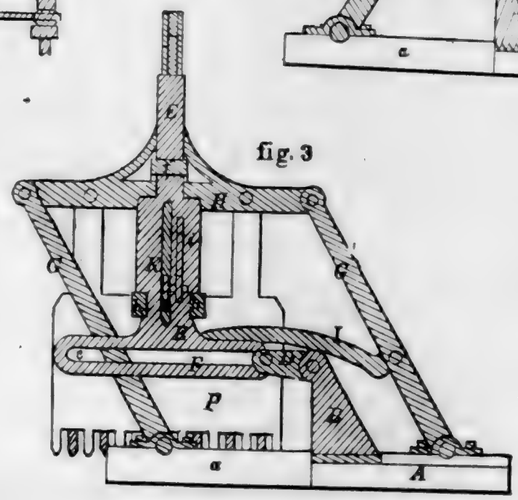
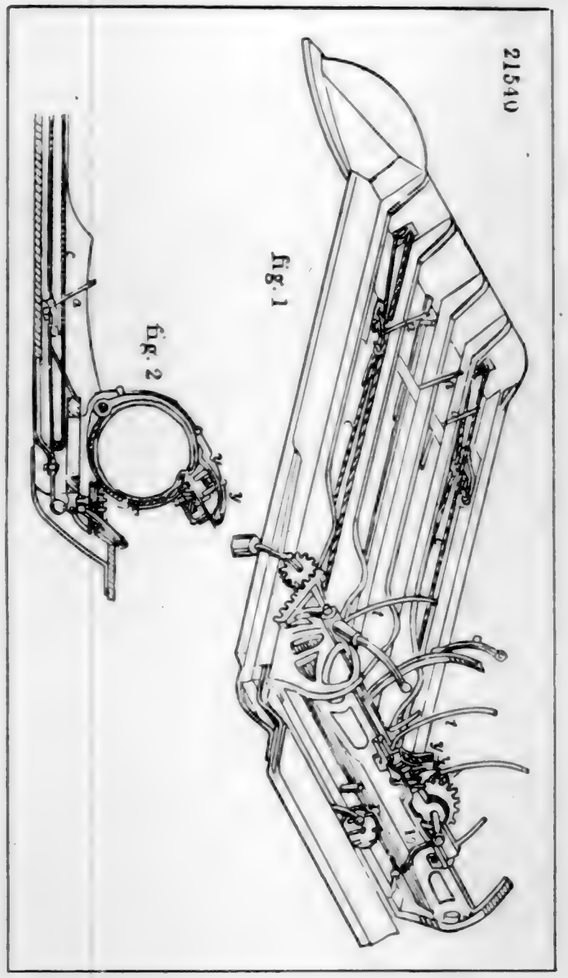


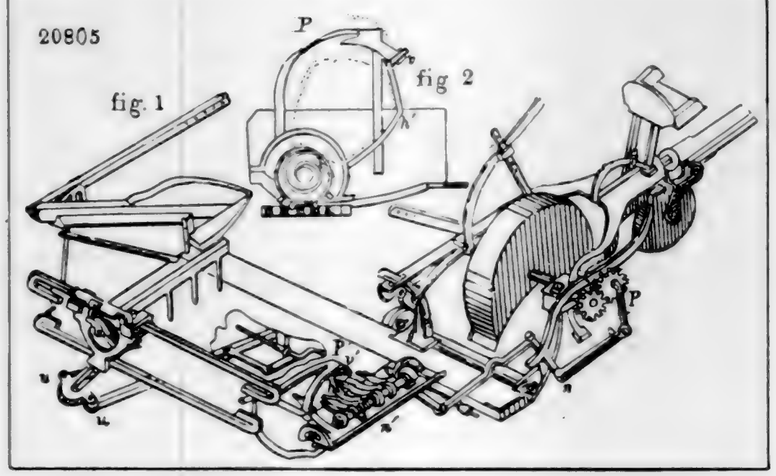
fig. 3



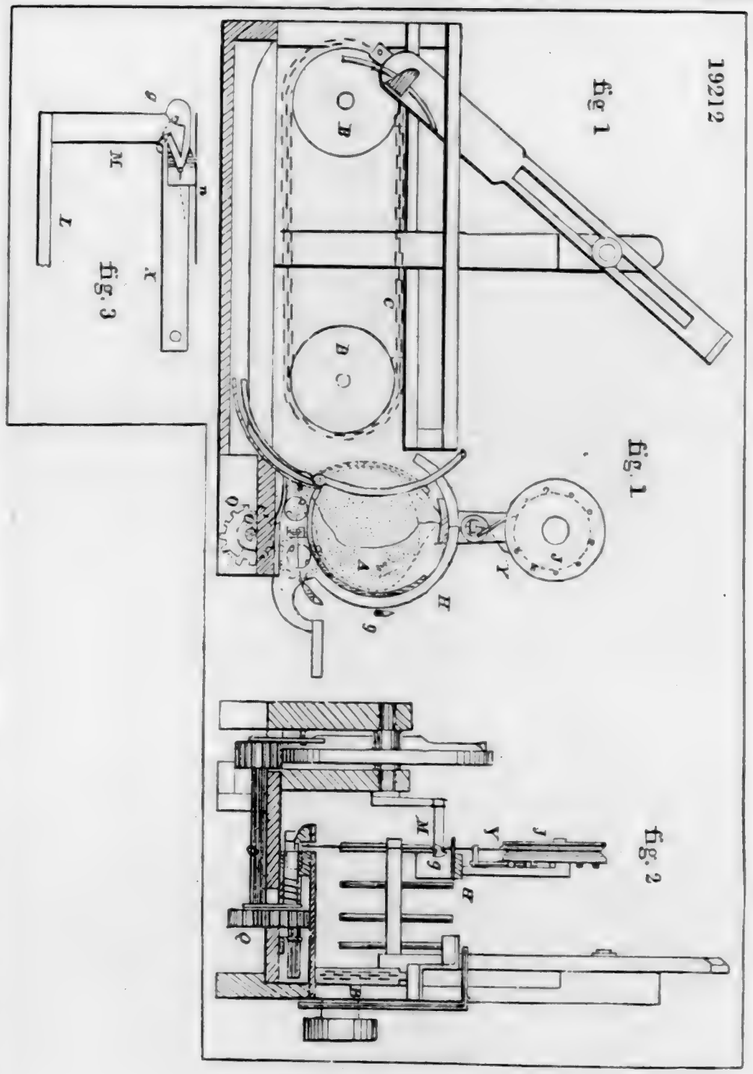
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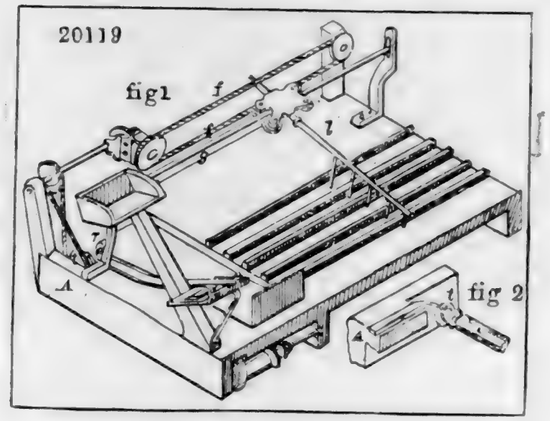
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19212



20119



19085

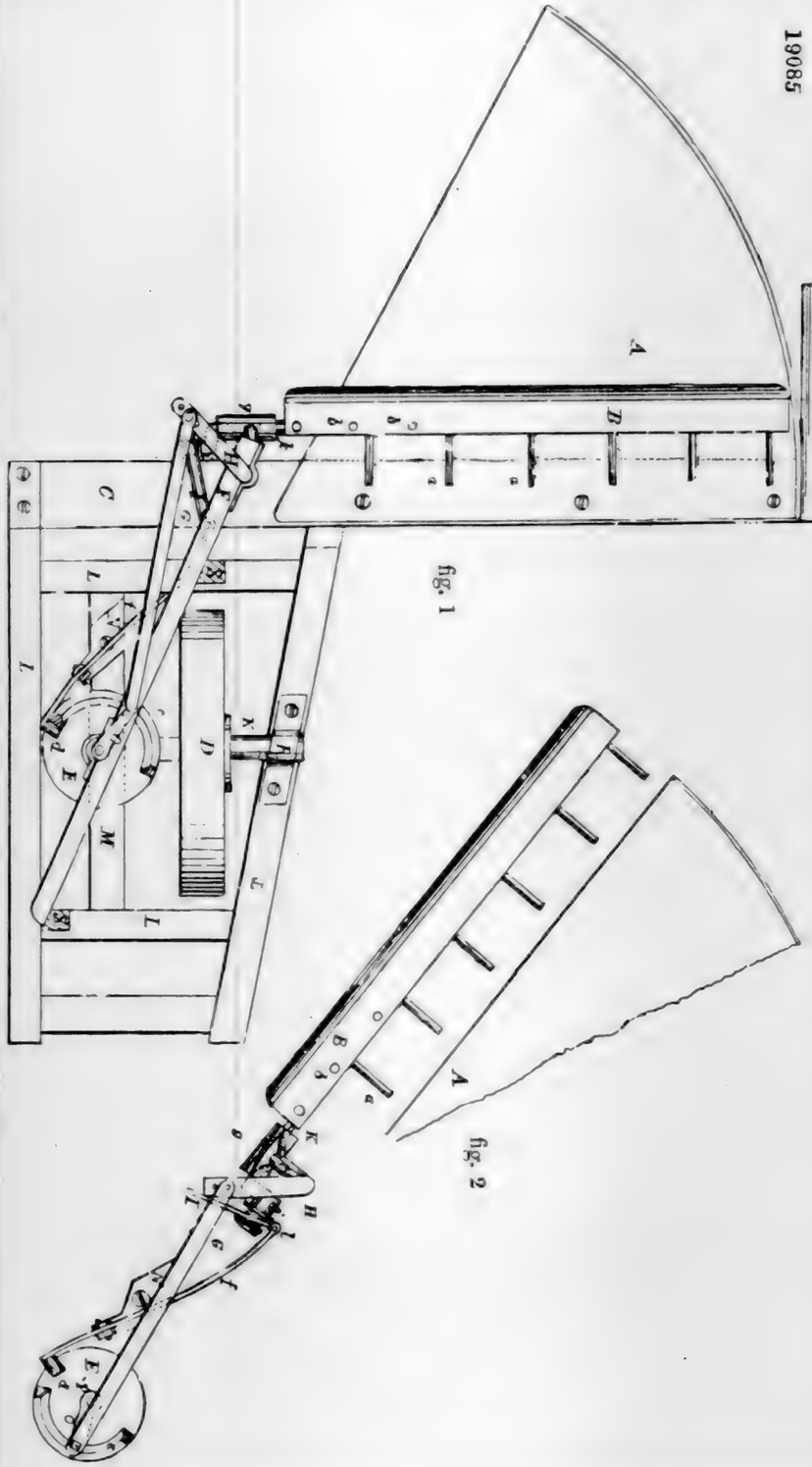
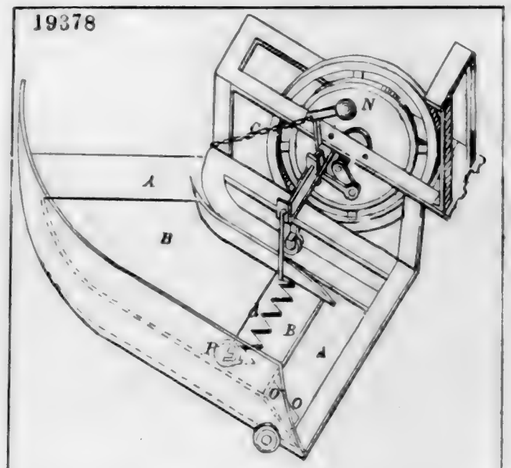


fig. 1

fig. 2

19378



21552

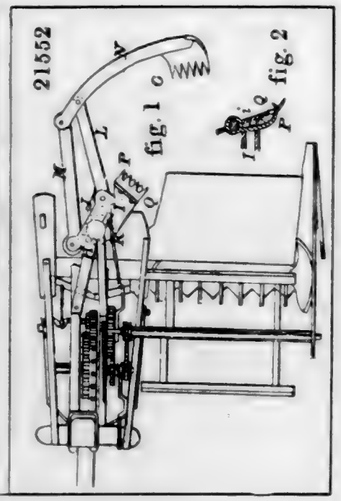


fig. 1

fig. 2

19393

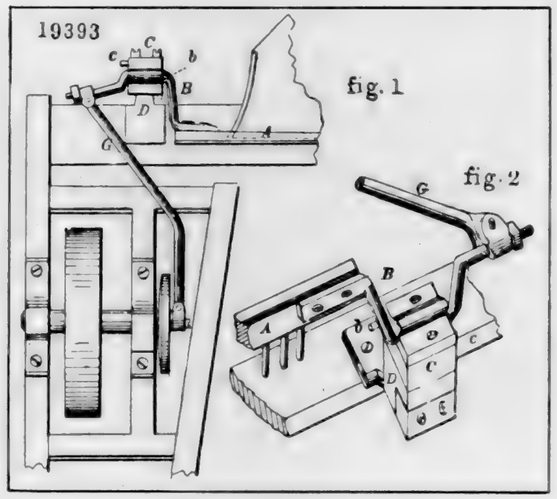


fig. 1

fig. 2

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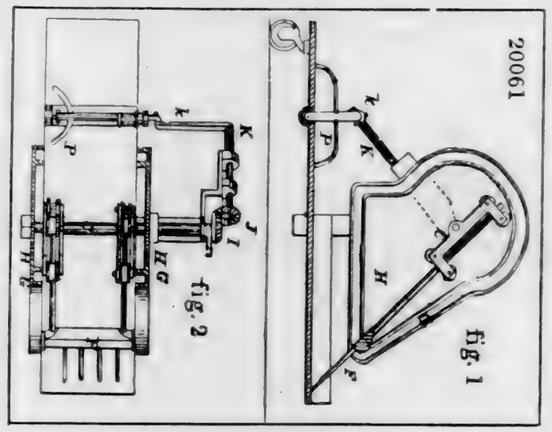
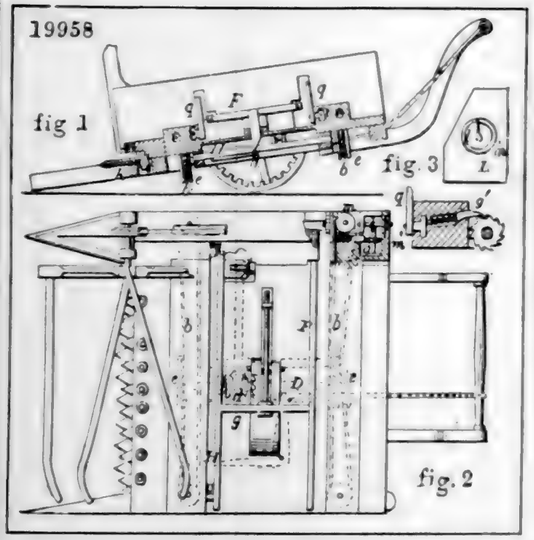


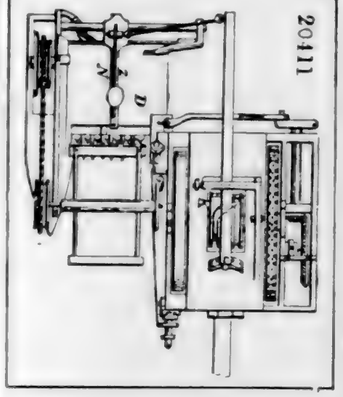
fig. 2

fig. 1

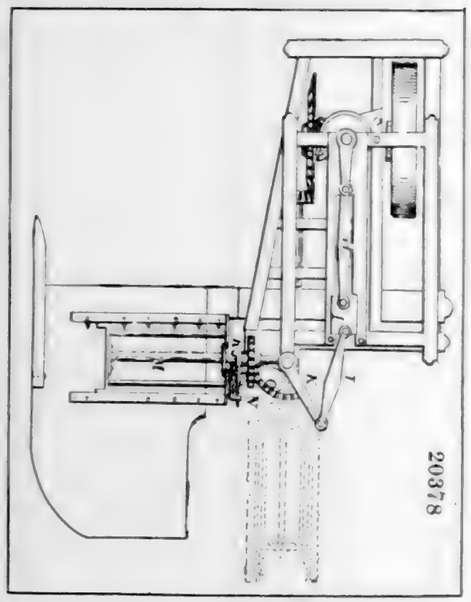
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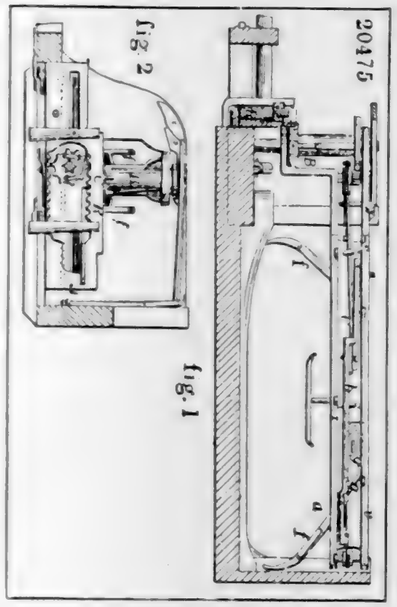
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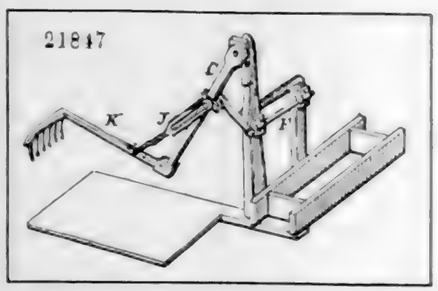
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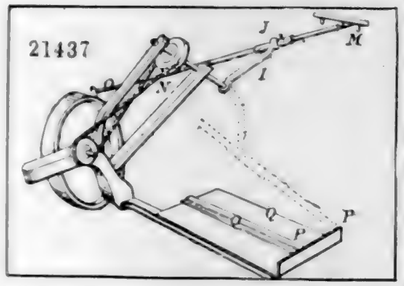
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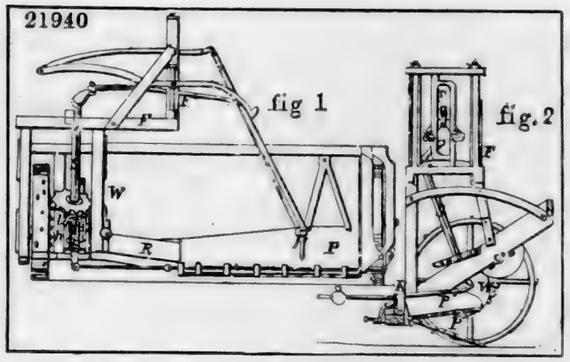
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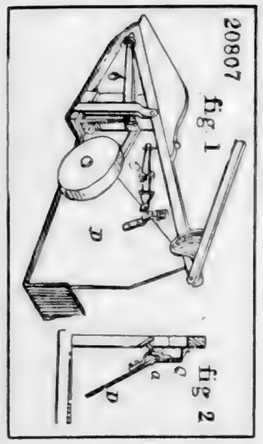
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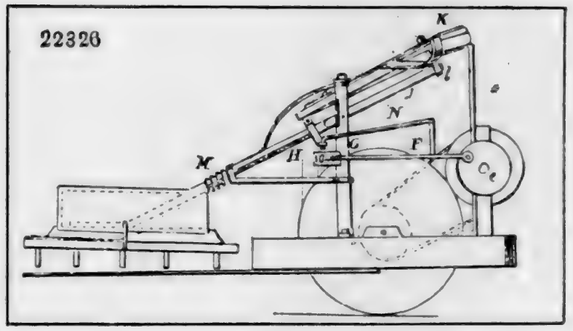
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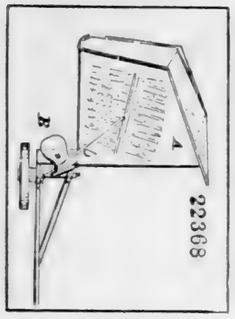
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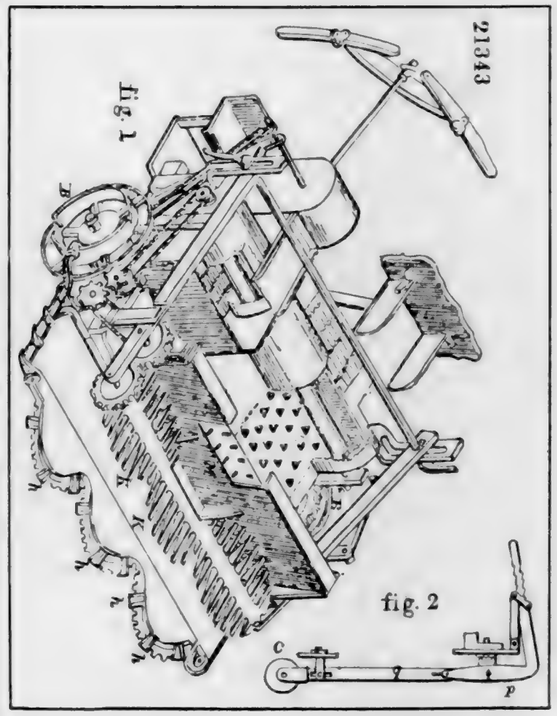
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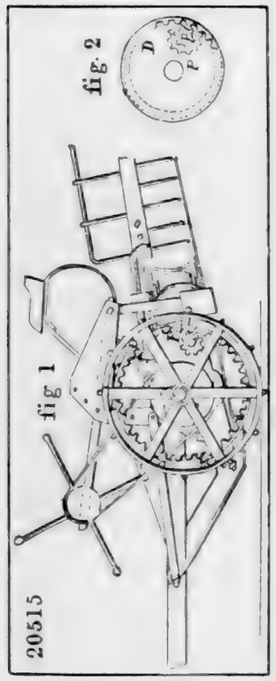
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21343



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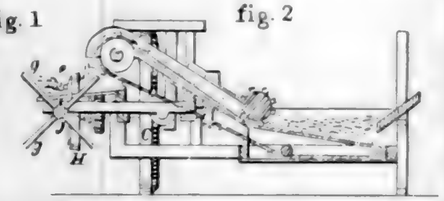


21869

fig. 1



fig. 2



19689

fig. 1

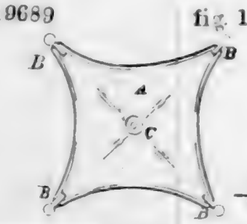
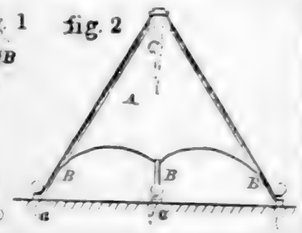
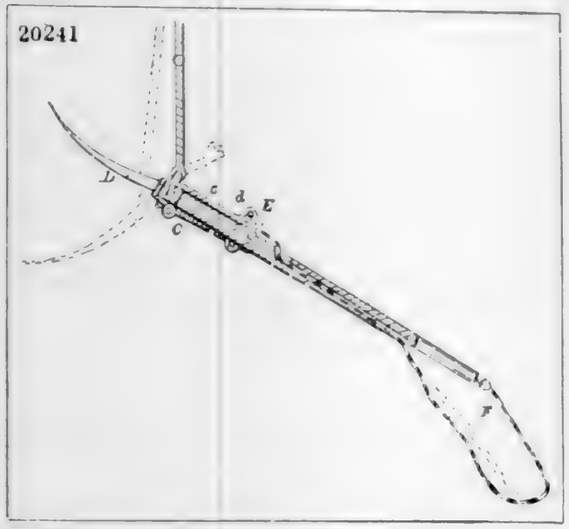


fig. 2



20241



20772

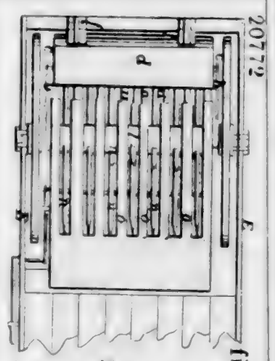


fig. 1

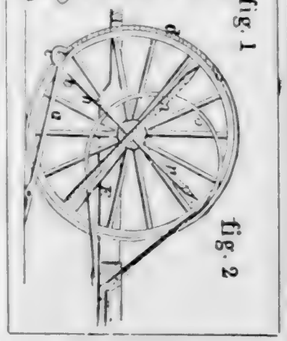


fig. 2

21150

fig. 1

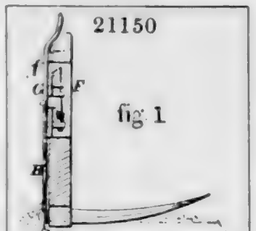
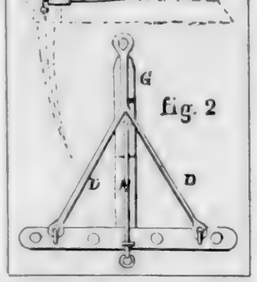
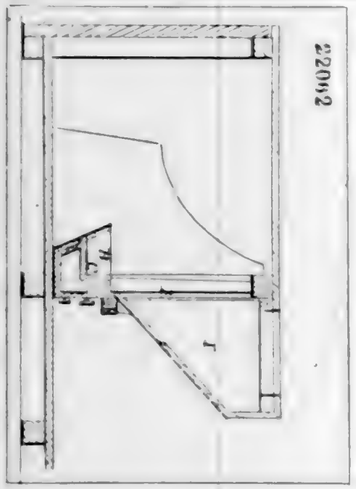


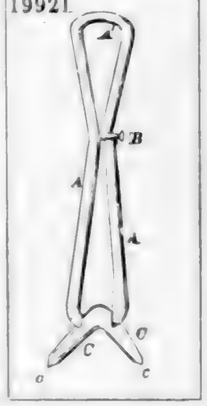
fig. 2



22062



19921

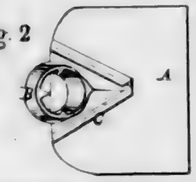


19812

fig 1



fig. 2



20971

fig 1

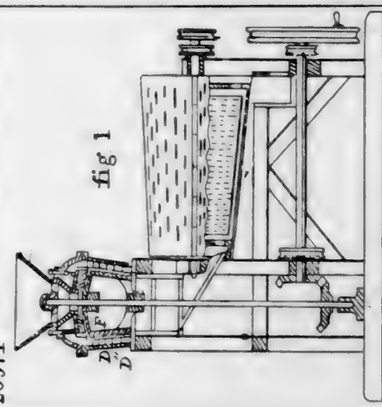
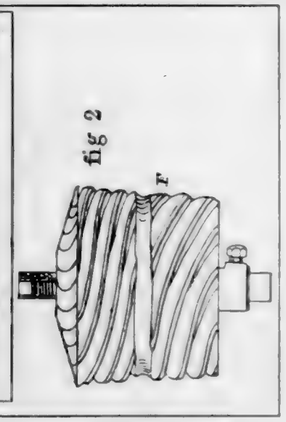


fig 2



20030

fig. 1

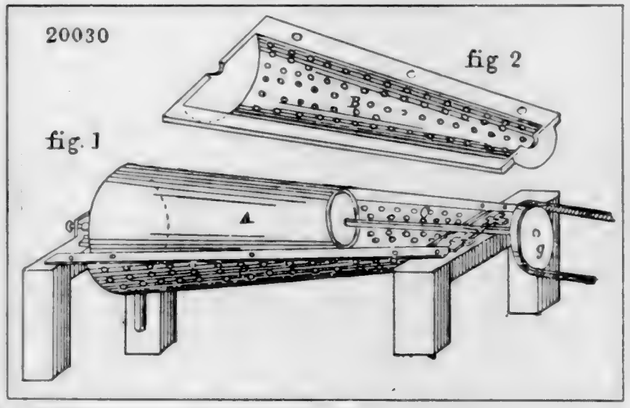
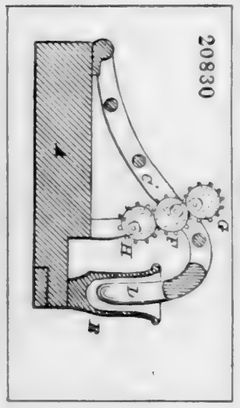


fig 2

20830



19745

fig. 1

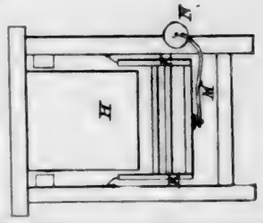
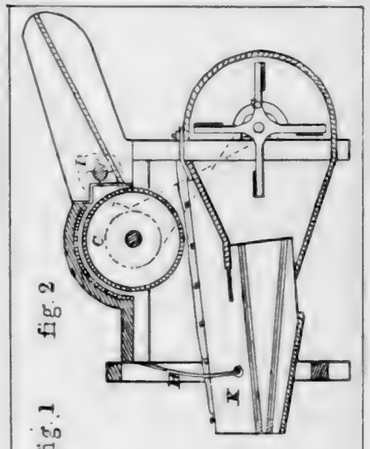
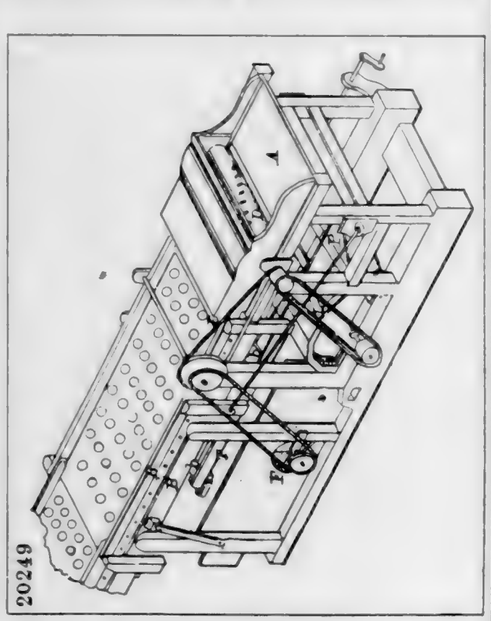


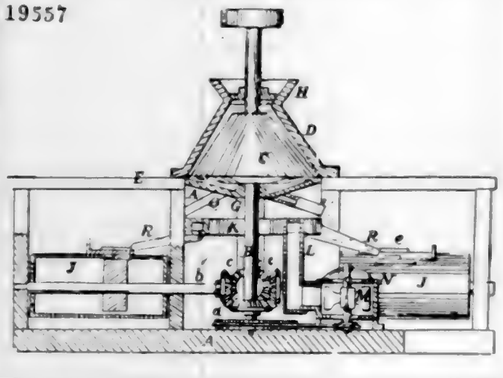
fig. 2



20249



19557



19018



20552

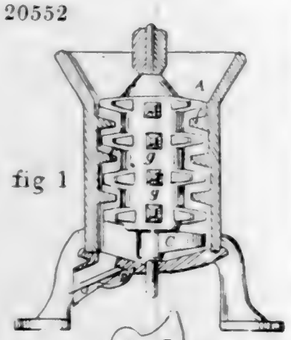


fig 1

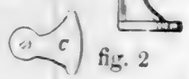
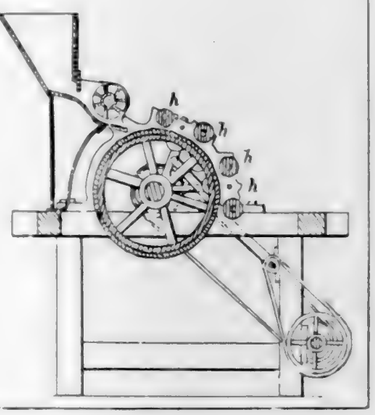


fig. 2

20833



20138

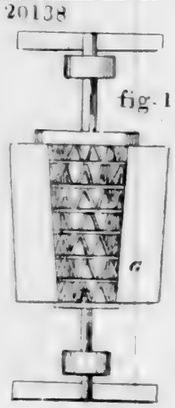


fig. 1

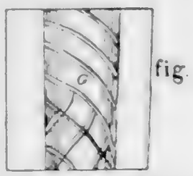


fig. 2

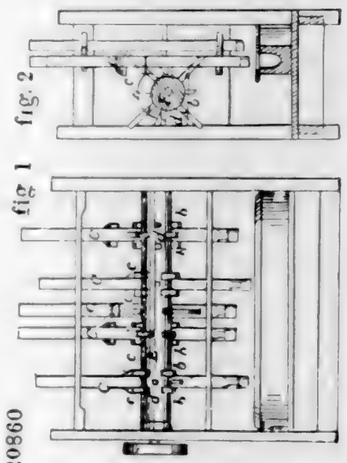


fig. 2

fig 1

20860

19504

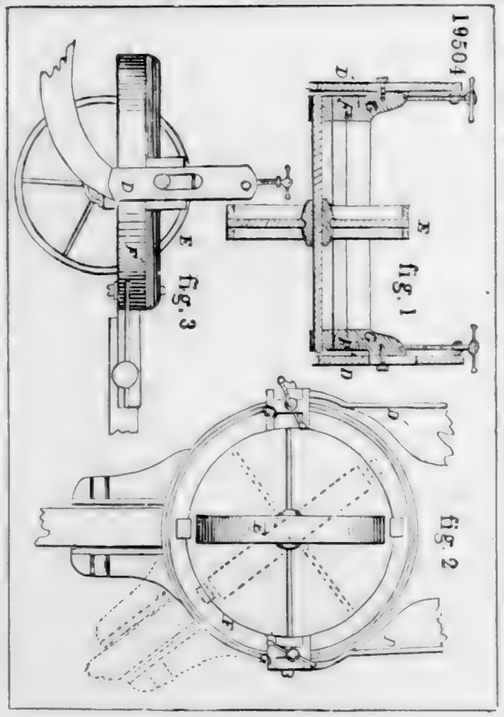
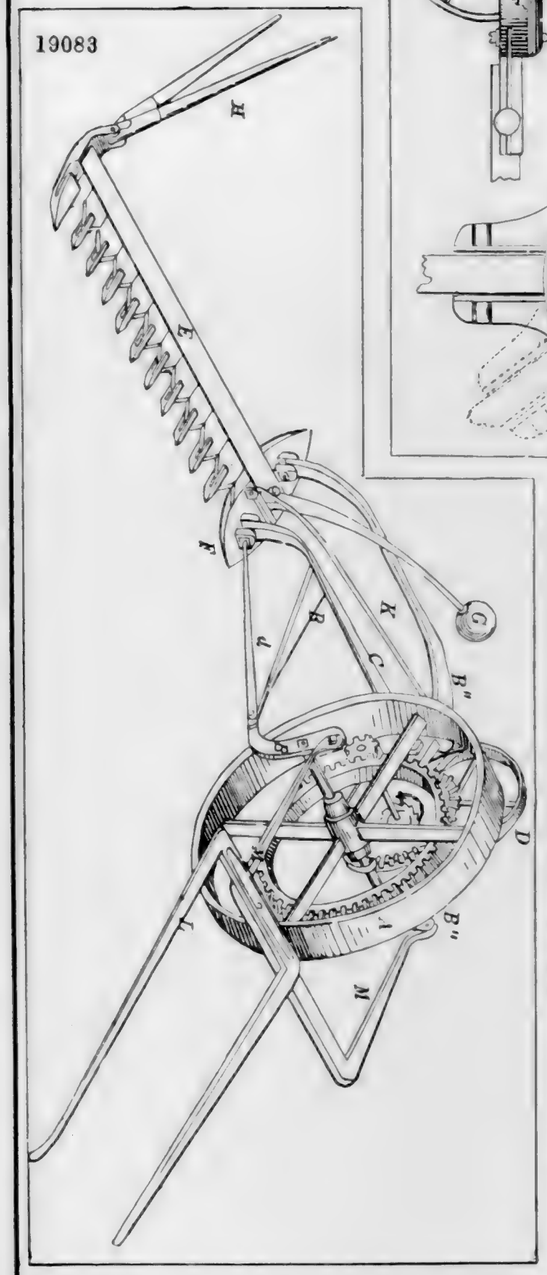


fig. 3

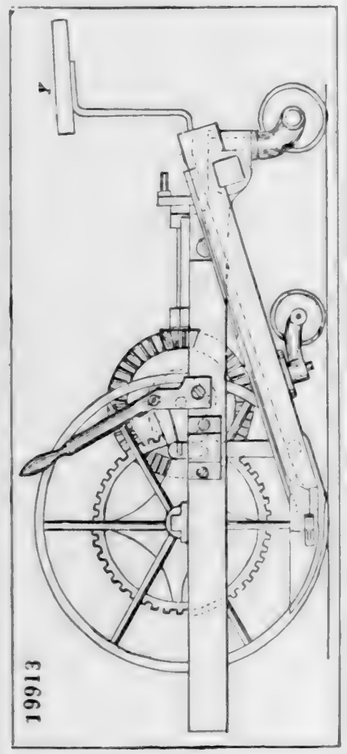
fig. 1

fig. 2

19083



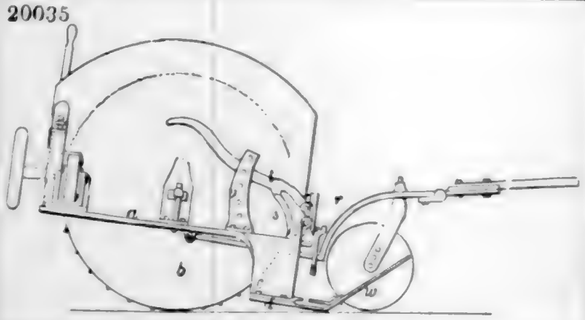
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19084

19085

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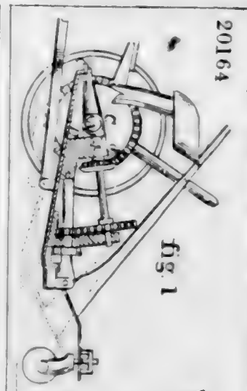


fig. 1

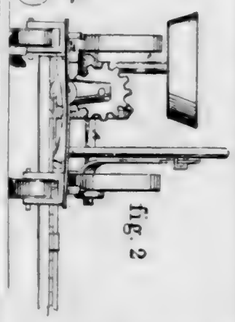
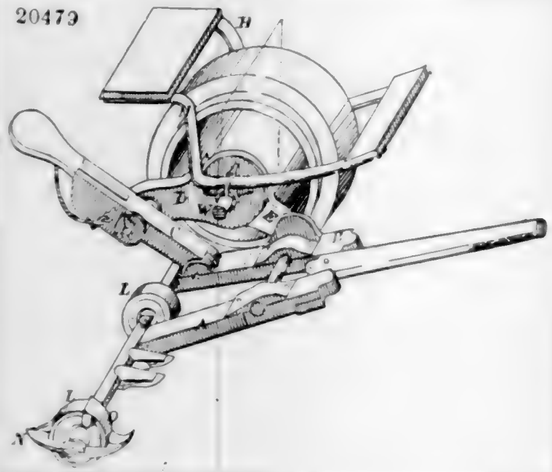


fig. 2

20479



21777

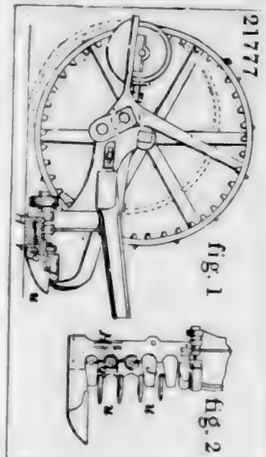
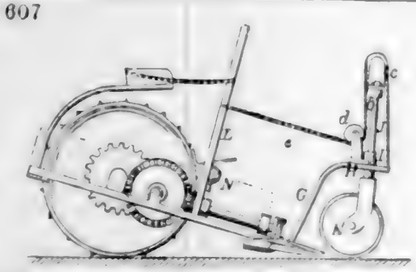


fig. 1

fig. 2

21607



19936

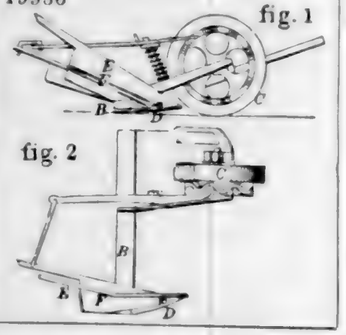


fig. 1

fig. 2

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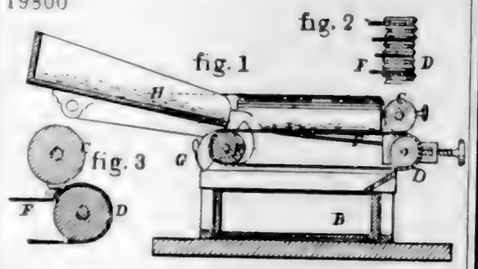


fig. 1

fig. 2

fig. 3

19242

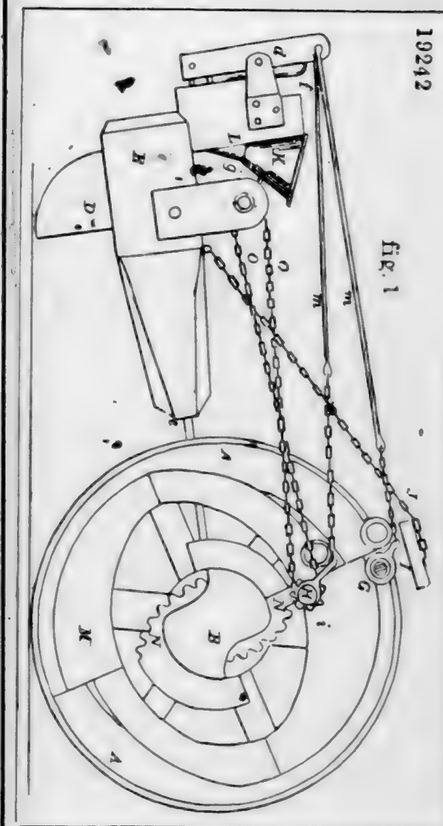


fig. 1

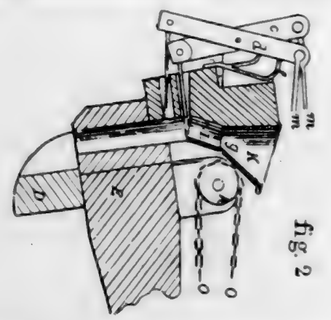
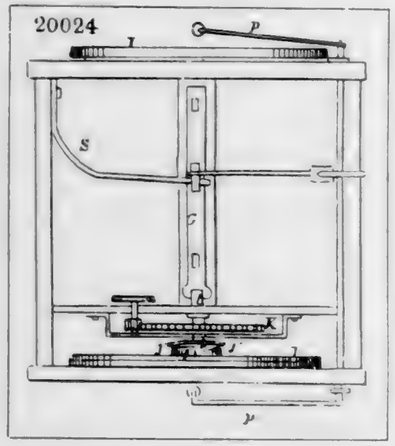


fig. 2

20024



19198

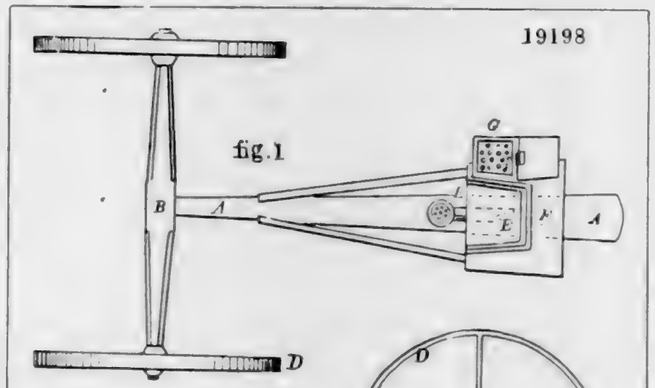


fig. 1

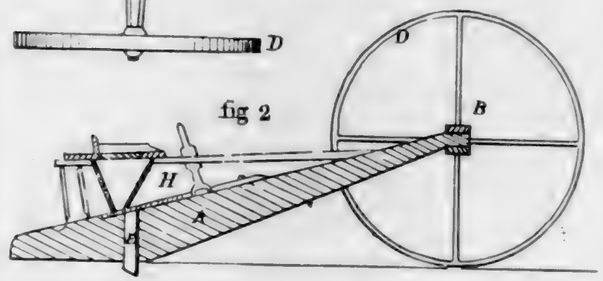


fig 2

20074

fig. 1

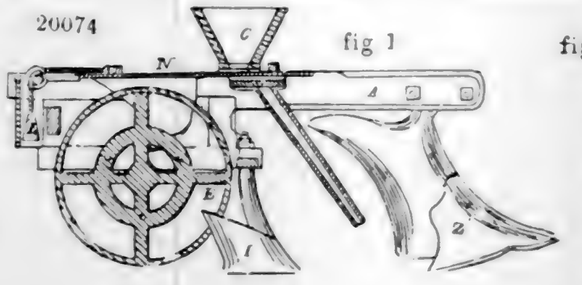
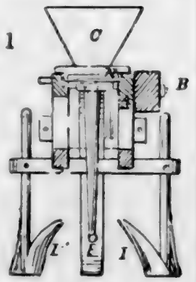


fig. 1



20467

fig. 1

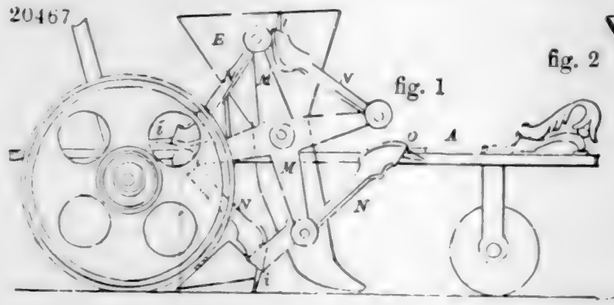
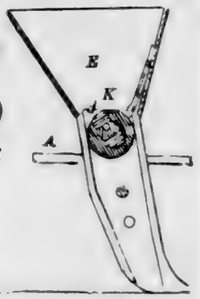
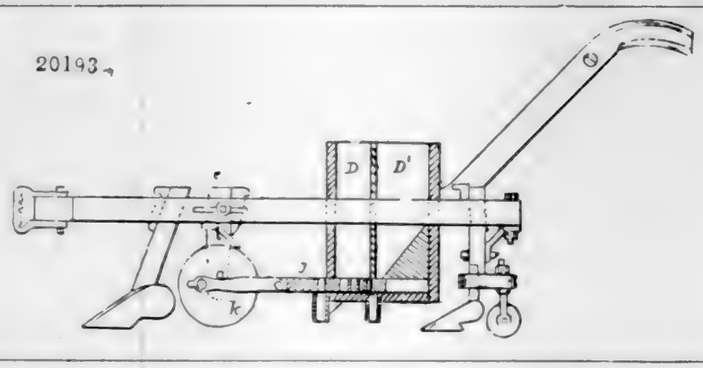


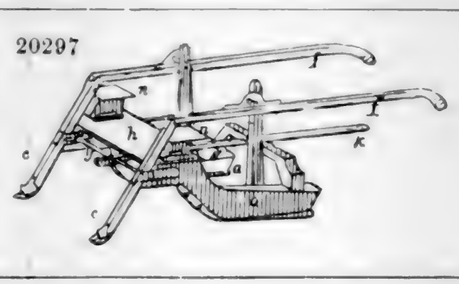
fig. 2



20193

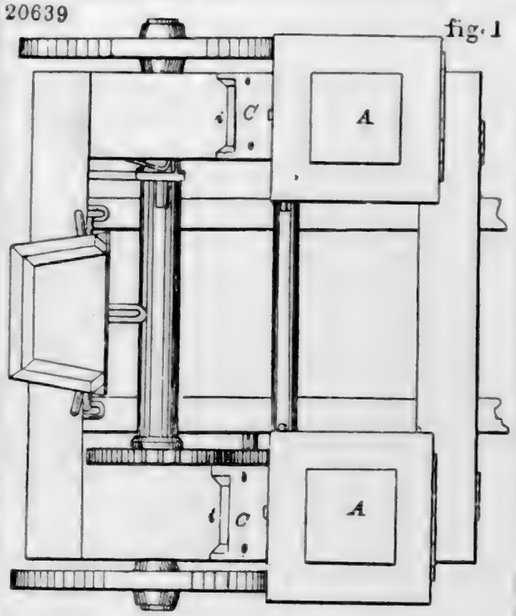


20297



20639

fig. 1



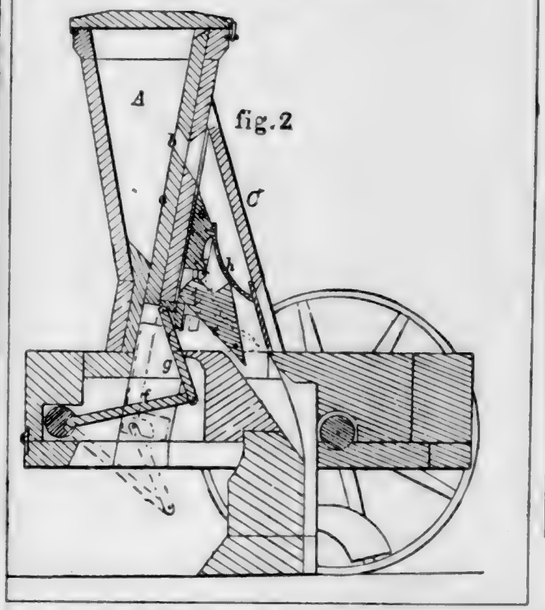
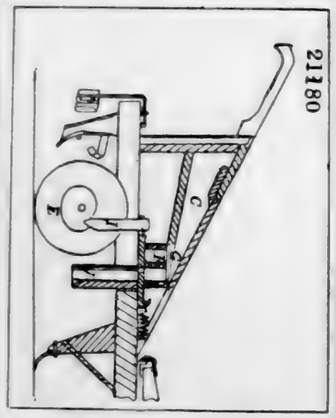


fig. 2

21180



20781

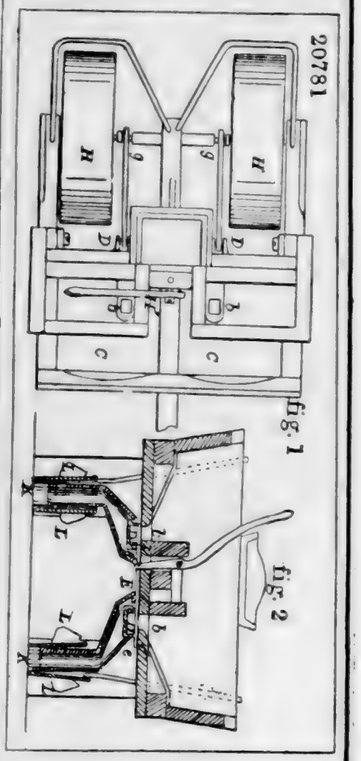


fig. 1

fig. 2

21287

fig. 1

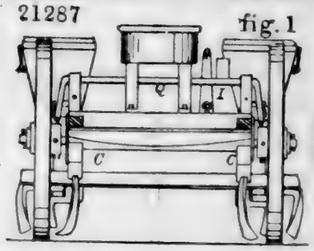
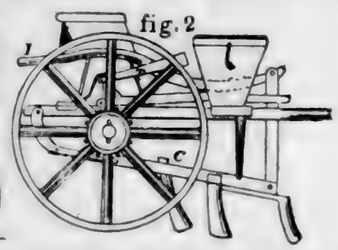


fig. 2



21187

fig. 1

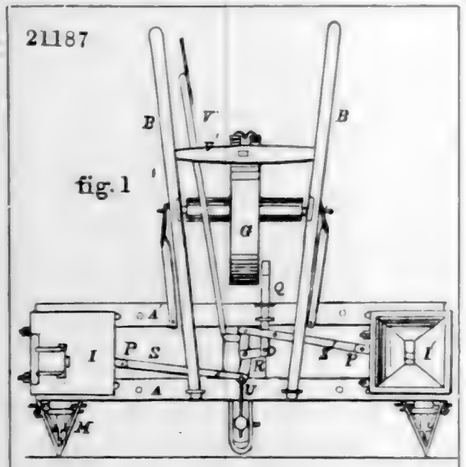
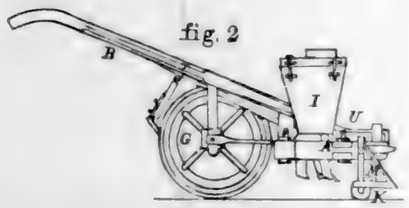
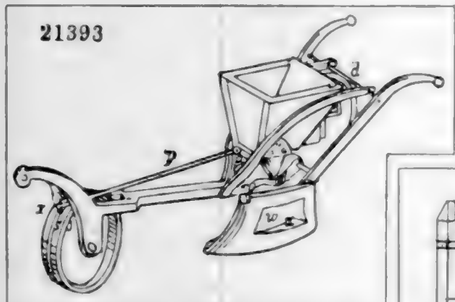


fig. 2



21393



22183

fig. 1

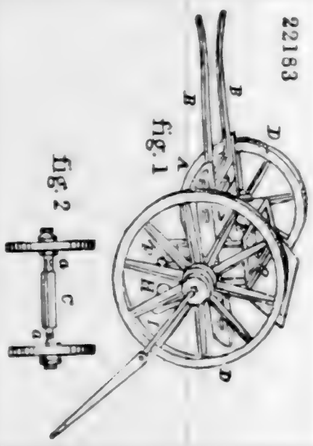
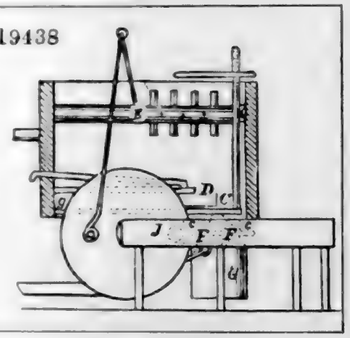


fig. 2

19438



21583

fig. 1

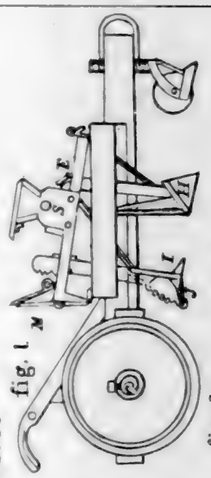
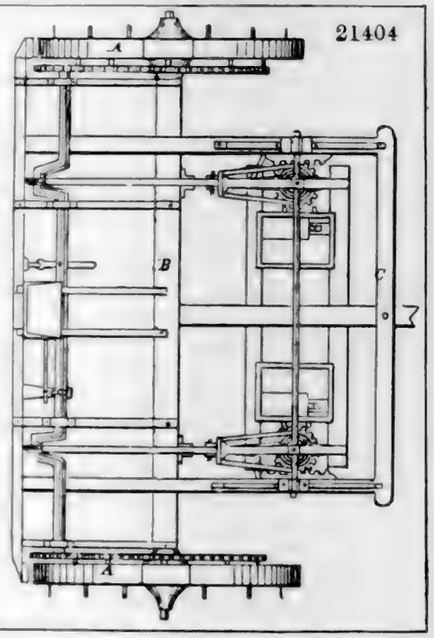


fig. 2



fig. 3

21404



21308

fig. 1

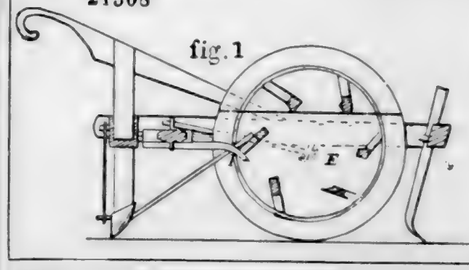
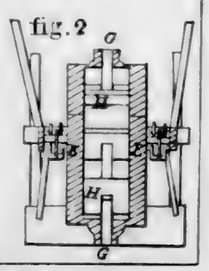


fig. 2



19329

fig. 1

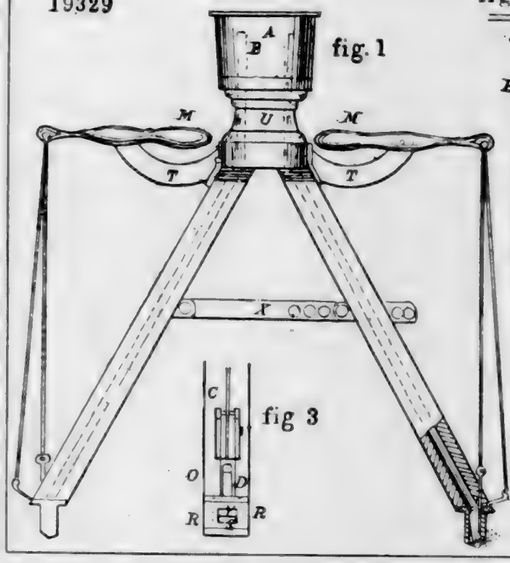


fig. 2



fig 3

19874

fig. 1

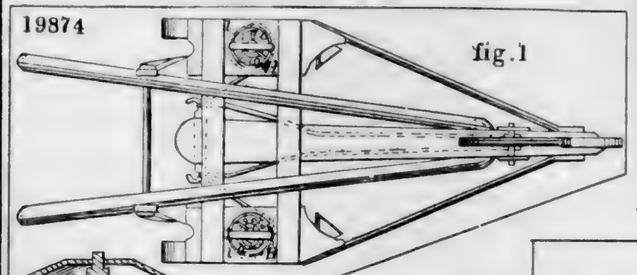
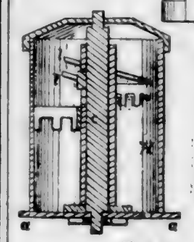
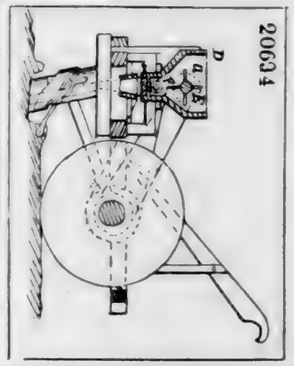


fig. 2



20634



20572

fig. 1

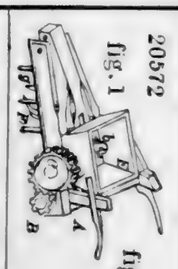
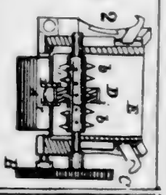


fig 2



20049

fig. 1

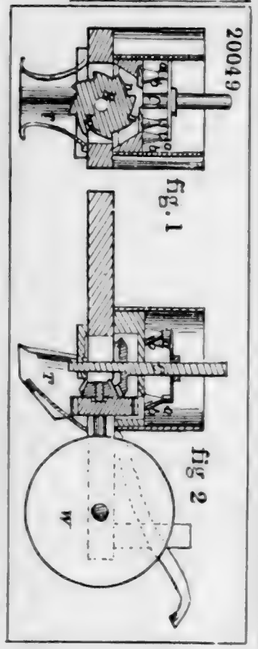
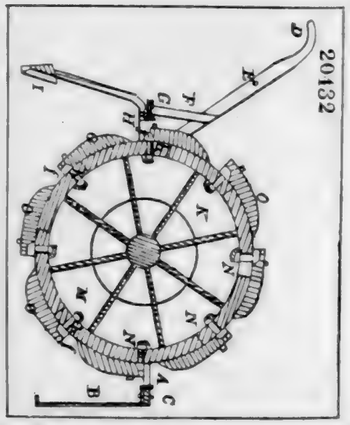


fig 2

20132



19054

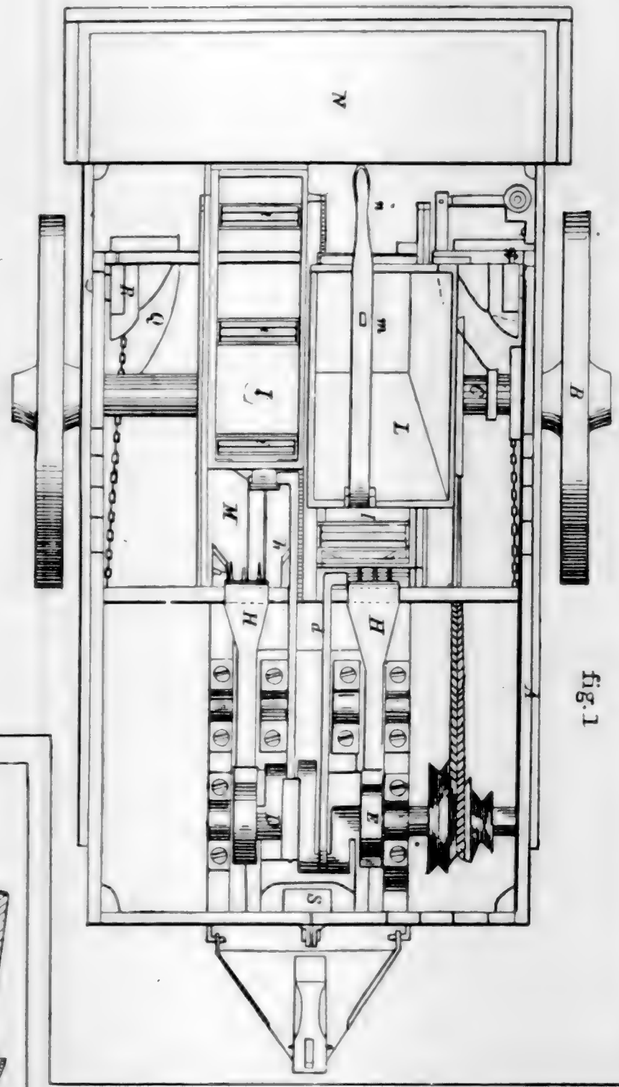
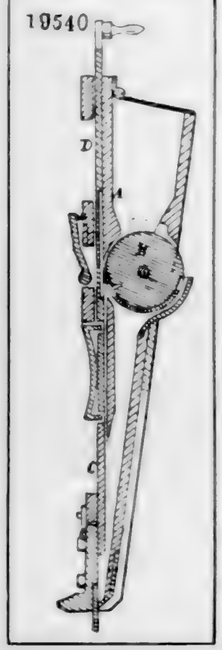
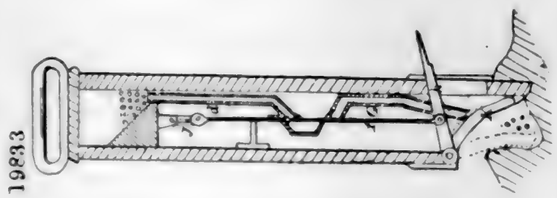


fig. 1

19540



19833



19294

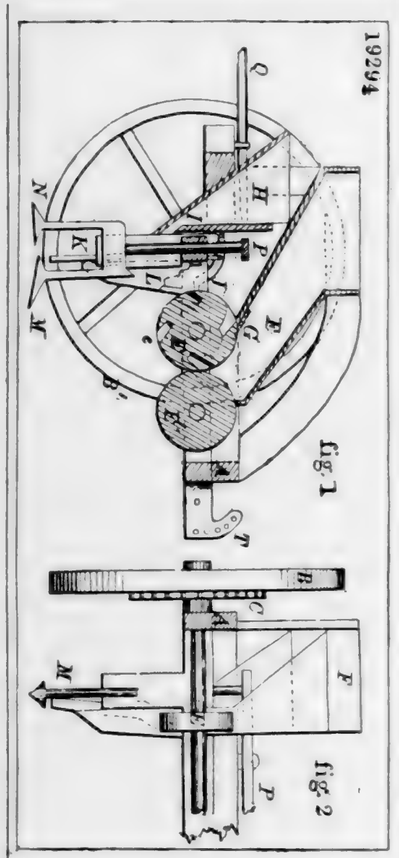


fig. 1

fig. 2

19178

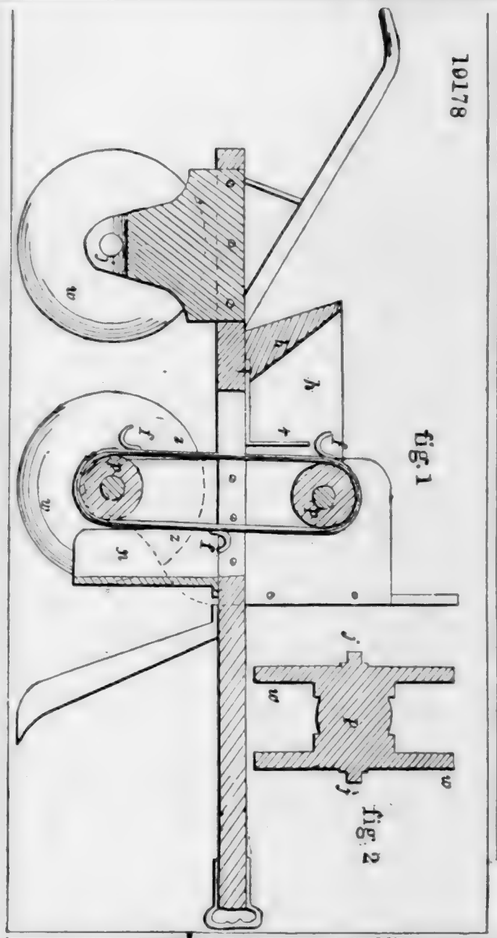
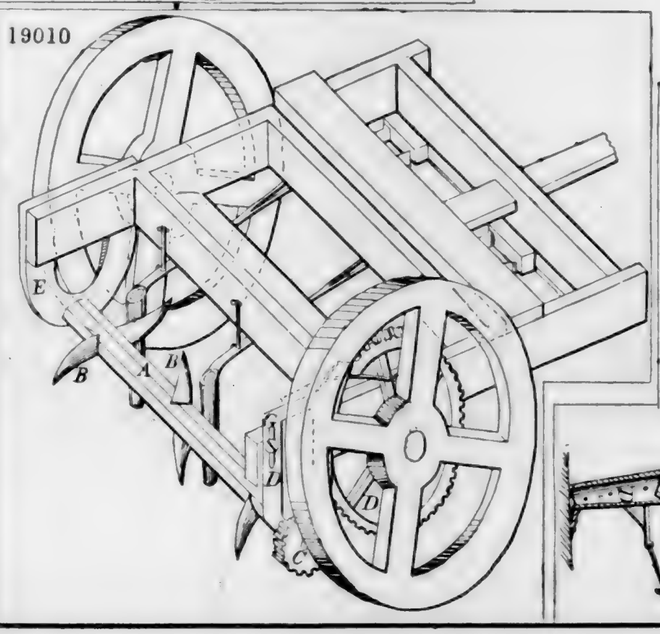


fig. 1

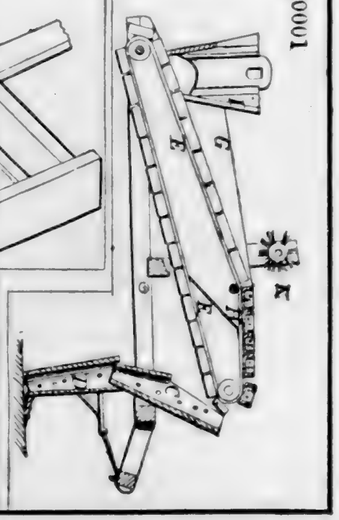


fig. 2

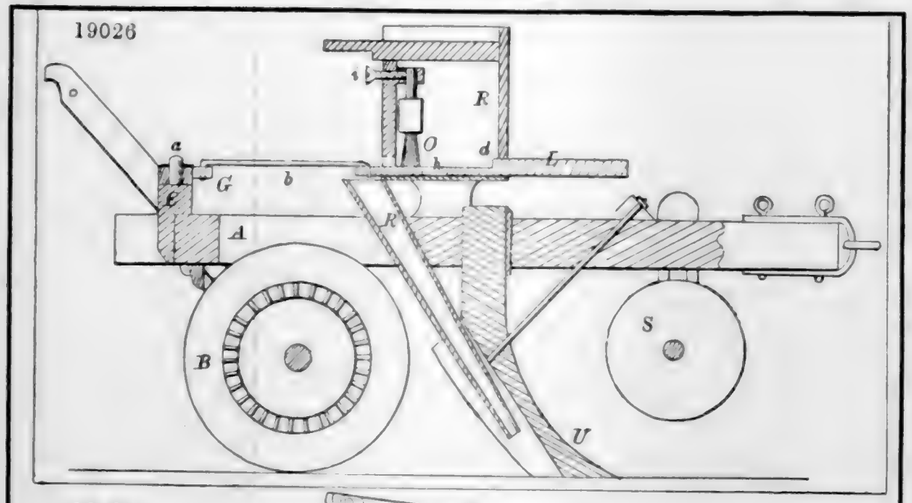
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20001



19026



19122

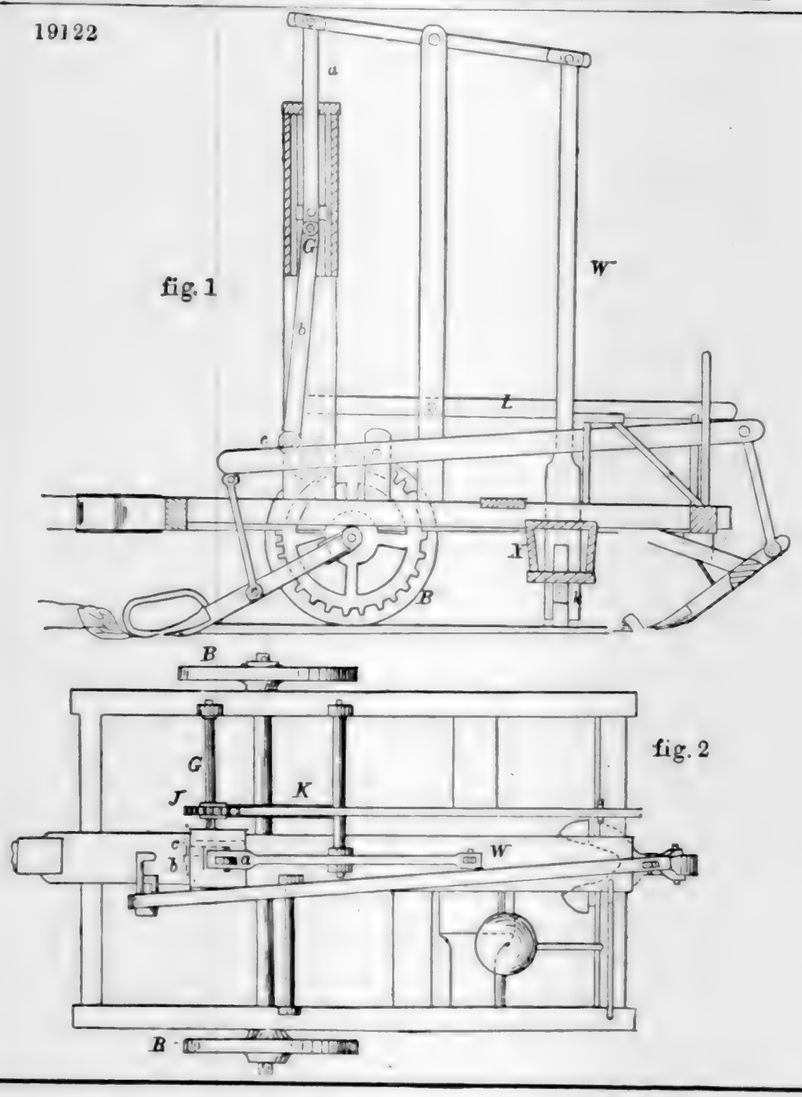
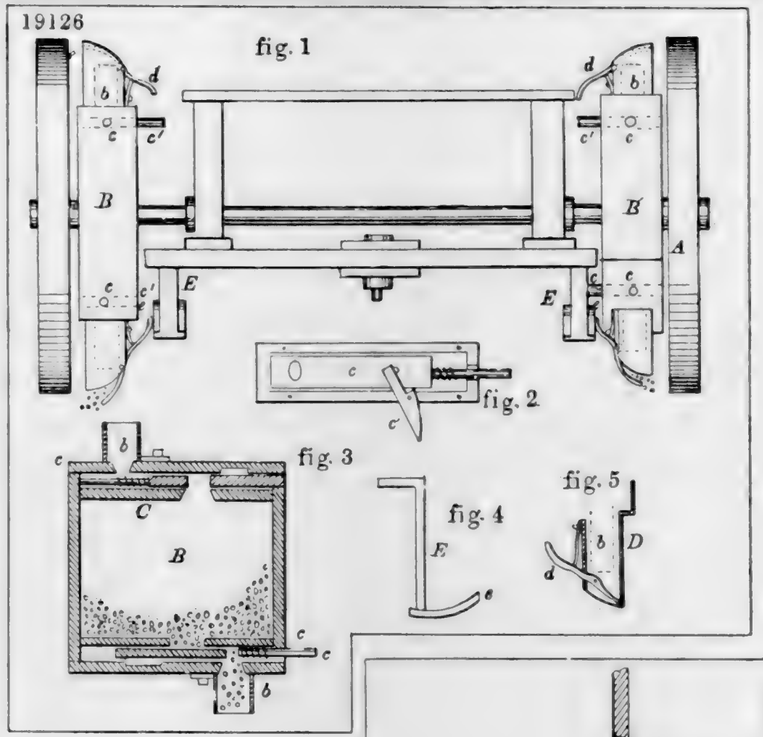


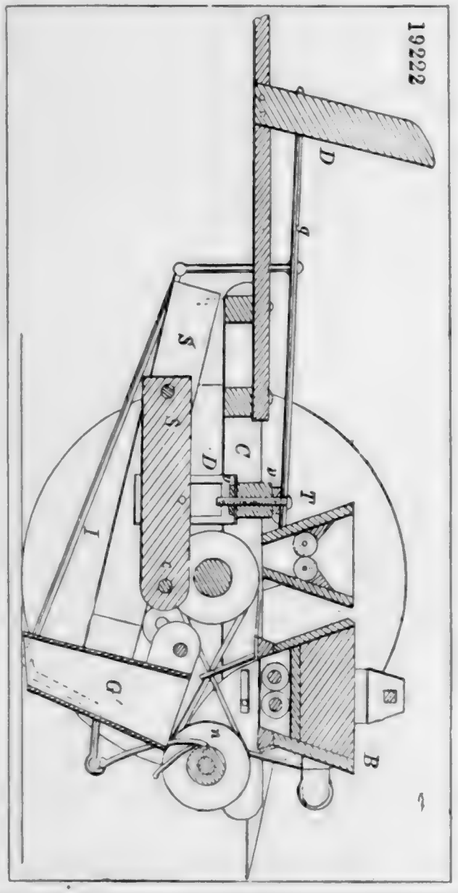
fig. 1

fig. 2

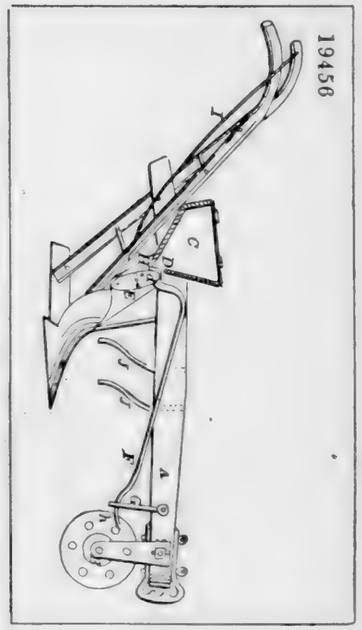
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19222



19456



19404

fig. 2

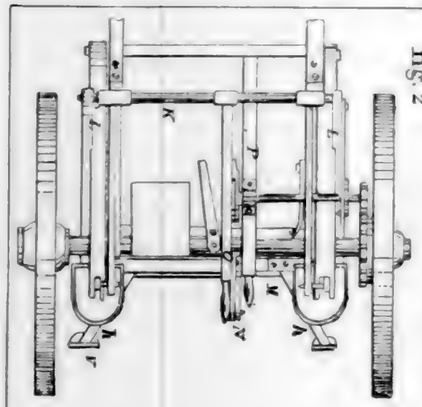
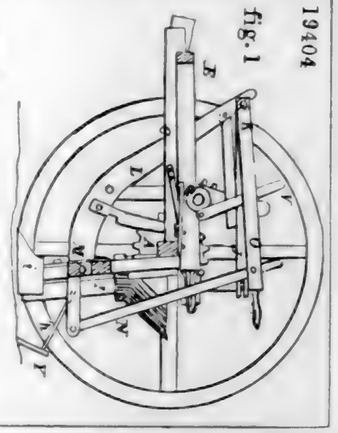


fig. 1



19274

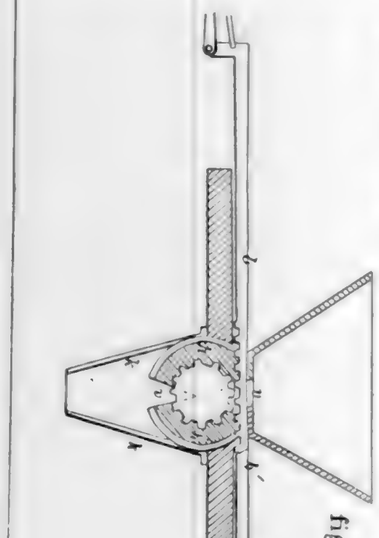


fig. 2

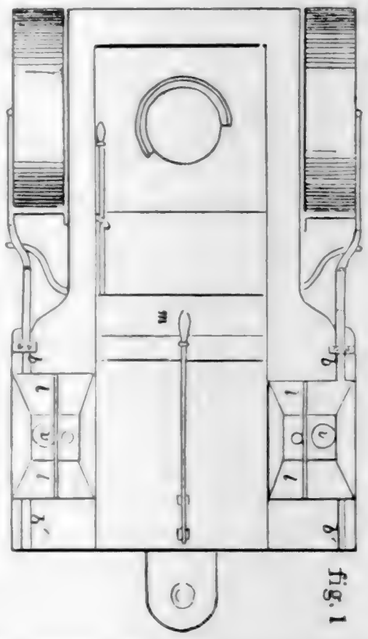


fig. 1

19549

fig. 1

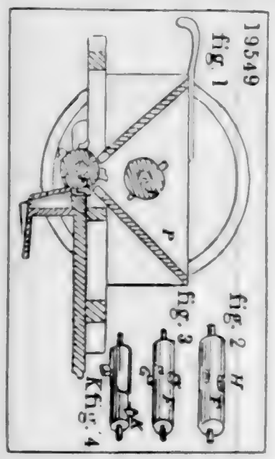
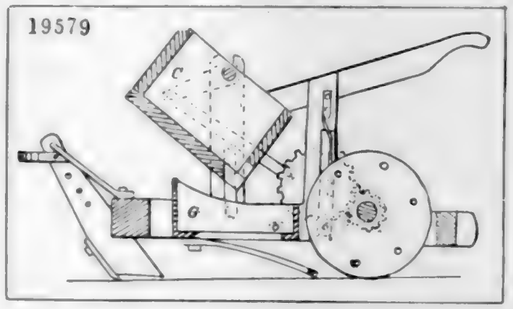


fig. 3

fig. 2

fig. 4

19579



19818

fig. 1

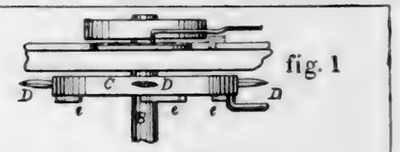
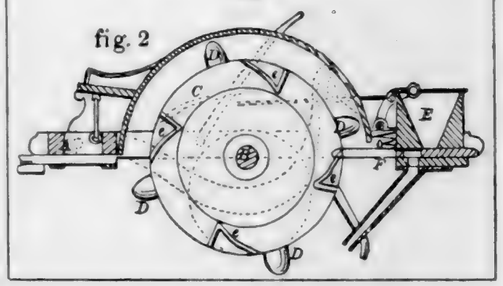
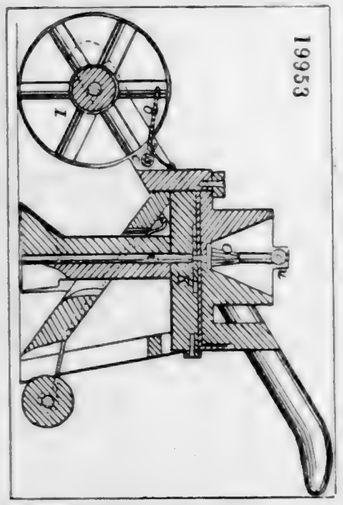


fig. 2



19953



20158

fig. 1

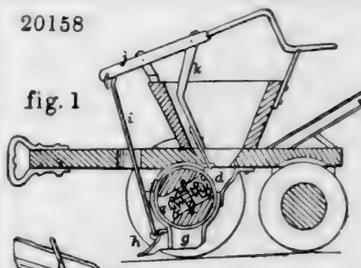


fig. 2

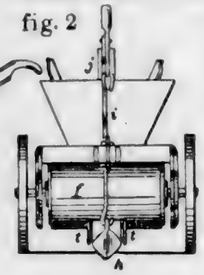
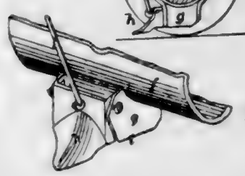


fig. 3



20143

fig. 1

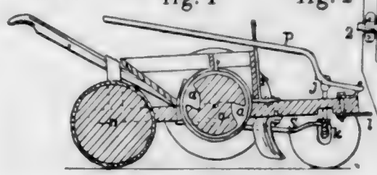


fig. 2

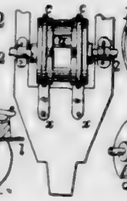
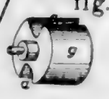


fig. 3

fig. 4



20440

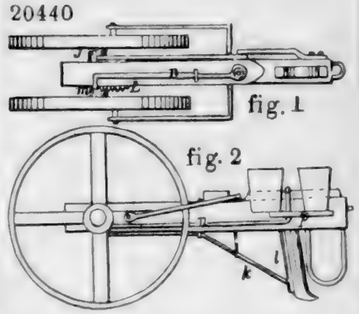
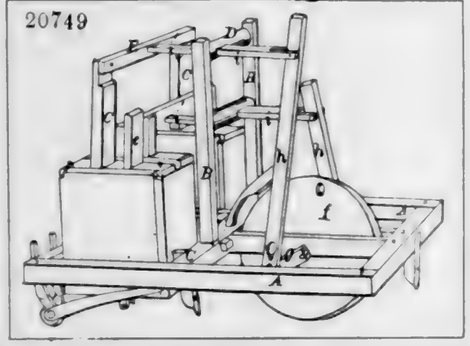


fig. 1

fig. 2

20749



20051

fig. 1

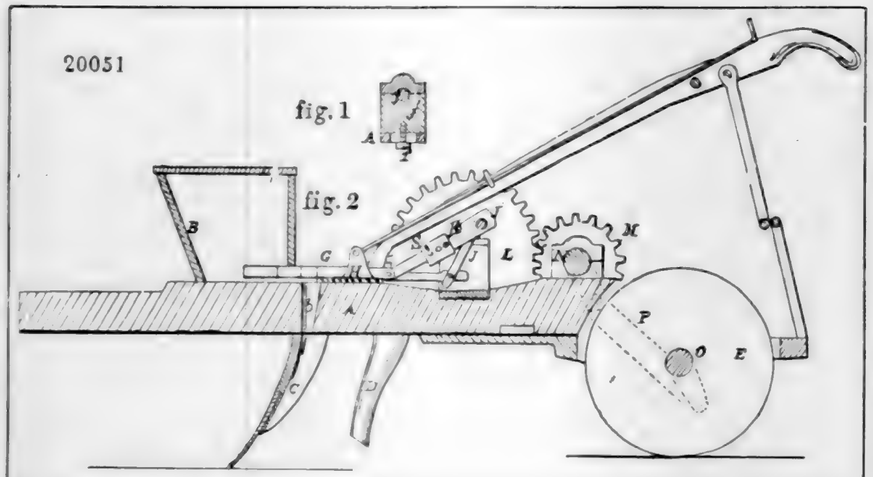


fig. 2

20738

fig. 1

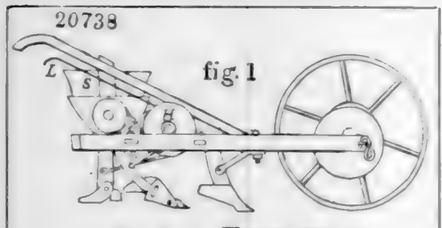


fig. 2

fig. 2

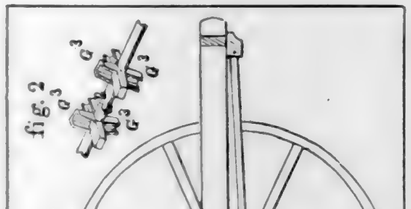


fig. 1

21034

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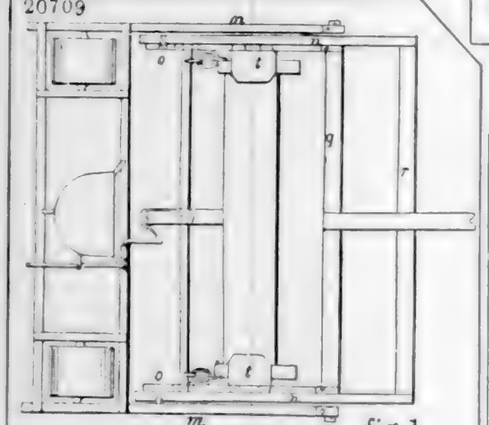


fig. 1

fig. 2

21112

fig. 1

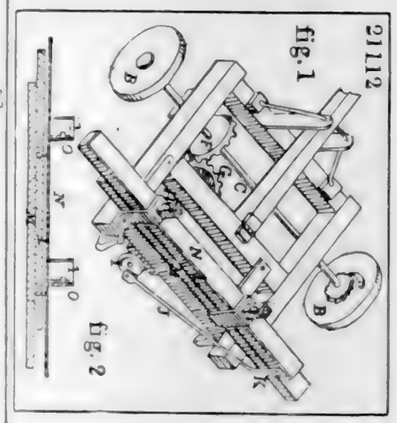


fig. 2

21102

fig. 1

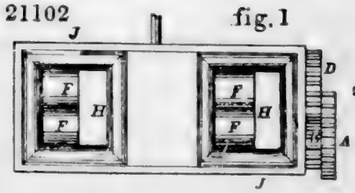
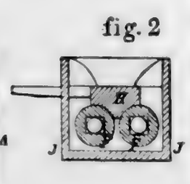


fig. 2



22228

fig. 1

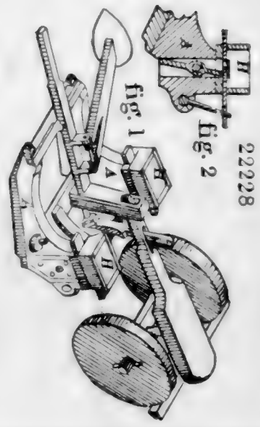
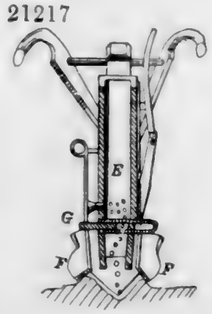


fig. 2

21217



21127

fig. 1

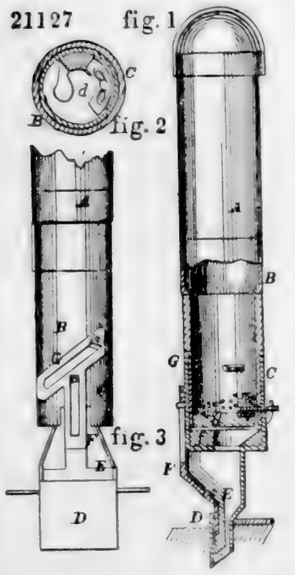
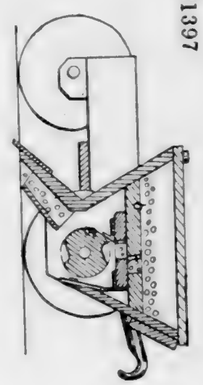


fig. 2

fig. 3

21397



22156

fig. 1

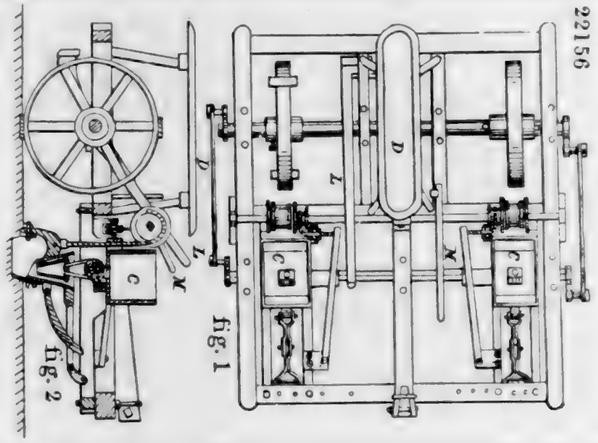
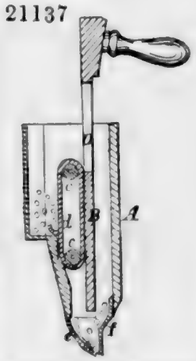


fig. 2

21137



21440

fig. 1

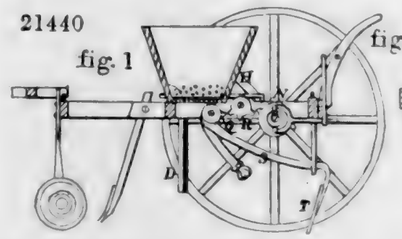
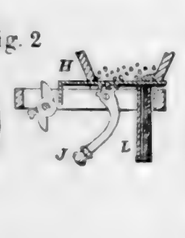
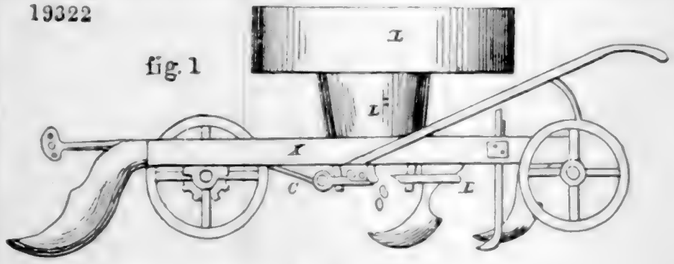


fig. 2



19322

fig. 1



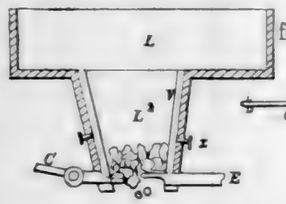


fig. 2

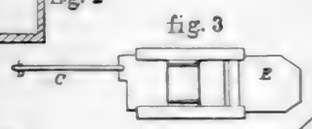


fig. 3

19869

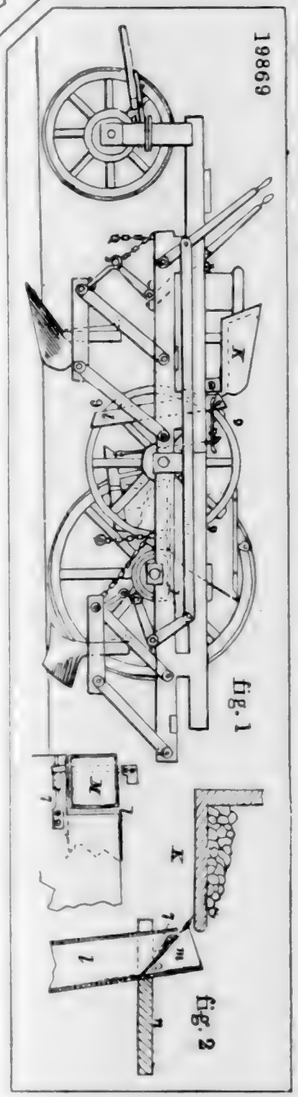
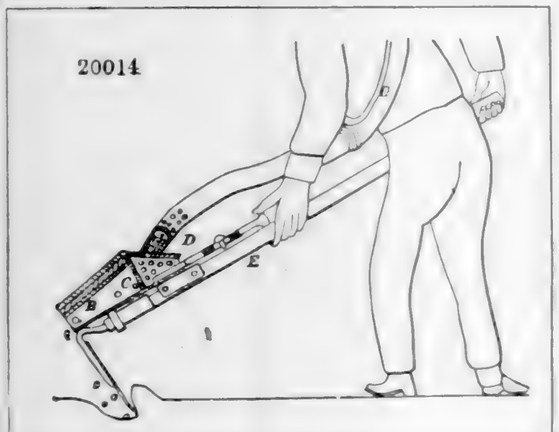


fig. 1

fig. 2

20014



22438

fig. 1

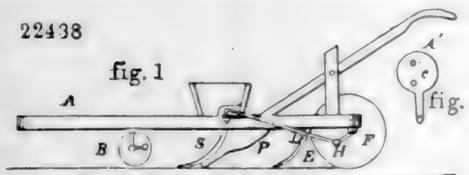


fig. 3

fig. 2

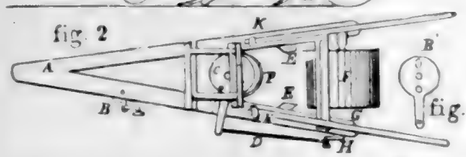


fig. 4

19103

fig. 2

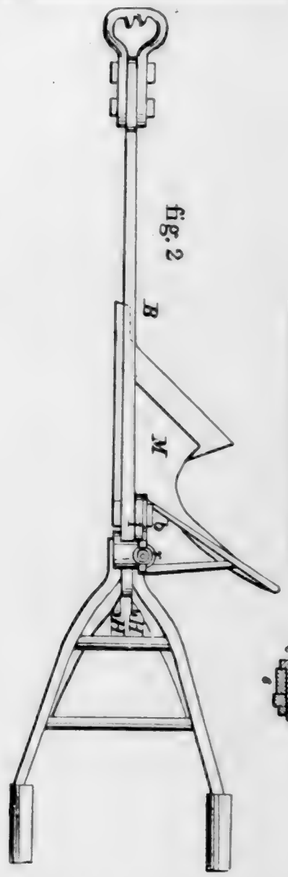


fig. 1

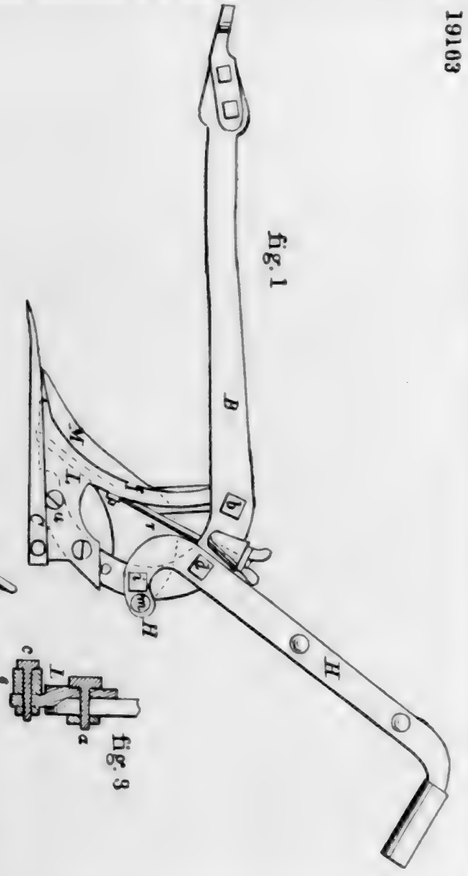
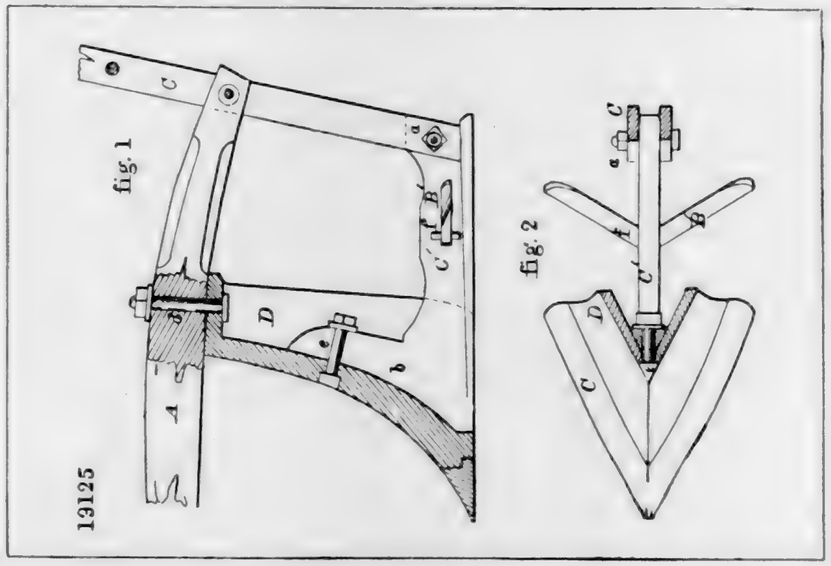
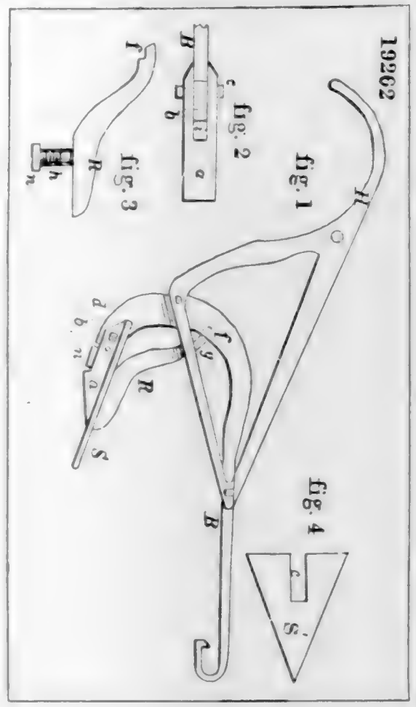


fig. 3

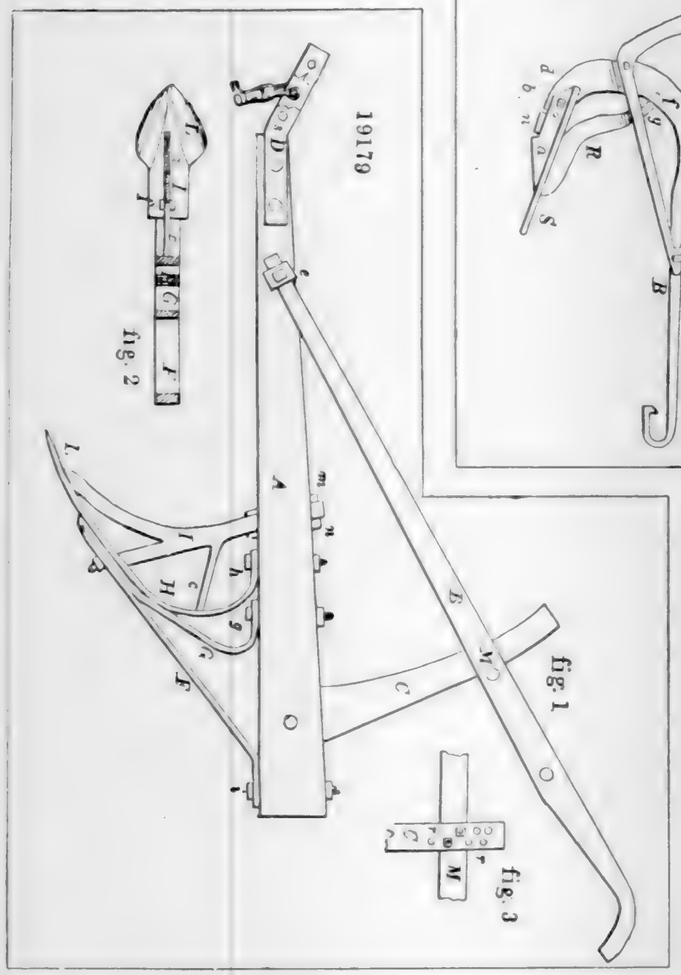
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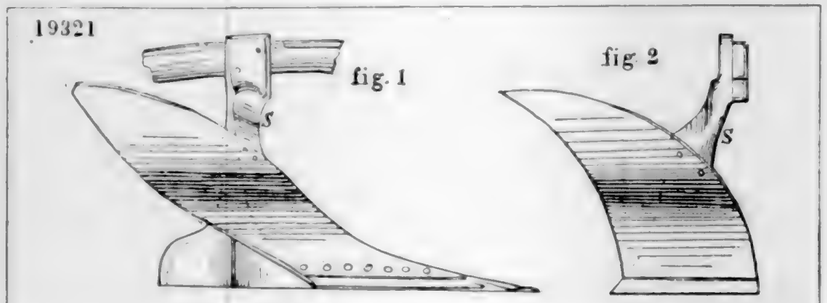
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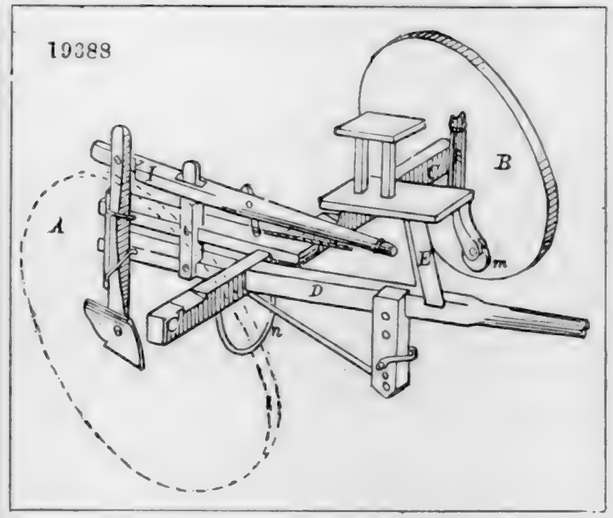
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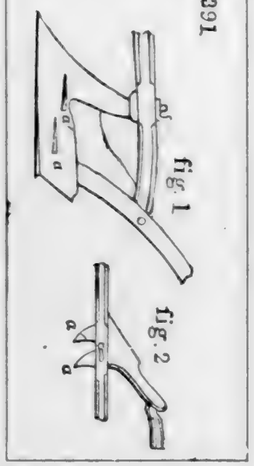
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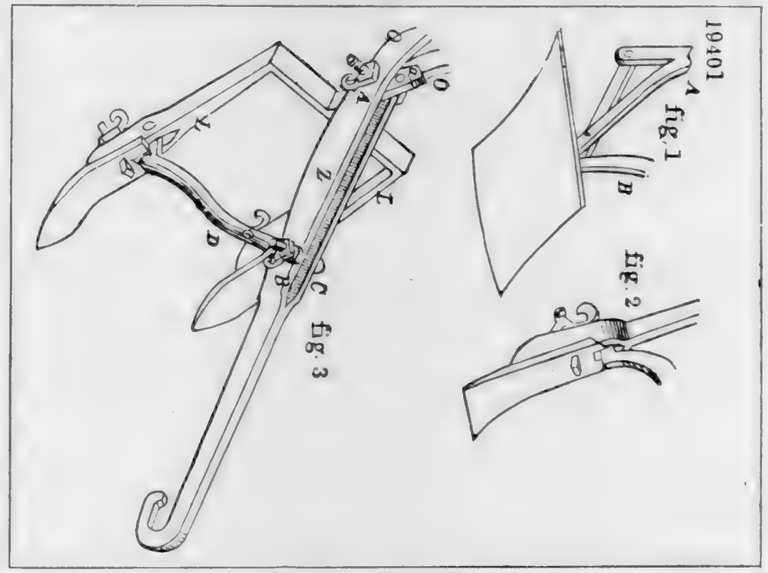
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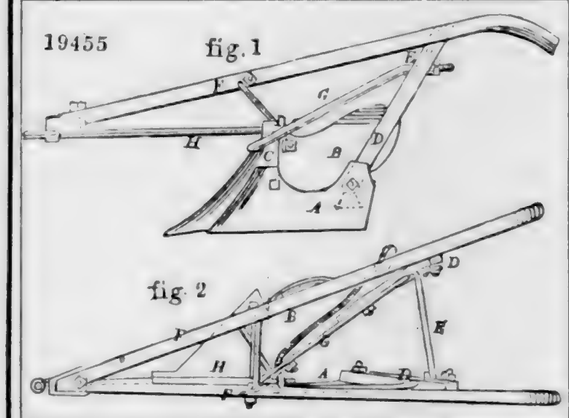
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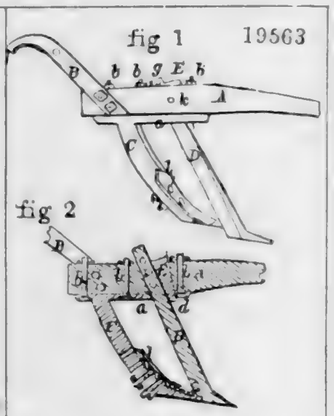
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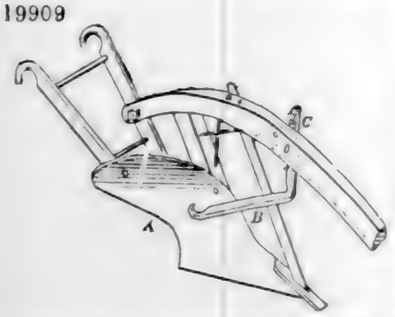
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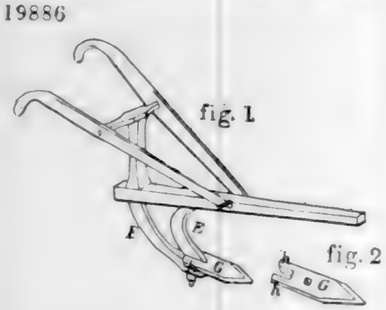
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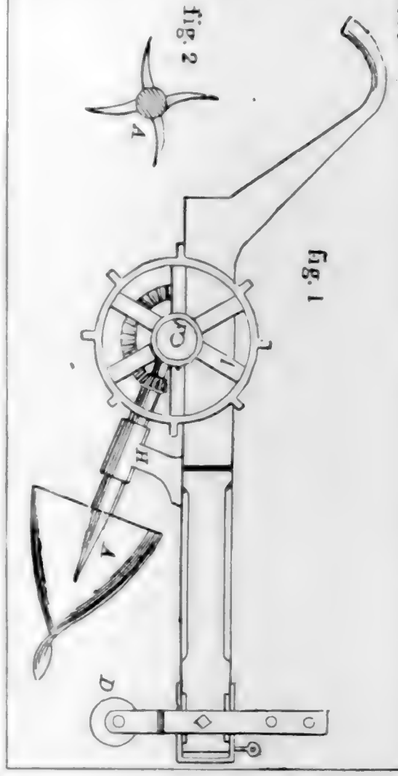
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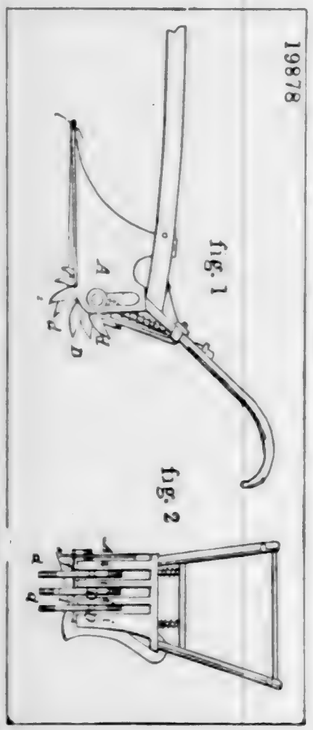
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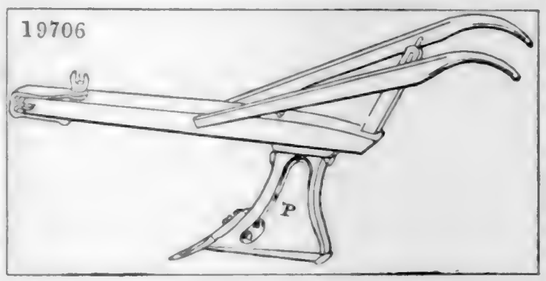
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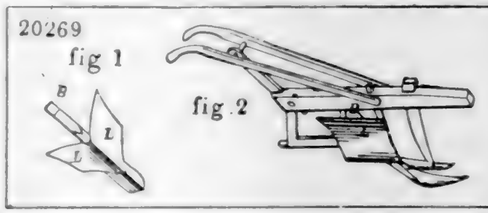
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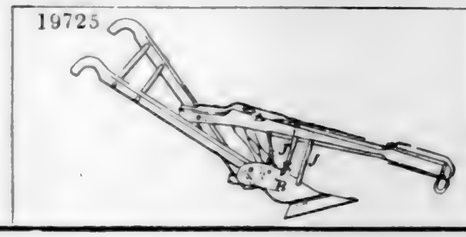
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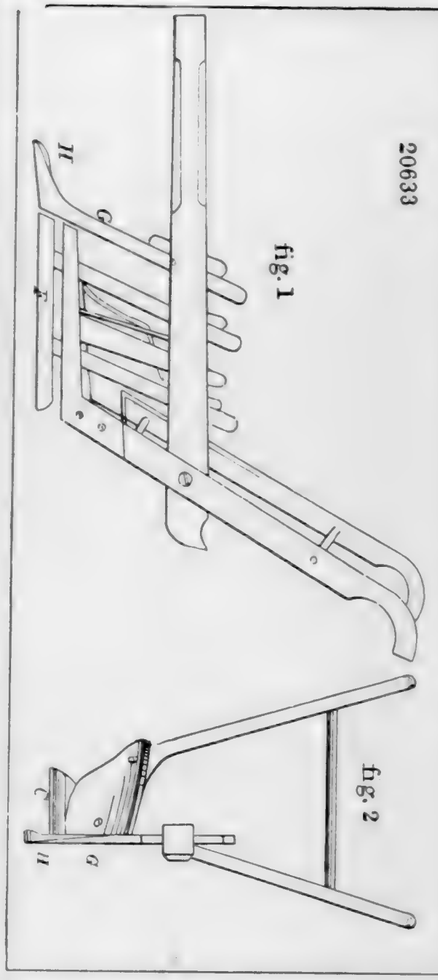
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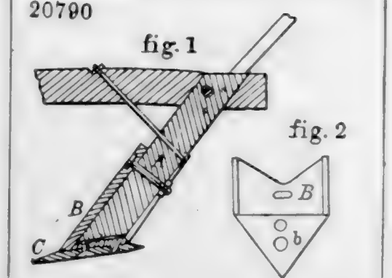
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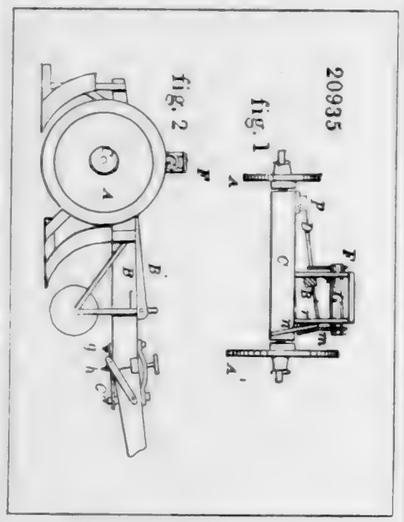
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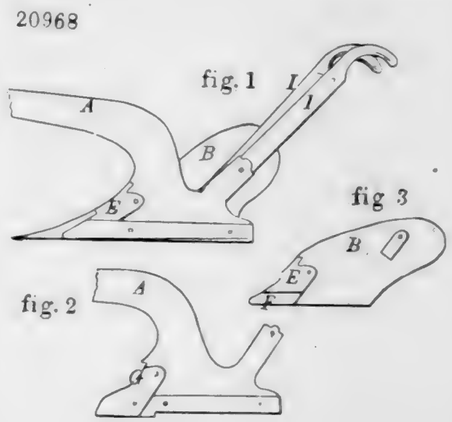
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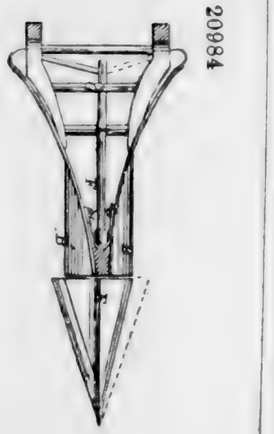
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20968



20084



6

21167

fig. 1

fig. 2

21423

21598

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fig. 1

fig 2

21824

21846

fig. 1

fig 2

21953

21975

22013

fig. 1

fig. 2

22389

22332

fig. 1

fig. 2

fig. 3

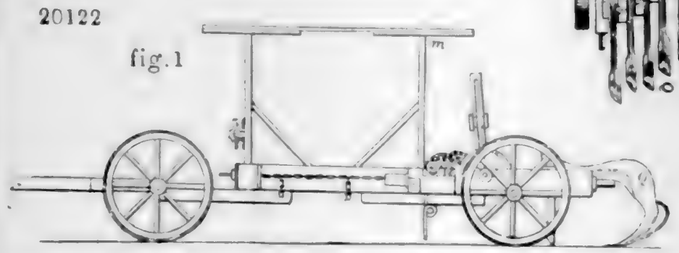
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19077



20122

fig. 1



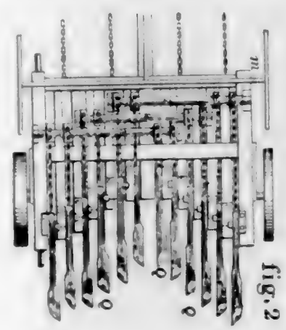


fig. 2

20647

fig. 1

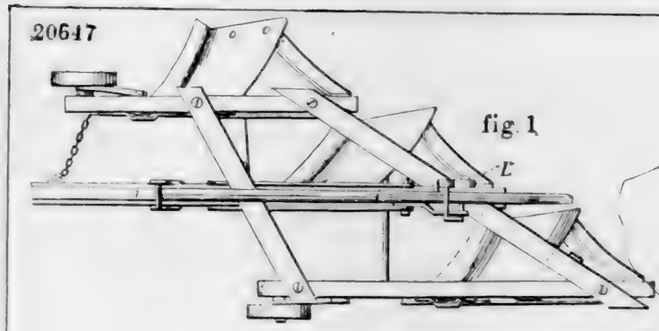
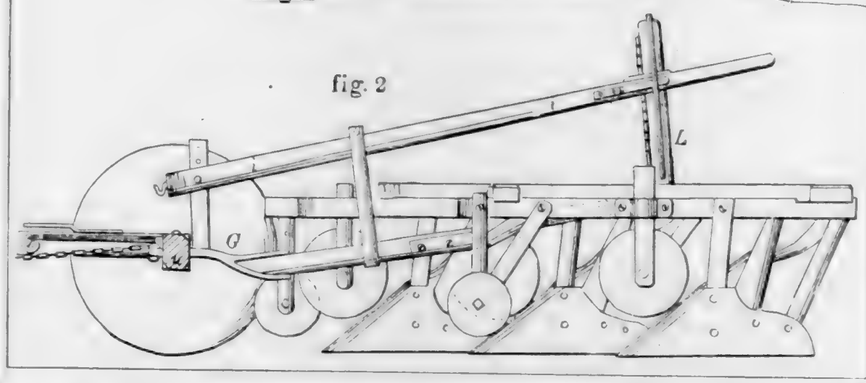
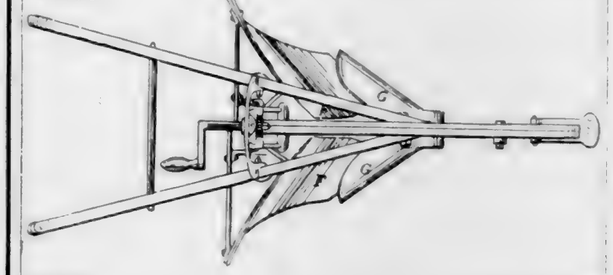


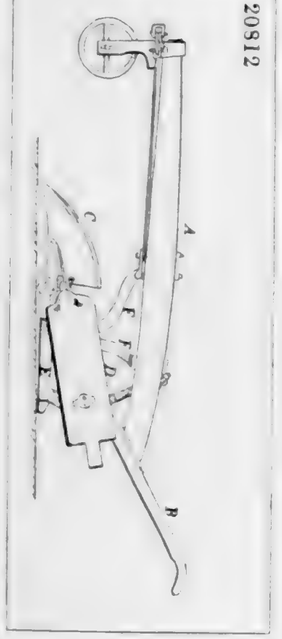
fig. 2



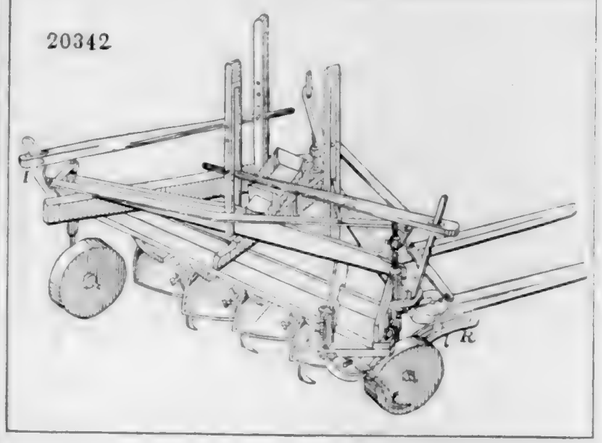
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20812



20342



19412

fig. 1

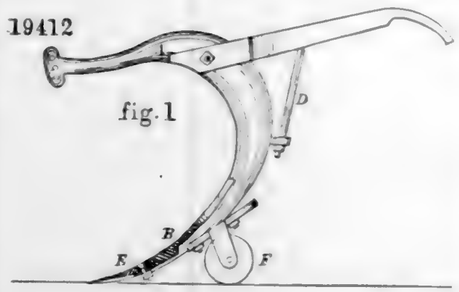
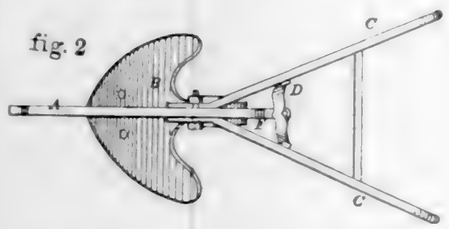
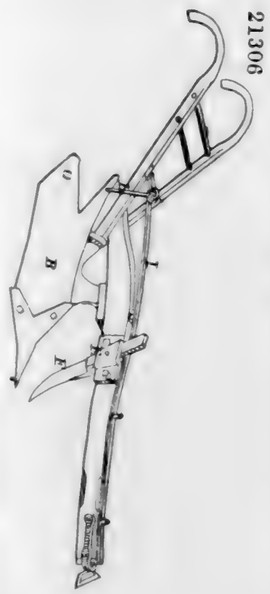


fig. 2



21306



21547

fig. 1

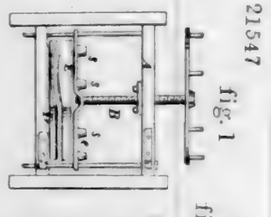
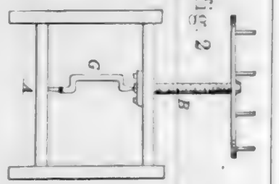
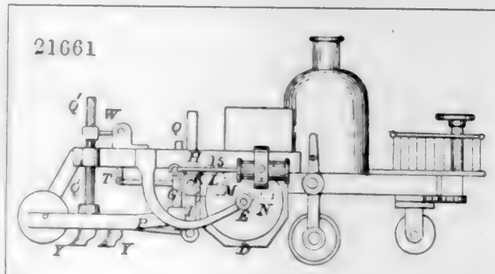


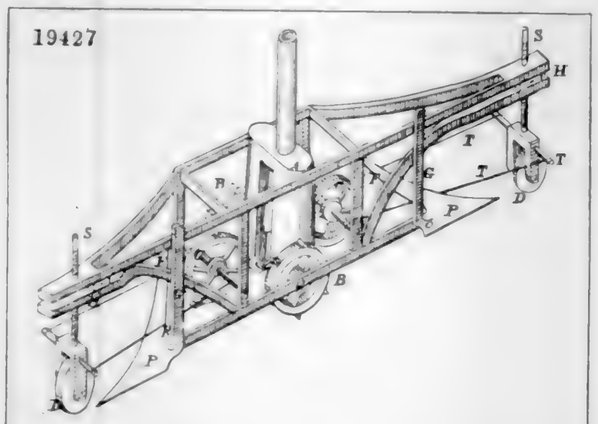
fig. 2



21661



19427



19215

fig. 1

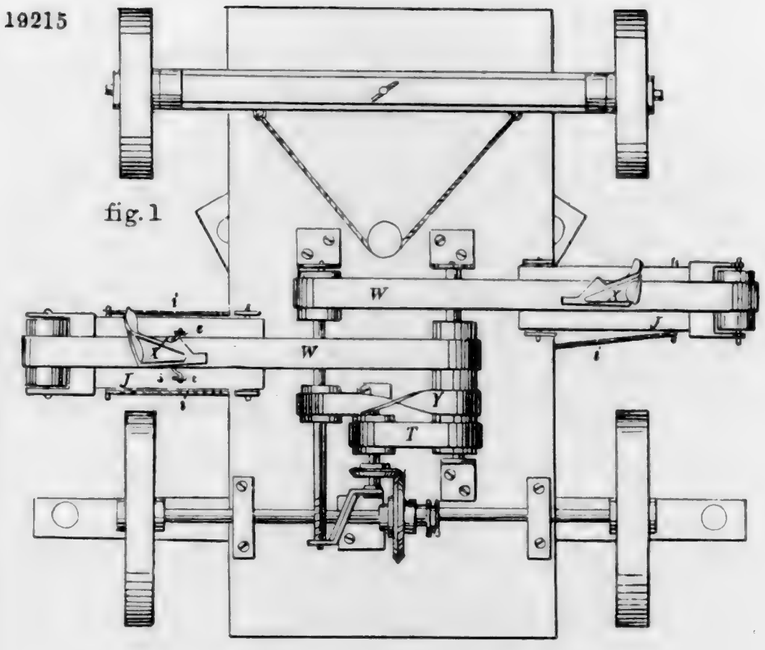
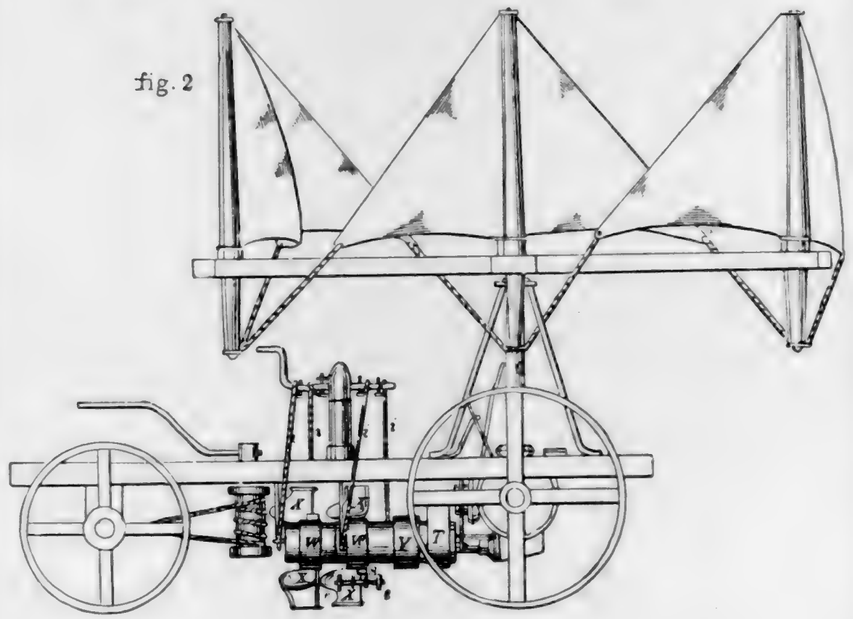


fig. 2



19189

fig. 1

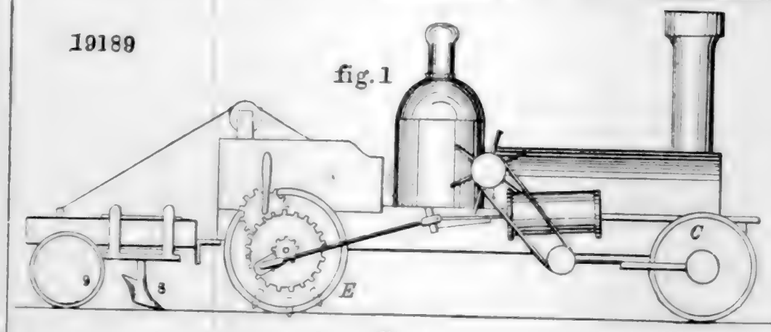


fig. 2

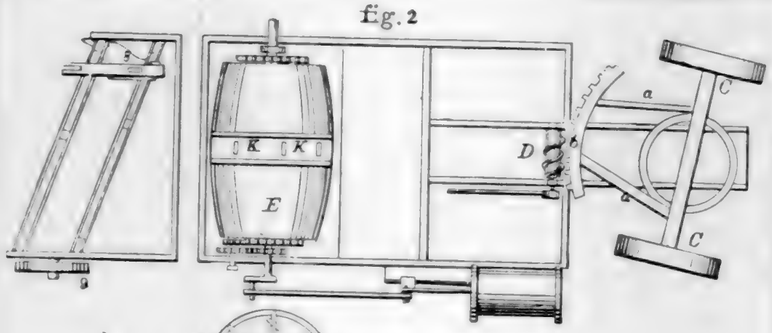


fig. 3



19849

fig. 1

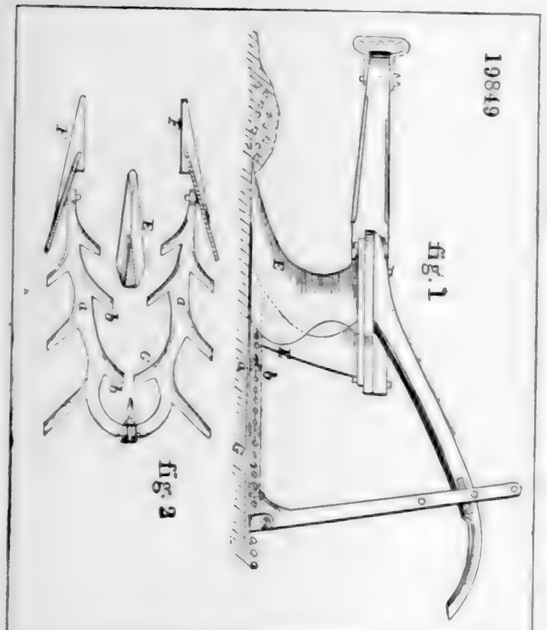
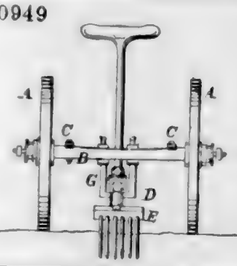
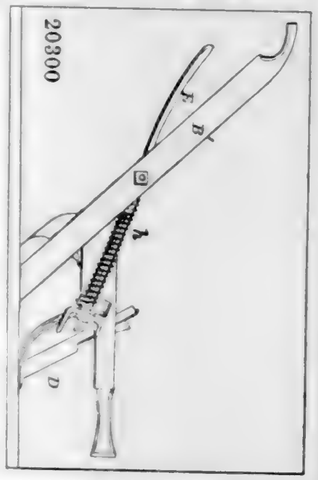


fig. 2

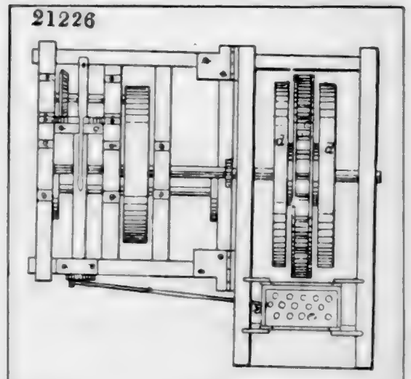
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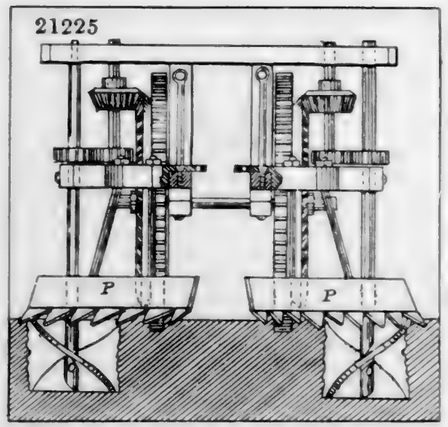
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21226



21225



21413

fig. 1

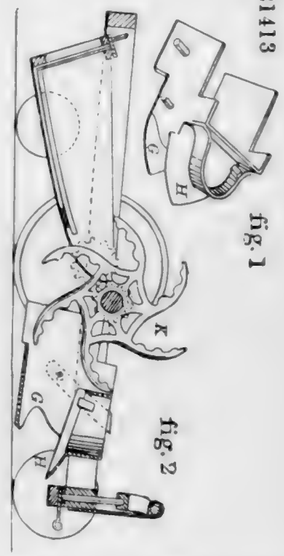
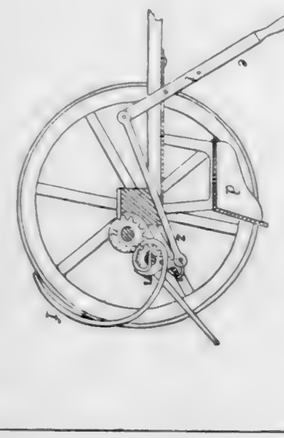
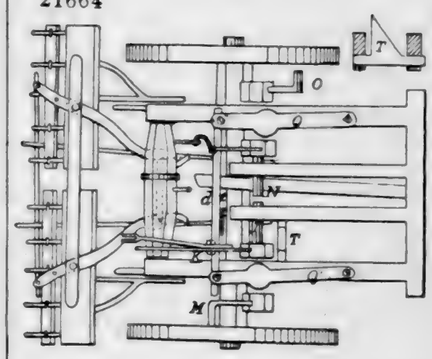


fig. 2

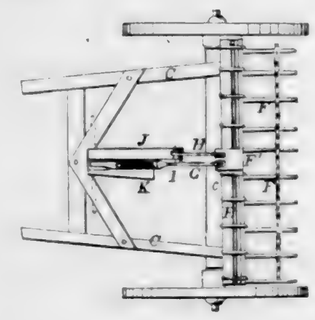
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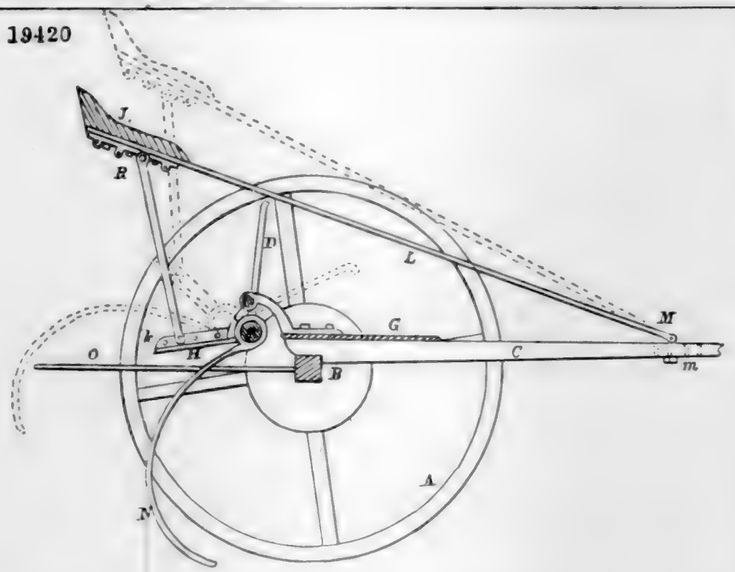
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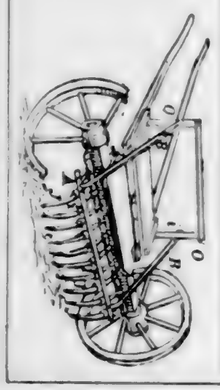
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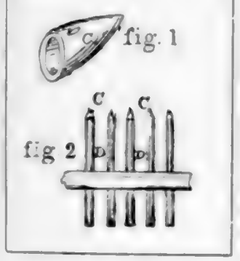
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19753 N fig 1 fig. 2

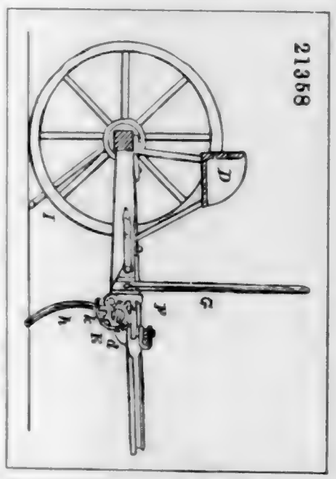
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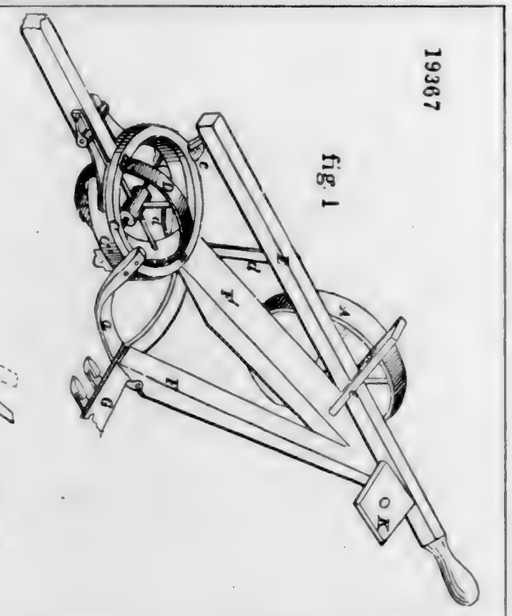
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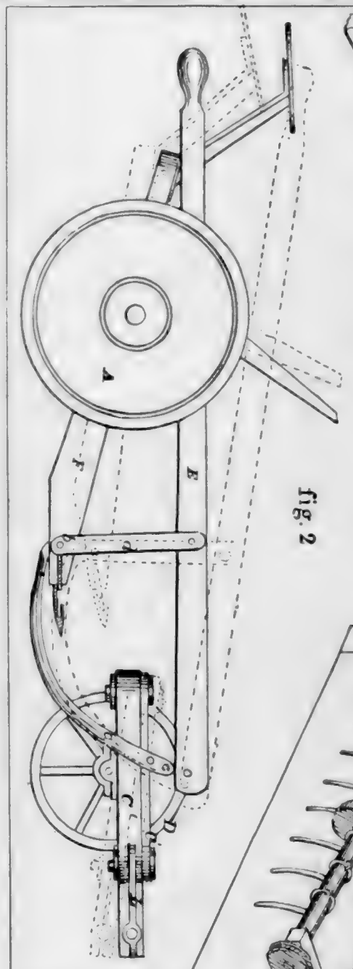


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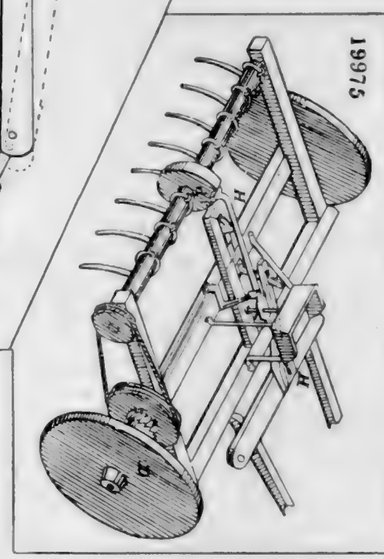


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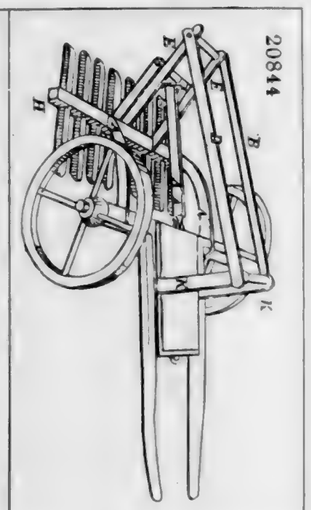




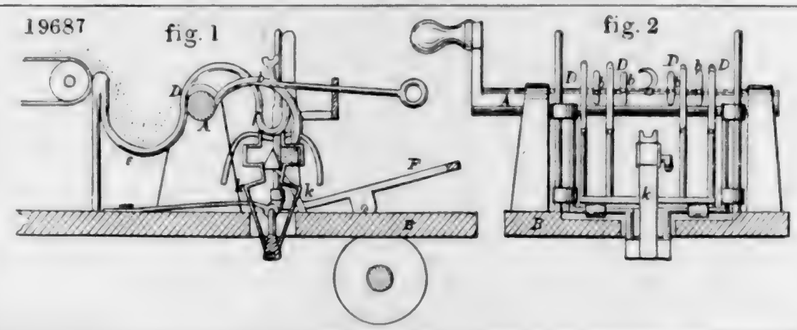
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20844



19687 fig. 1 fig. 2



19118

fig. 1

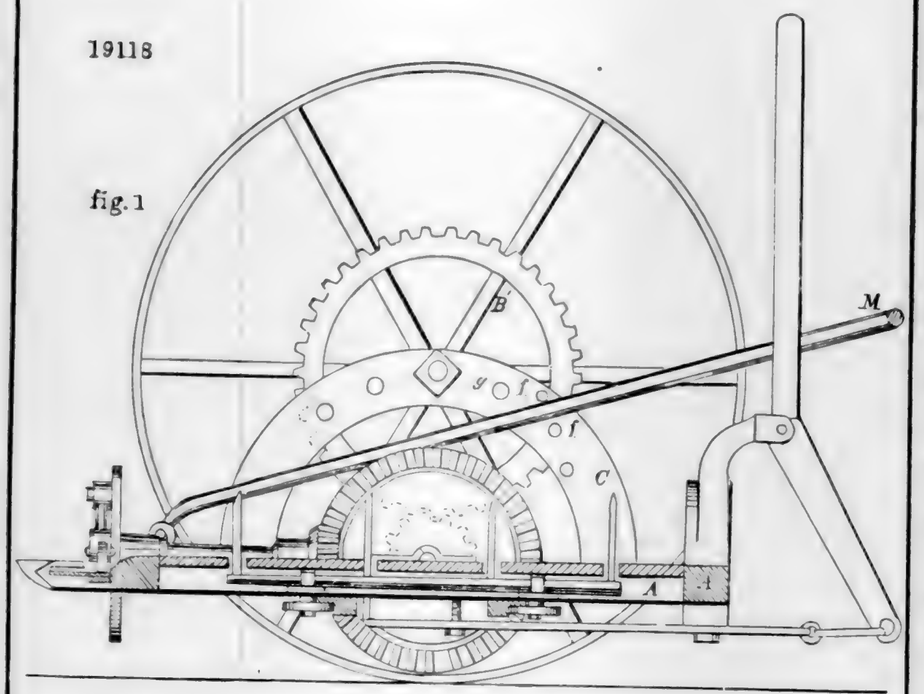
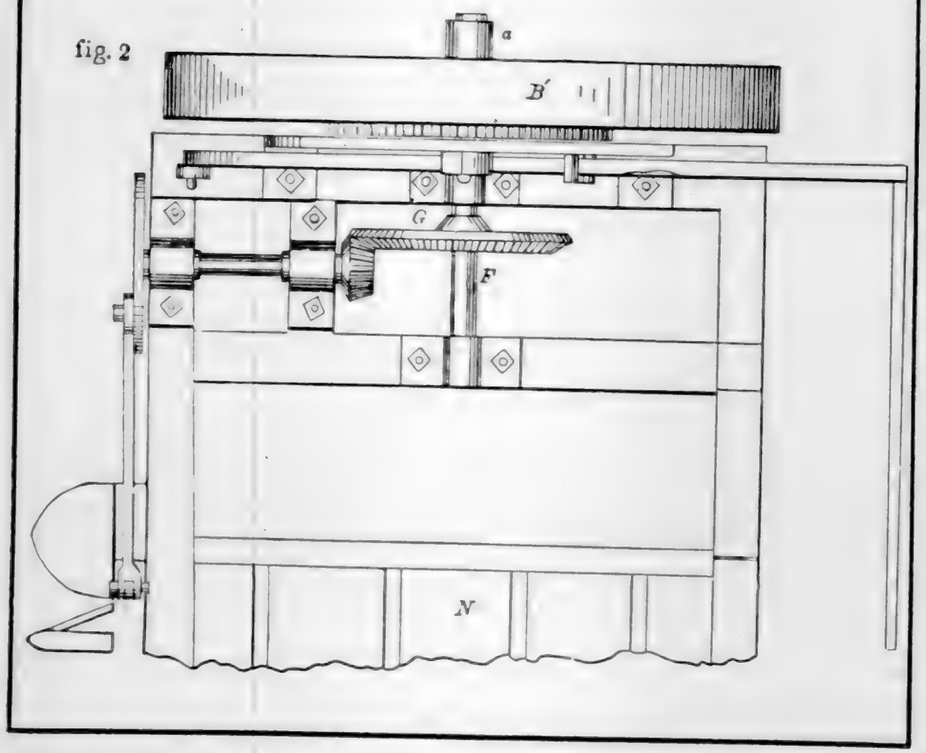
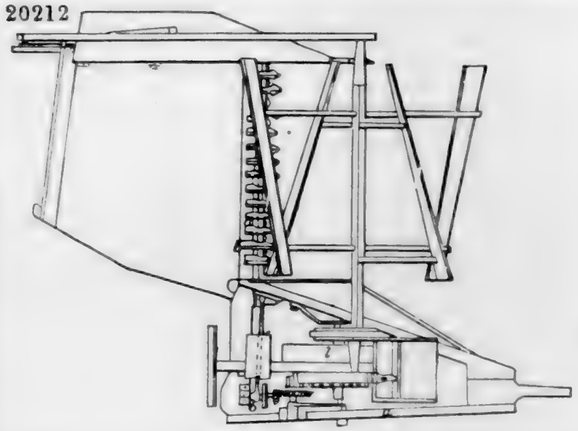


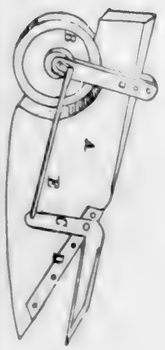
fig. 2



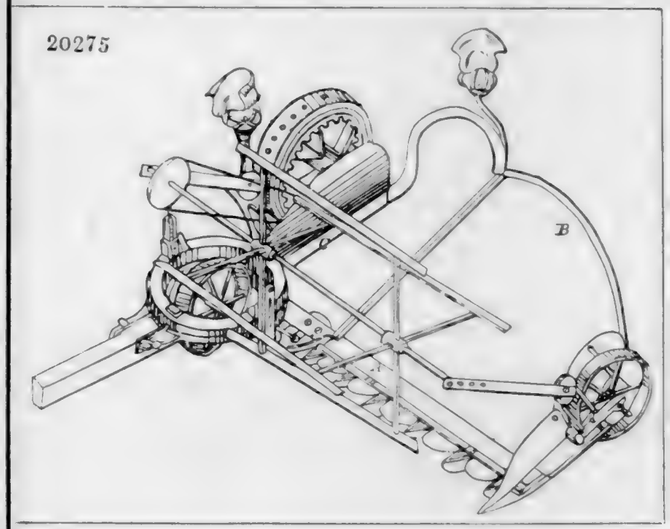
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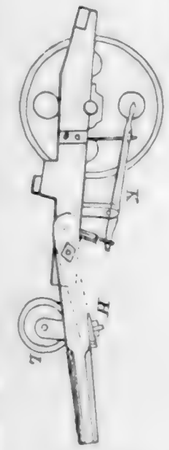
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19894

fig. 1

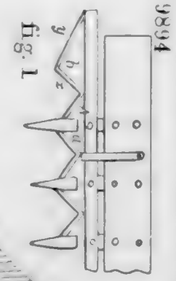
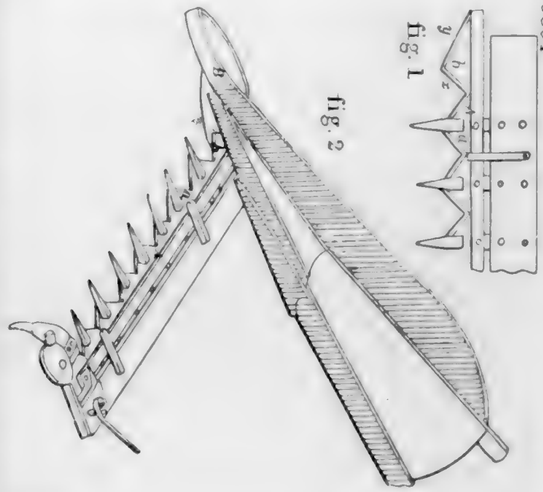
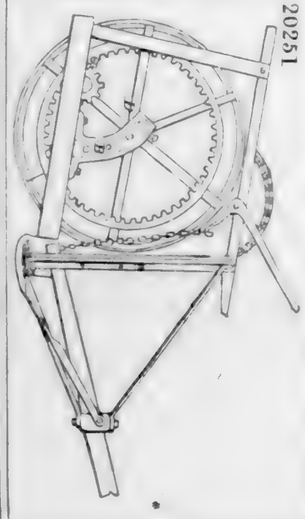


fig. 2



20251



19020

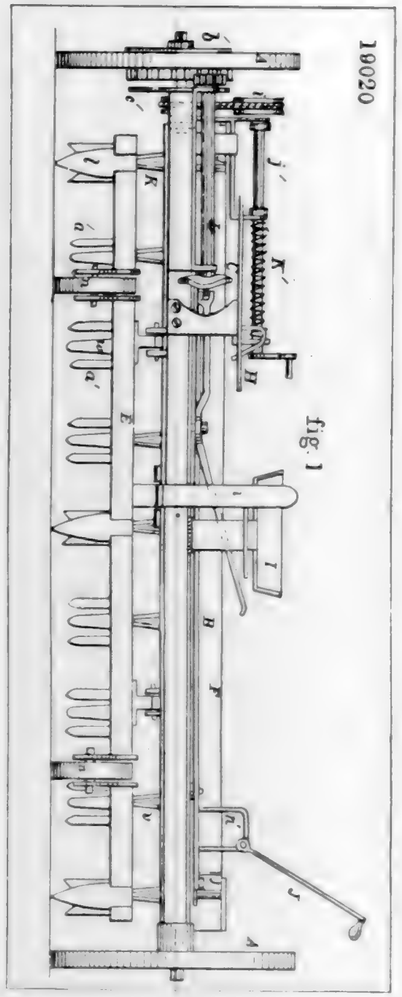


fig. 1

21207

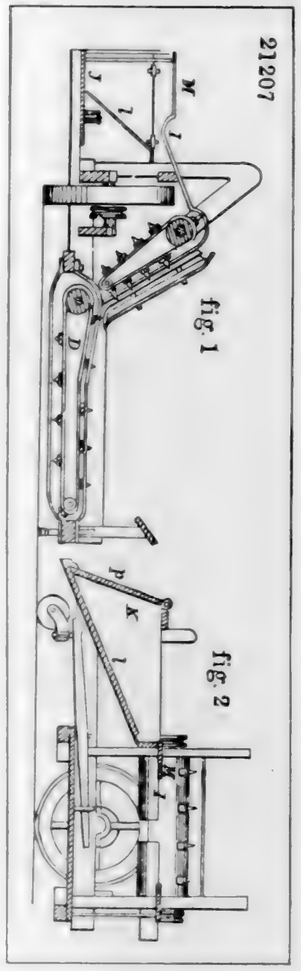


fig. 1

fig. 2

21434 fig. 1

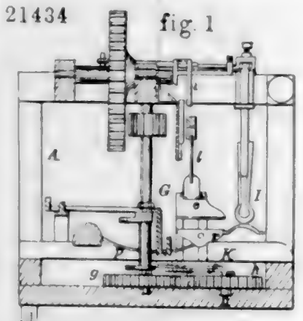
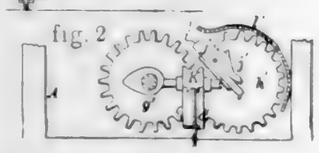
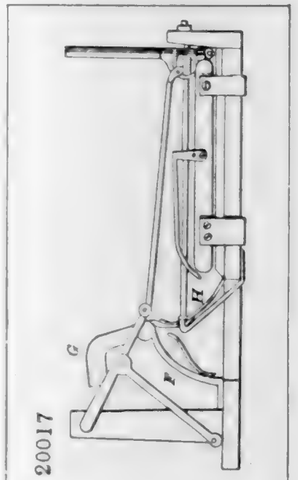


fig. 2



20017



19144

fig. 1

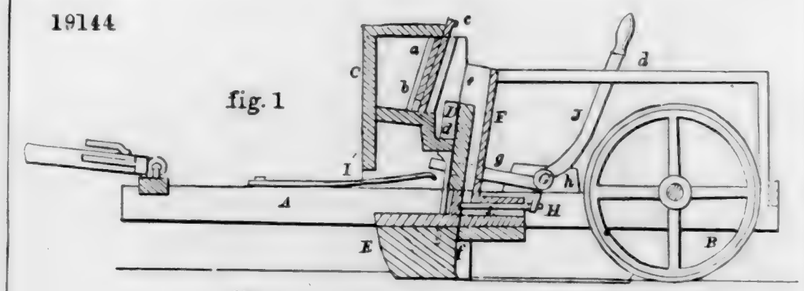
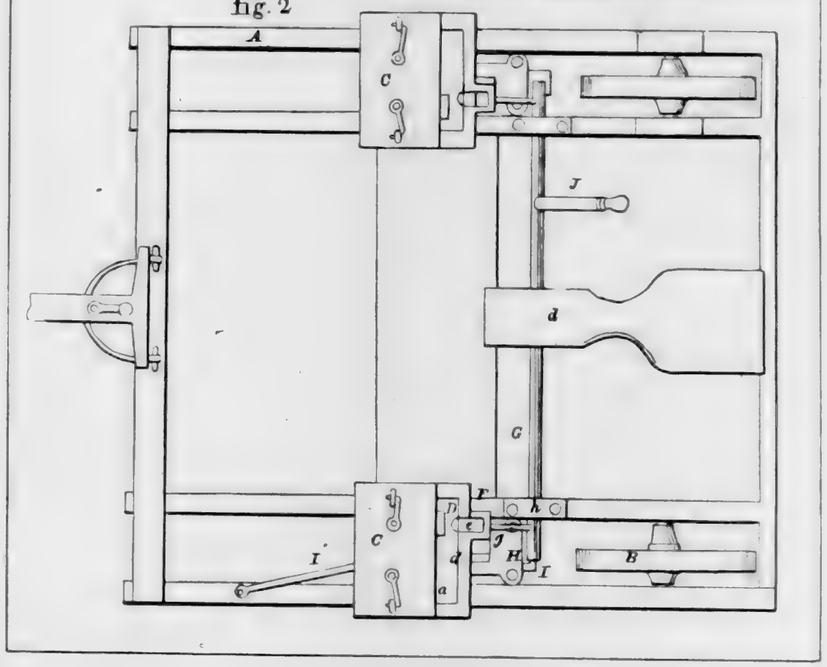


fig. 2



19333

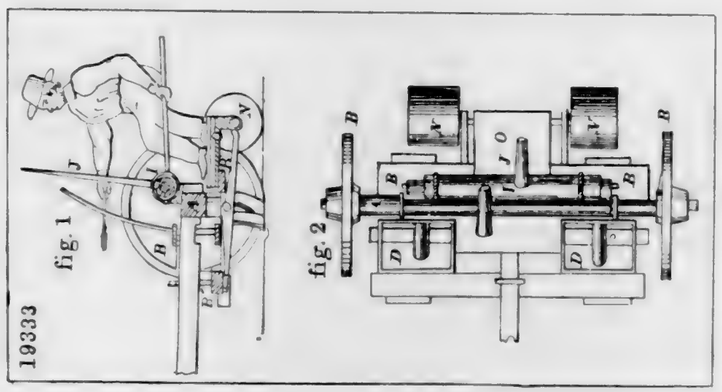


fig. 1

fig. 2

19423

fig. 1

fig. 2

19514

19339

19559

fig. 2

19859

fig. 1

19871

fig. 1

fig. 2

19902

fig. 1

fig. 2

fig. 3

19872

fig. 1

fig. 2

20357

fig. 1

fig. 2

20162

fig. 1

fig. 2

fig. 3

20301

fig. 1

fig. 2

20358

fig. 1

fig. 2

20366

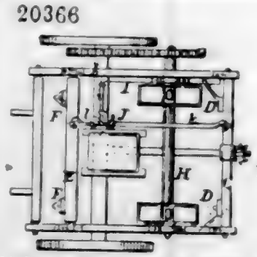


fig. 1

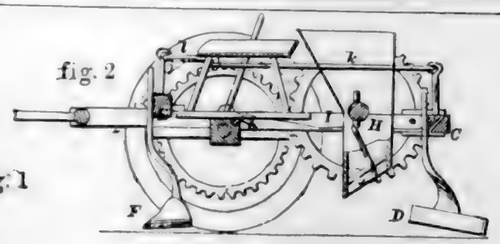


fig. 2

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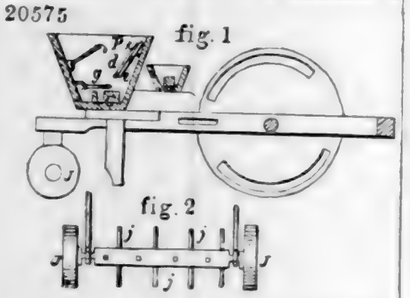
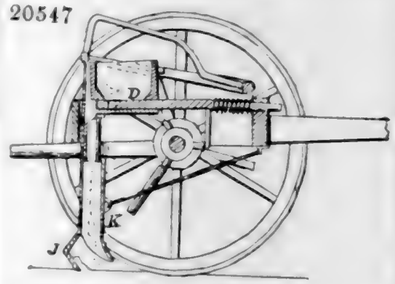


fig. 1

fig. 2

20547



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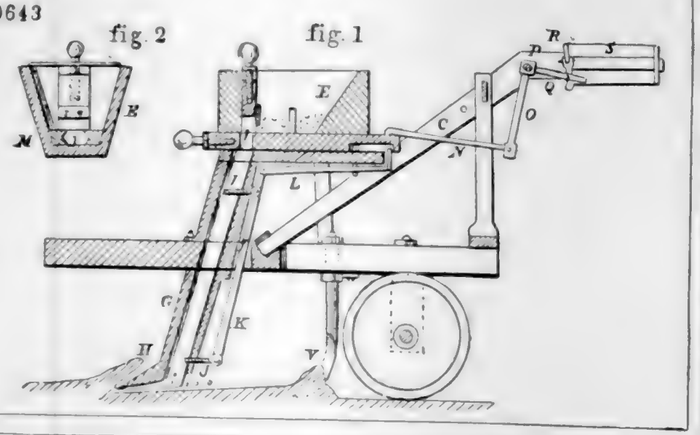
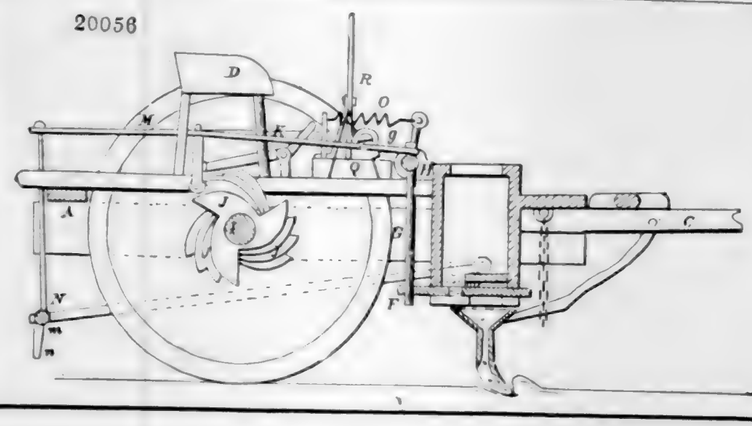


fig. 2

fig. 1

20056



21389

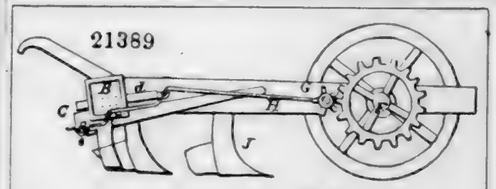


fig. 1

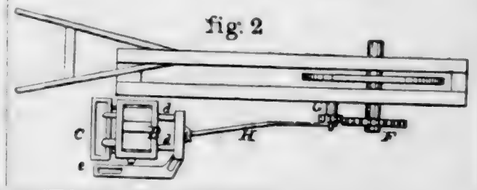


fig. 2

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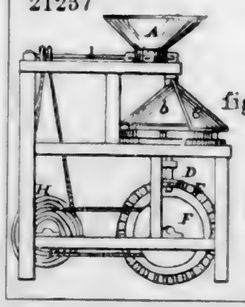
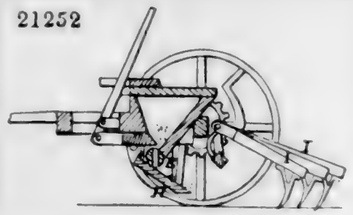


fig. 1



fig. 2

21252



21162

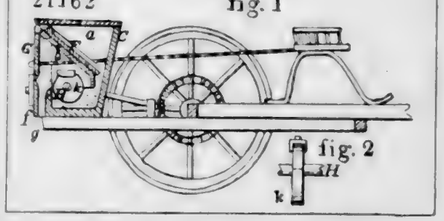


fig. 1

fig. 2

21152

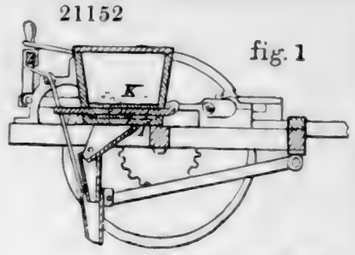


fig. 1

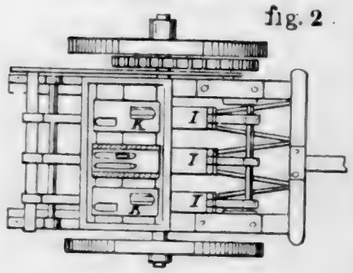


fig. 2

21354

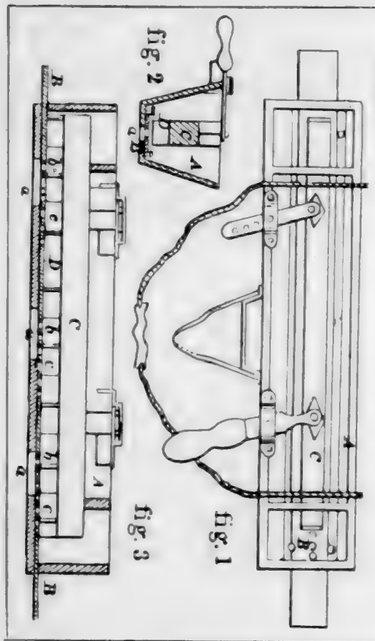
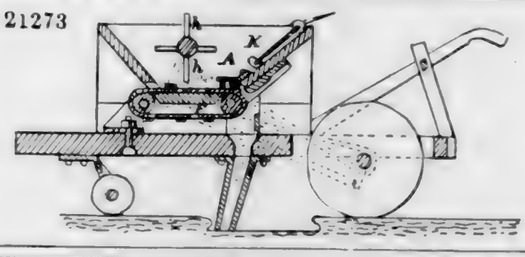


fig. 2

fig. 3

fig. 1

21273



21349

fig. 1

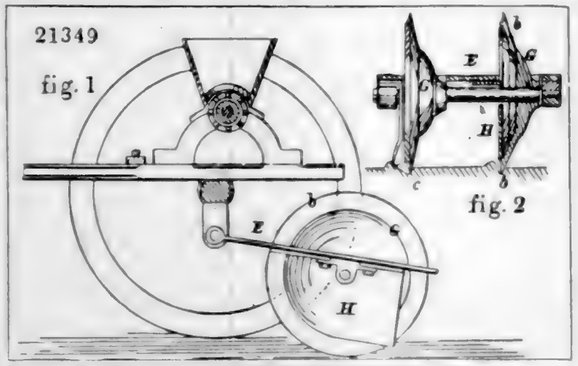
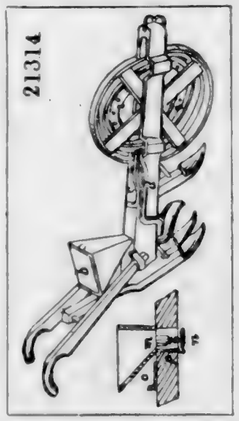


fig. 2

21314



21323

fig. 1

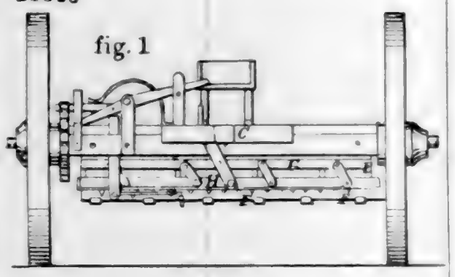
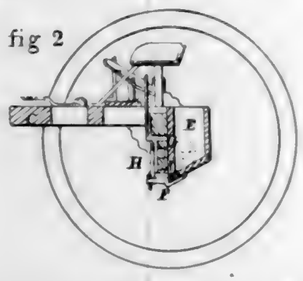


fig 2



21595

fig. 1

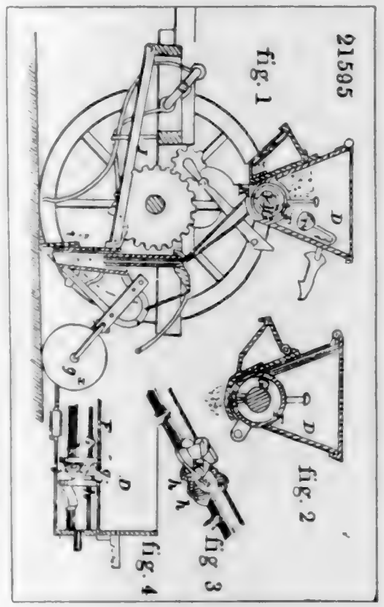
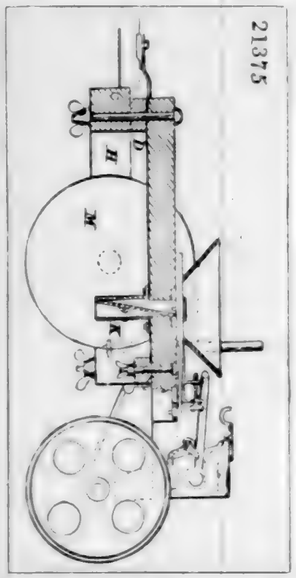


fig. 2

fig. 4

fig. 3

21375



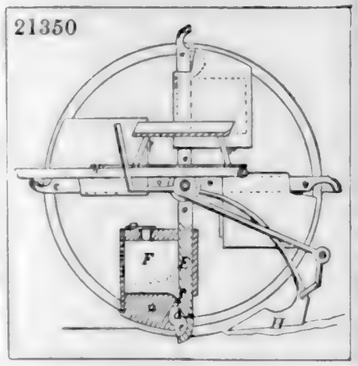
21452

fig. 2



fig. 1

21350



21780

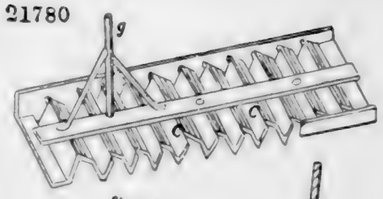


fig. 1

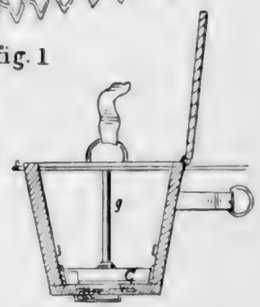


fig 2

21807

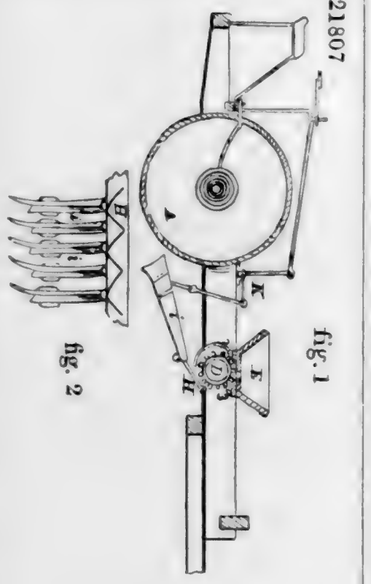
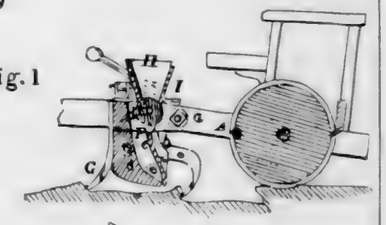


fig. 2

fig. 1

21969

fig. 1



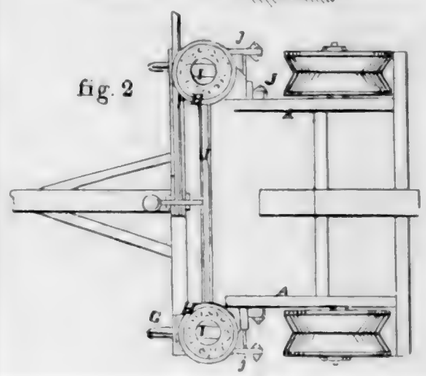


fig. 2

21850

fig. 1

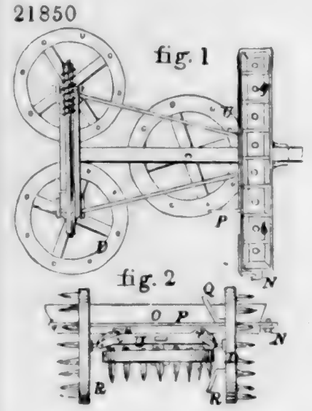


fig. 2

21995

fig. 1

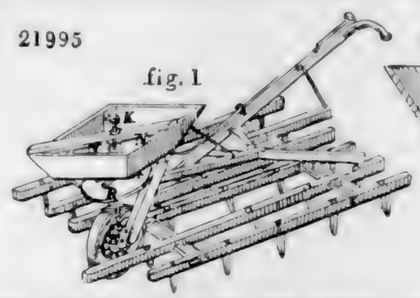
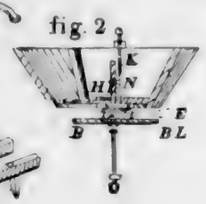


fig. 2



21958

fig. 1

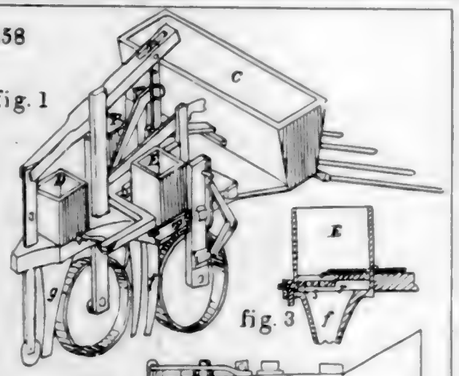
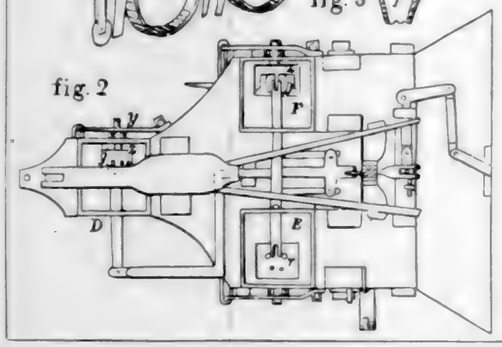
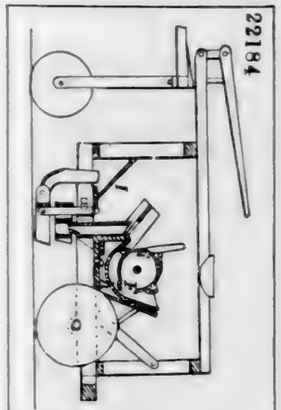


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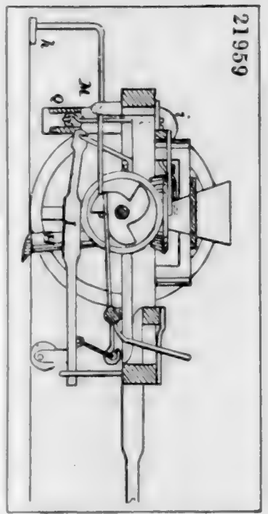
fig. 2



22184



21959



22208

fig. 1

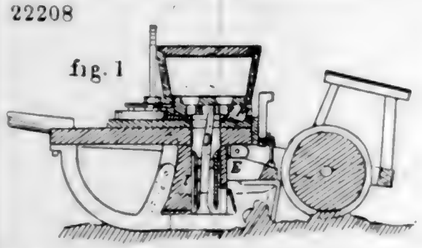




fig. 2

22180

fig. 1

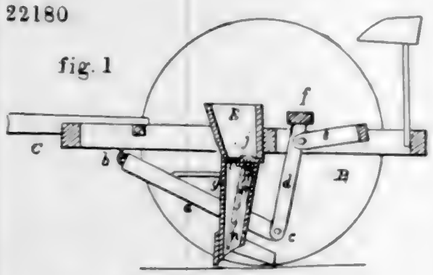
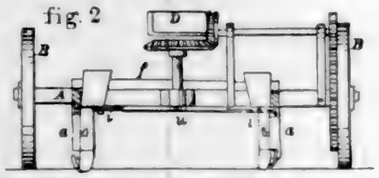
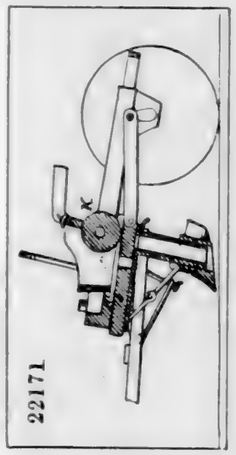


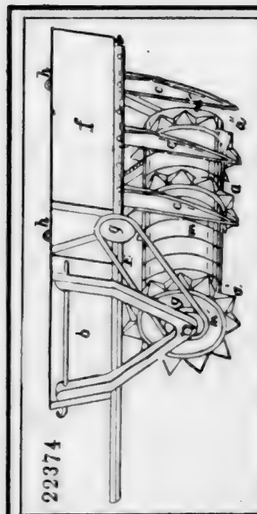
fig. 2



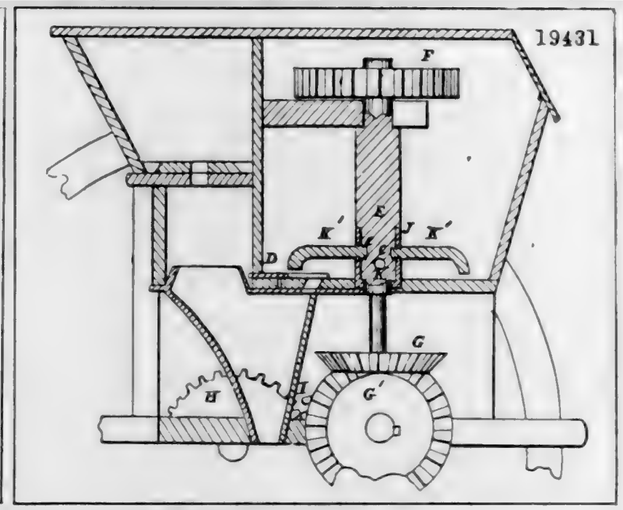
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22374



19431



20585

fig. 1

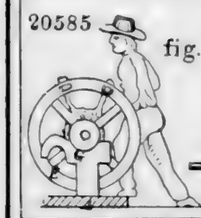
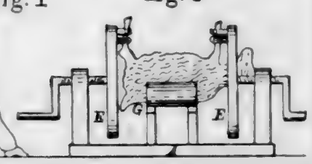
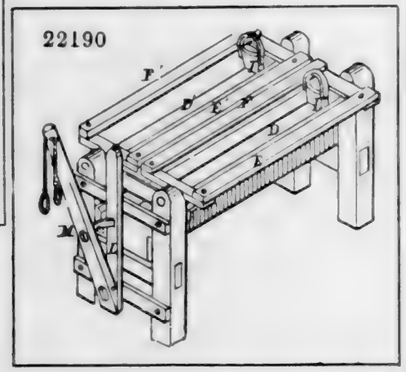


fig. 2



22190



21181

fig. 1

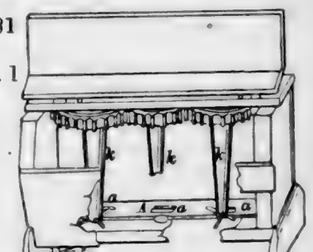
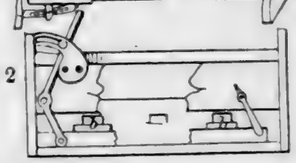
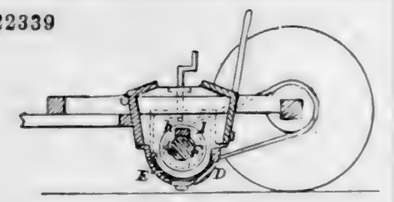


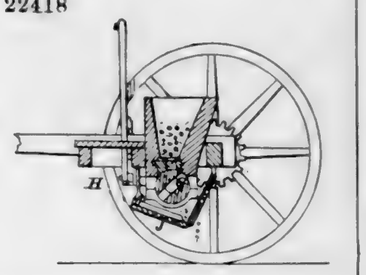
fig. 2



22339



22418



21803

fig. 1

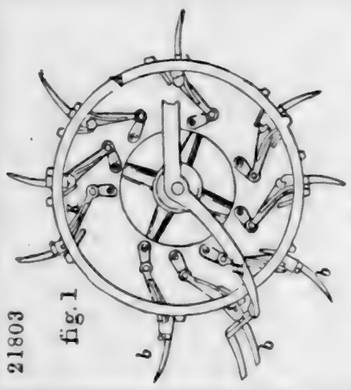
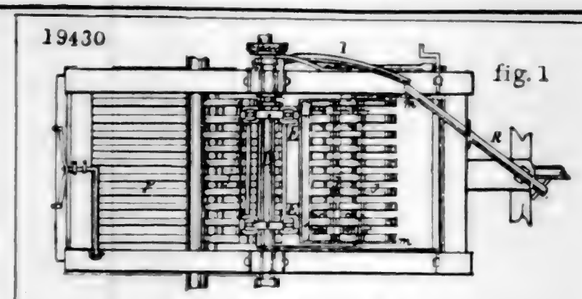


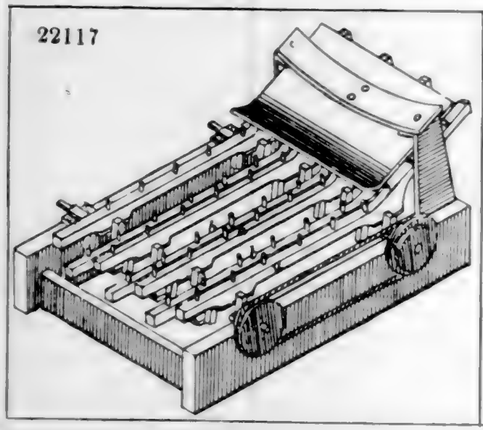
fig. 2

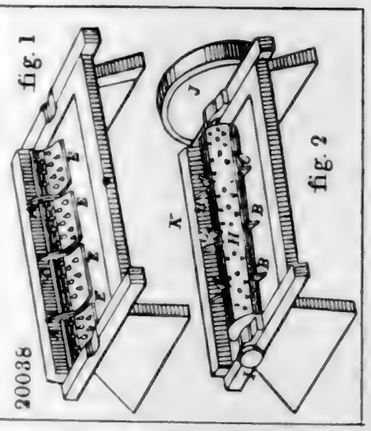


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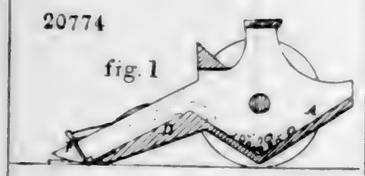


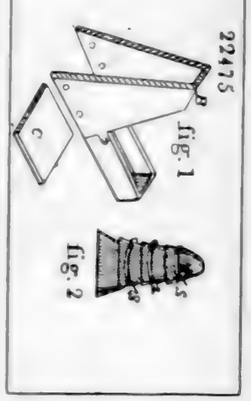
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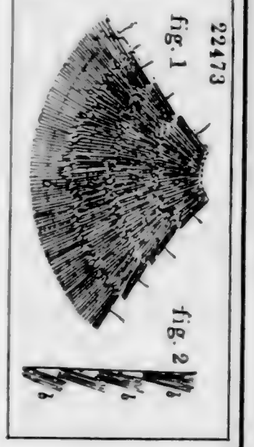




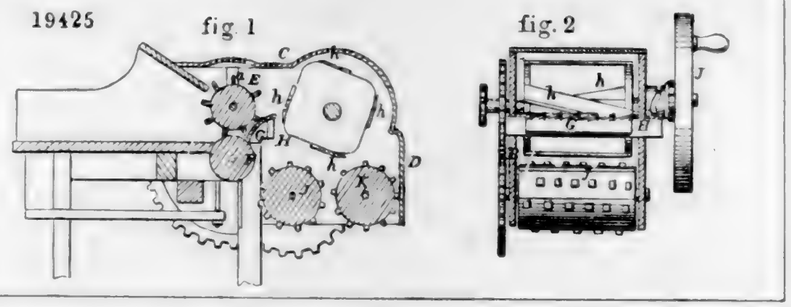
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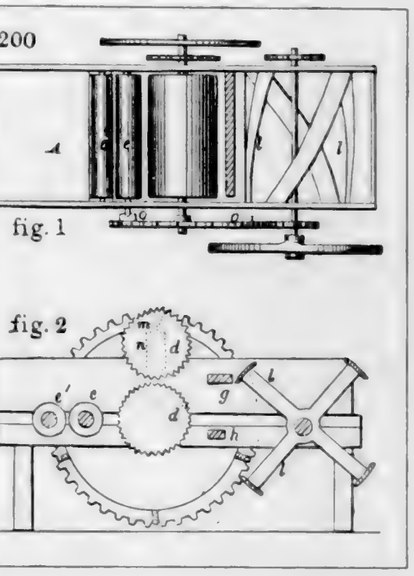




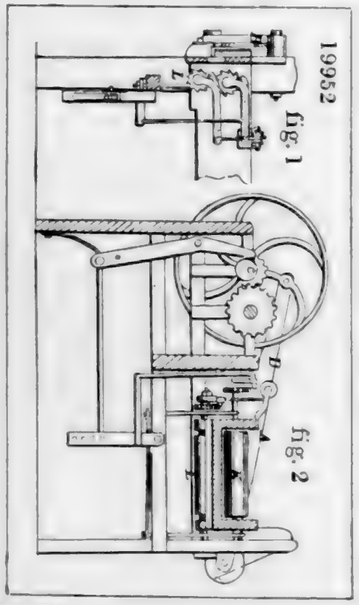
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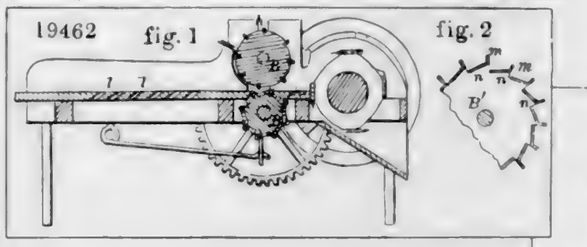
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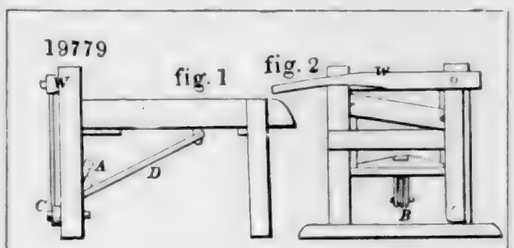
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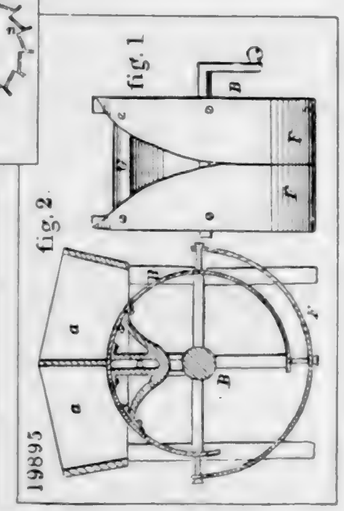
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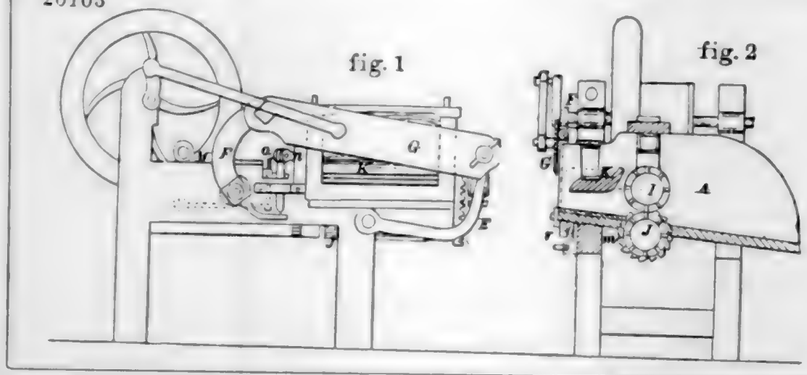
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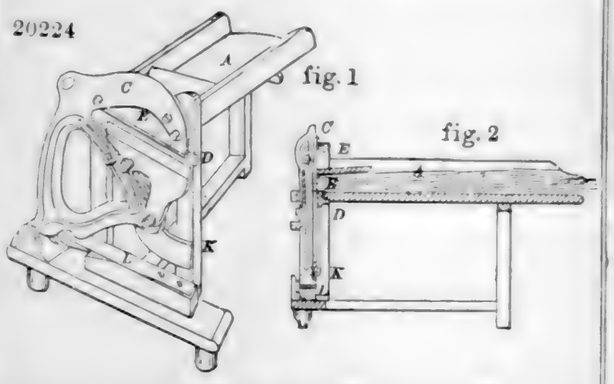
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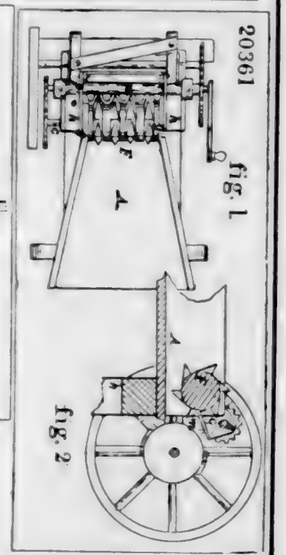
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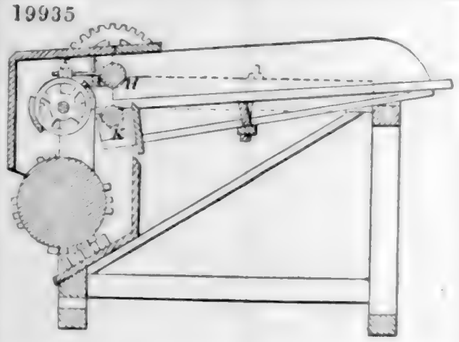
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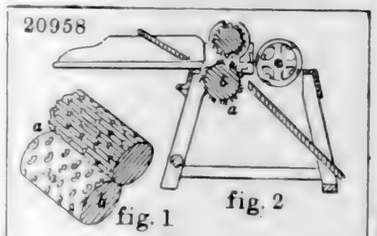
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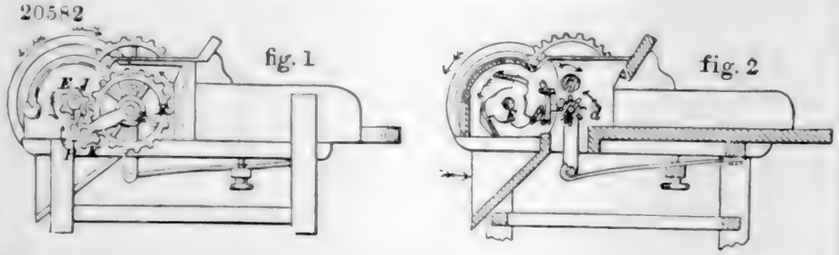
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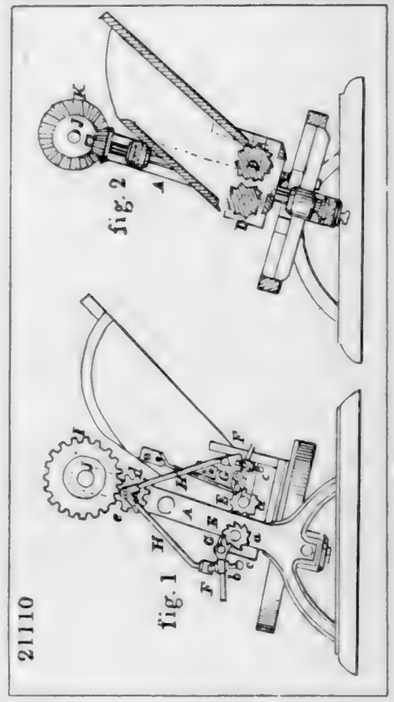
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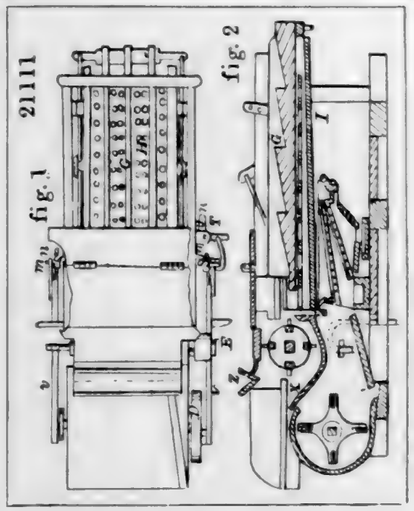
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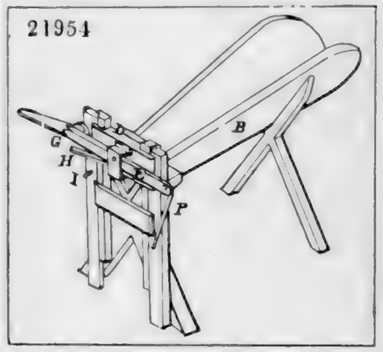
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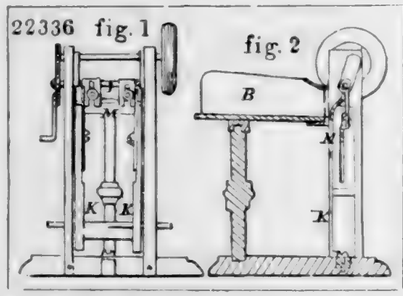
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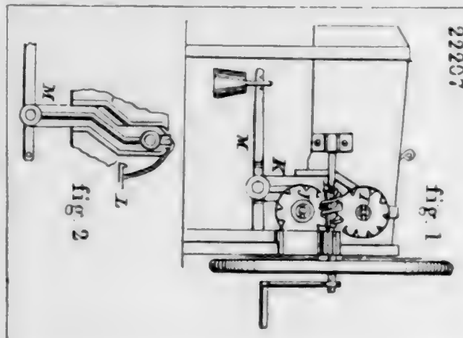
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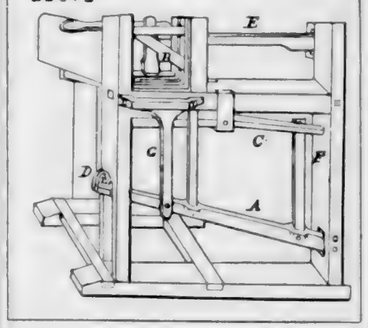
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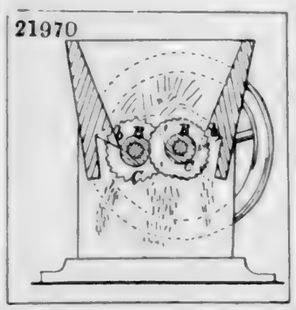
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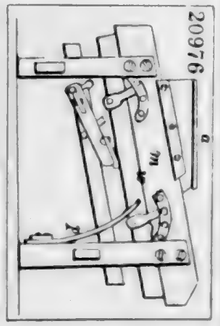
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21970



20976



19148

fig. 1

fig. 2

fig. 3

fig. 4

22141

fig. 1

fig. 2

20892

21963

fig. 1

fig. 2

20449

21214

19357

fig. 1

fig. 2

fig. 3

19615

21367

21057

20474

19005

fig. 1

fig. 2

21392

21629

fig. 1

fig. 2

19246

fig. 1.

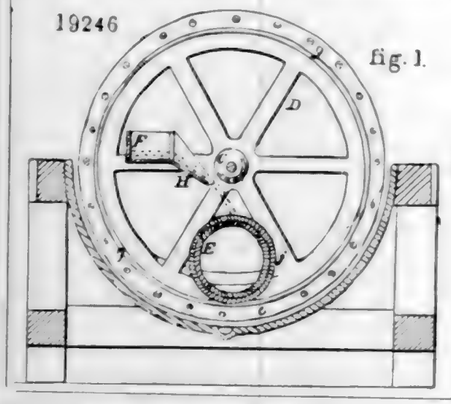
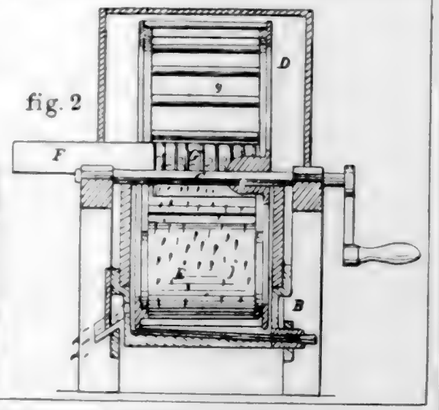


fig. 2



20957

fig. 1

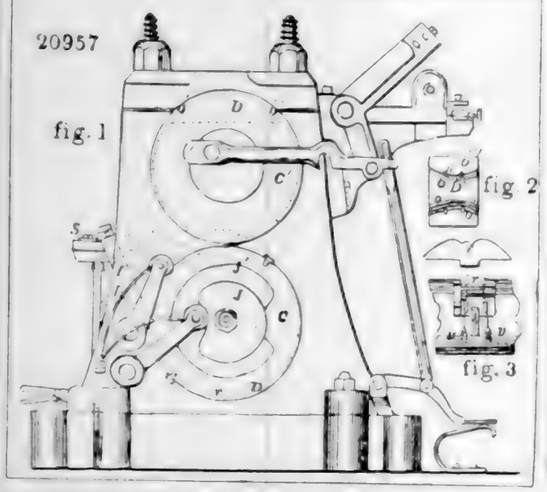


fig. 2

fig. 3

fig. 1

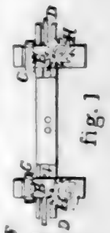
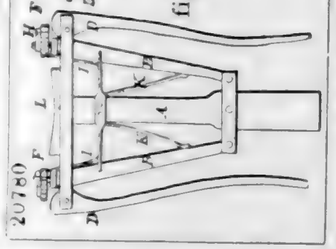
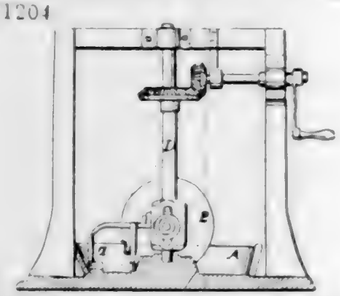


fig. 2

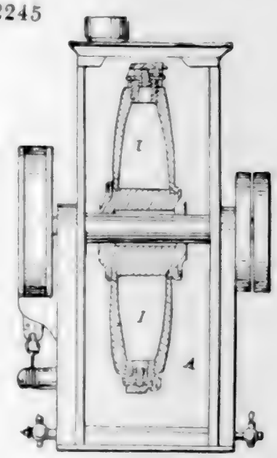


20780

21204



22245



19301

fig 1

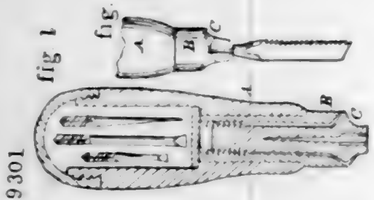
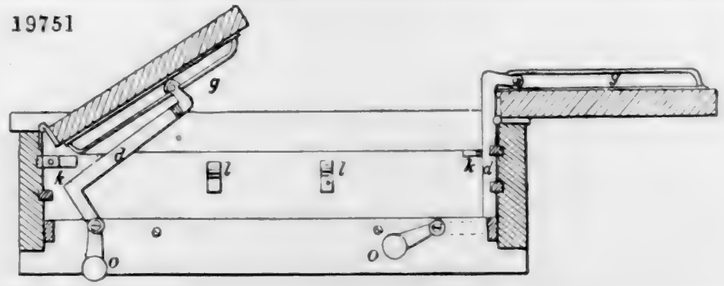


fig. 2

19751



22172

fig. 1

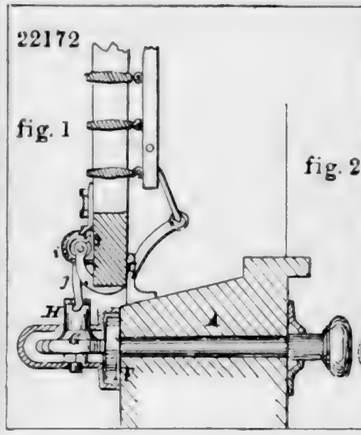
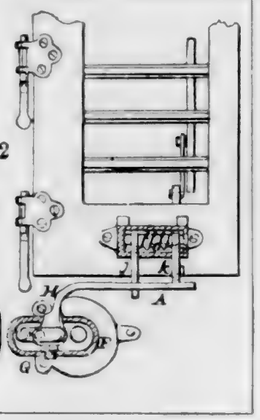


fig. 2



19891

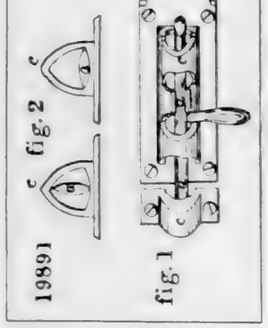


fig. 1

19940

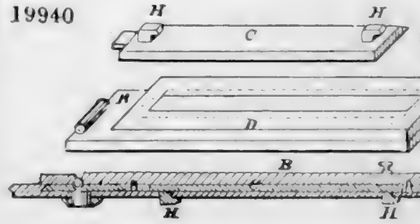
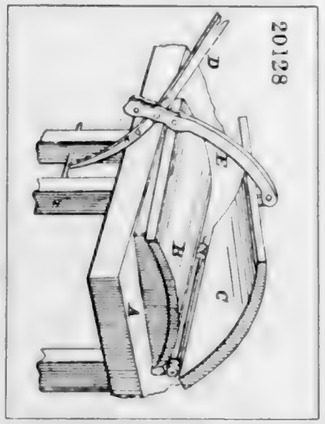


fig. 1

fig. 2

fig. 3

20128



19261

fig. 1

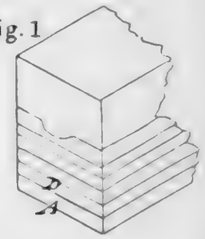
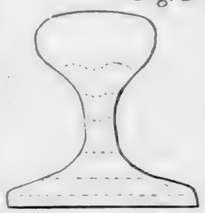


fig. 2



21638

fig. 1

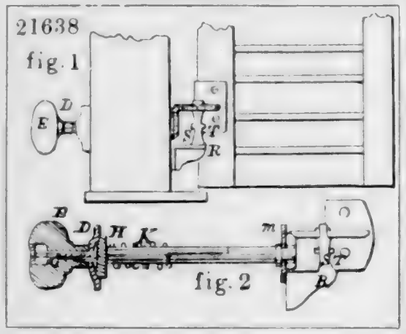


fig. 2

21279

fig. 1

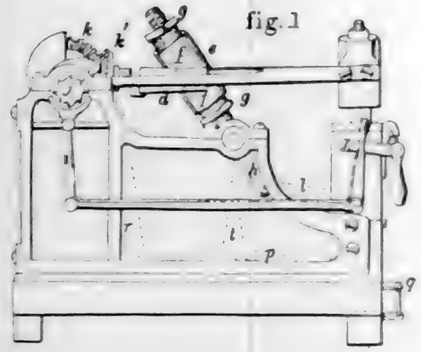
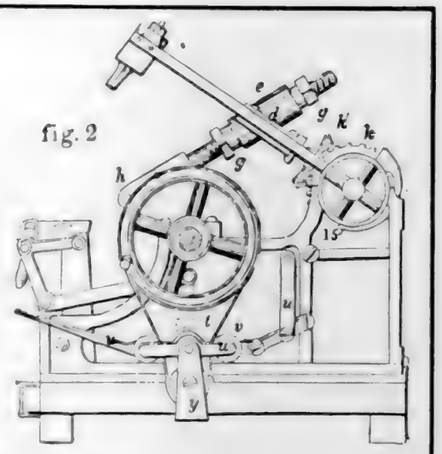


fig. 2



19485

fig. 1

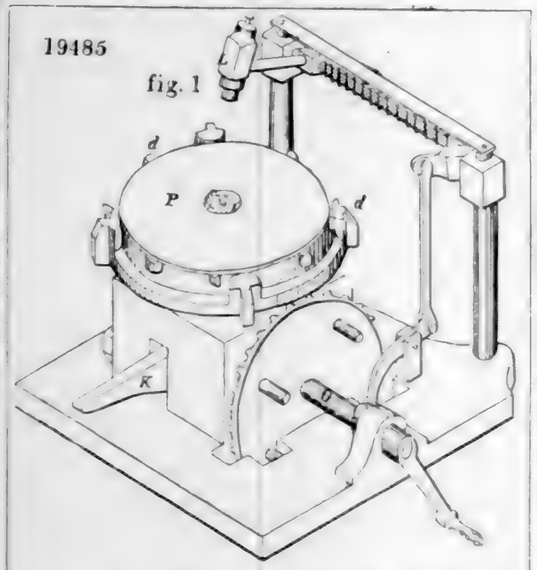
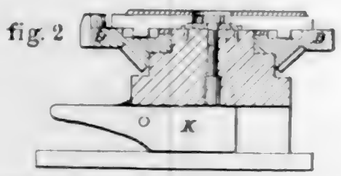


fig. 2



20940

fig. 1

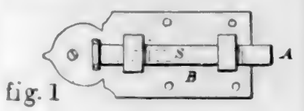
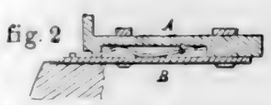


fig. 2



20149

fig. 1

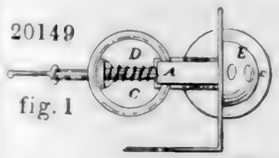
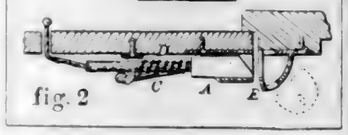


fig. 2



21910

fig. 1

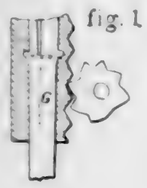
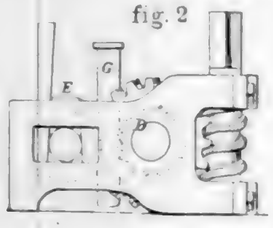
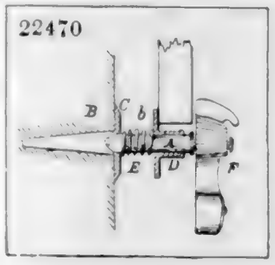


fig. 2



22470



22452

fig. 1

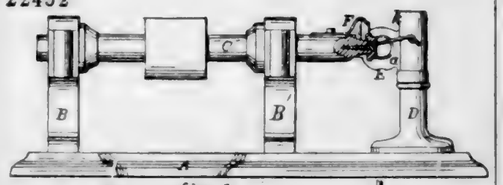


fig. 2

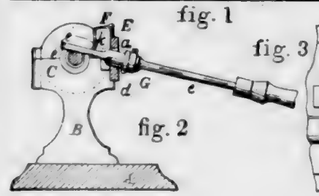
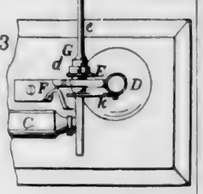
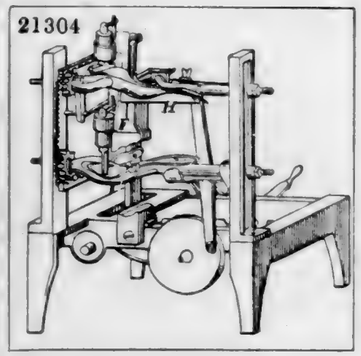


fig. 3



21304



20635

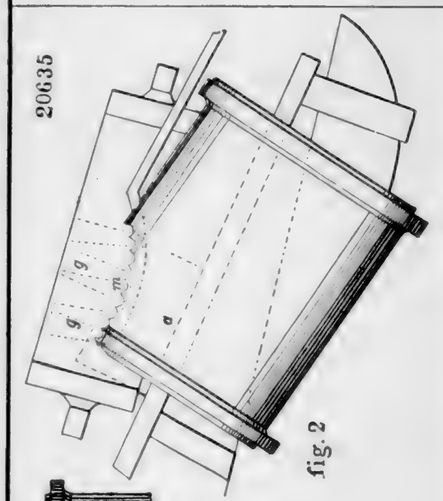
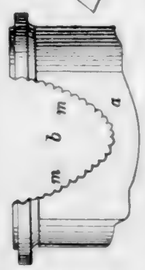


fig. 2

fig. 1



20022

fig. 1

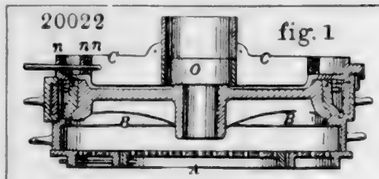
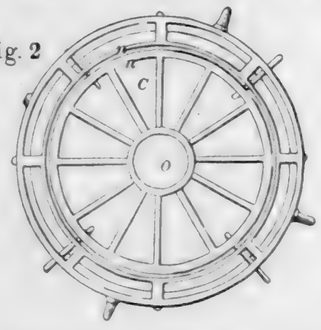
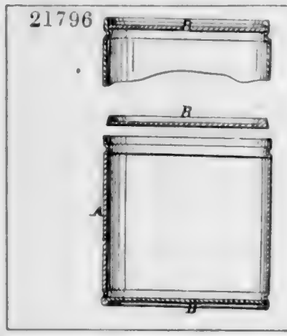


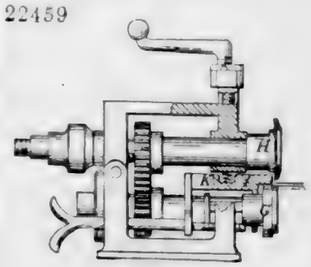
fig. 2



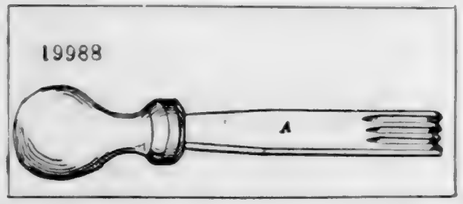
21796



22459



19988



19258 fig. 1

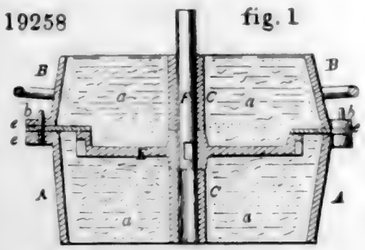
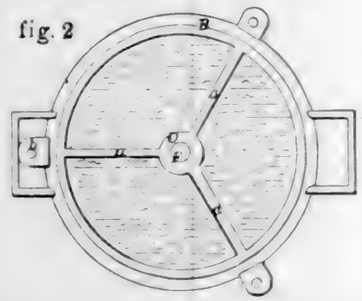
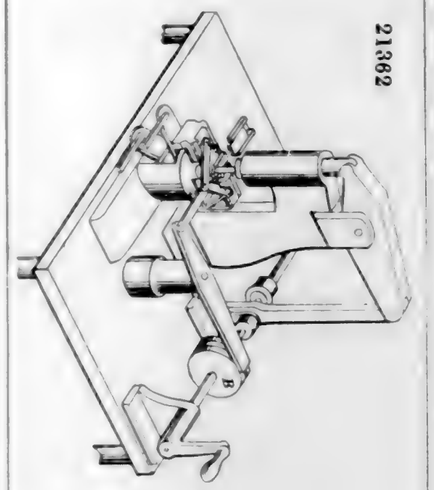


fig. 2



21362

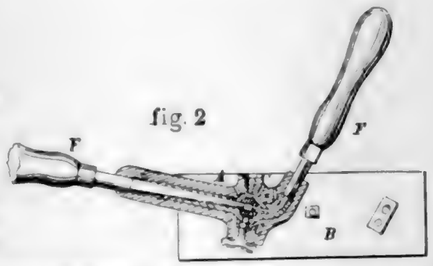


20395



fig. 1

fig. 2



20951 fig. 1

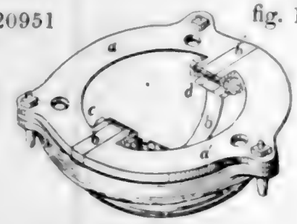
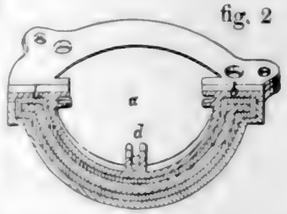
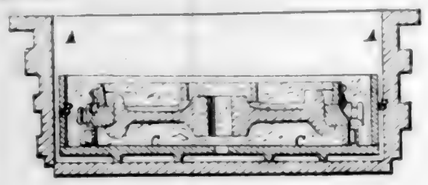


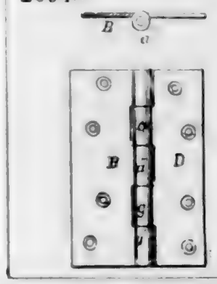
fig. 2



20151



20948



20955

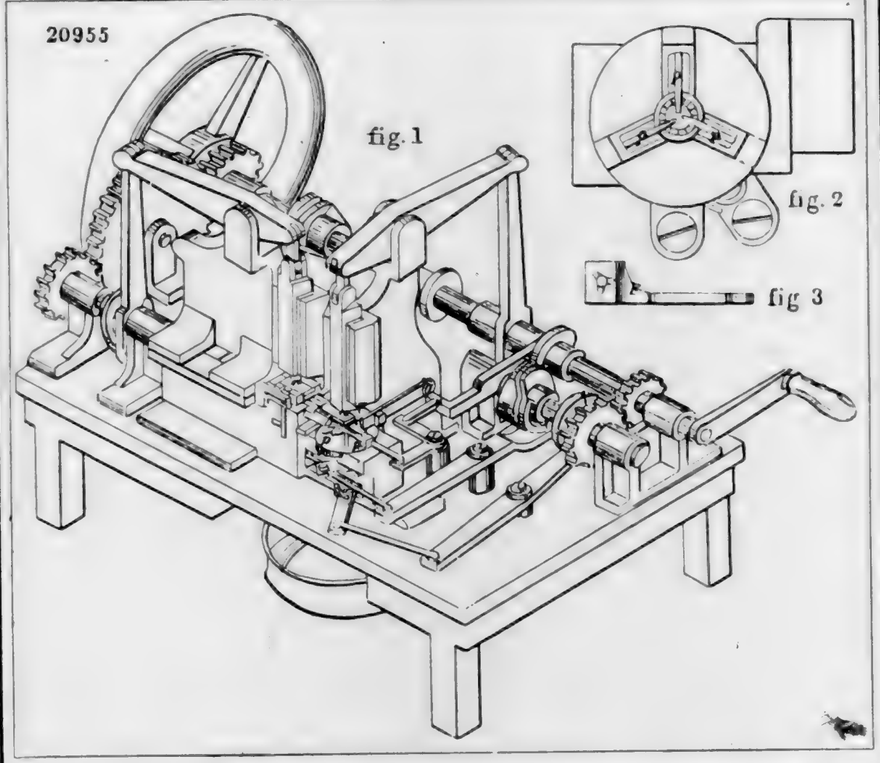


fig. 1

fig. 2

fig 3

19094 fig. 1

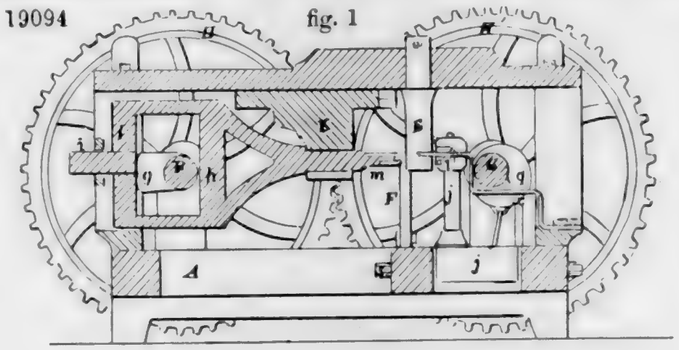
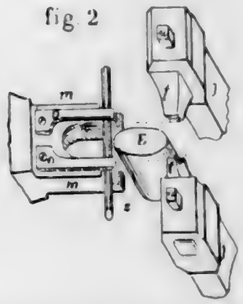


fig. 2



19955

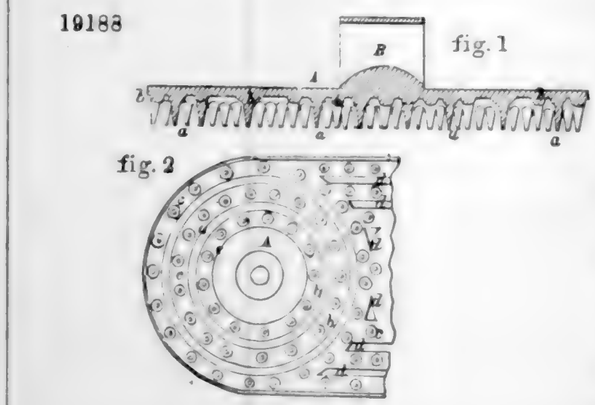


fig. 1

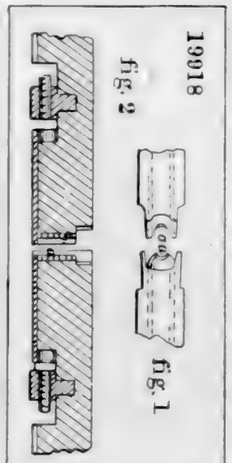


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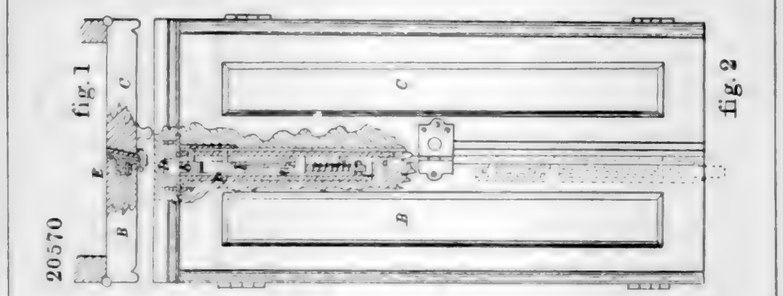
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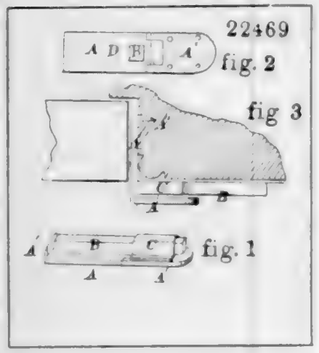
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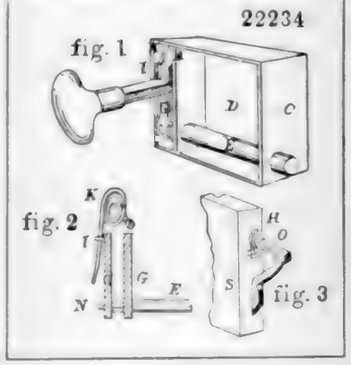
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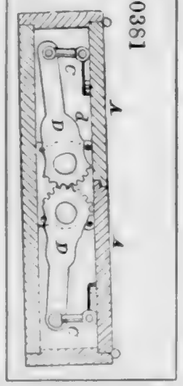
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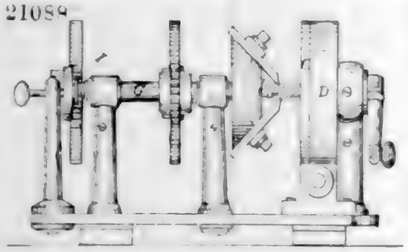
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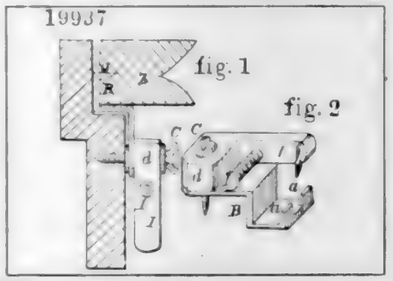
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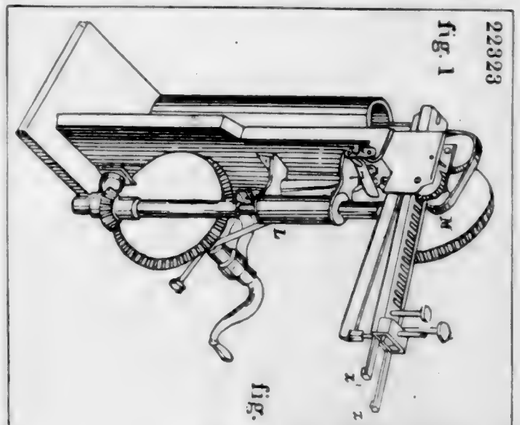
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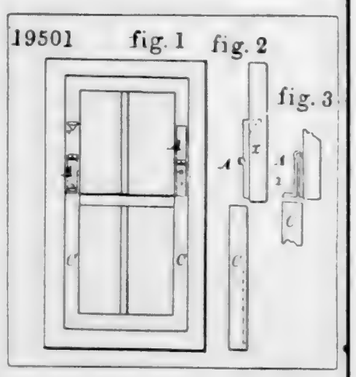
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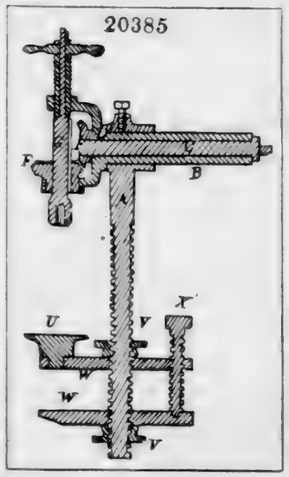
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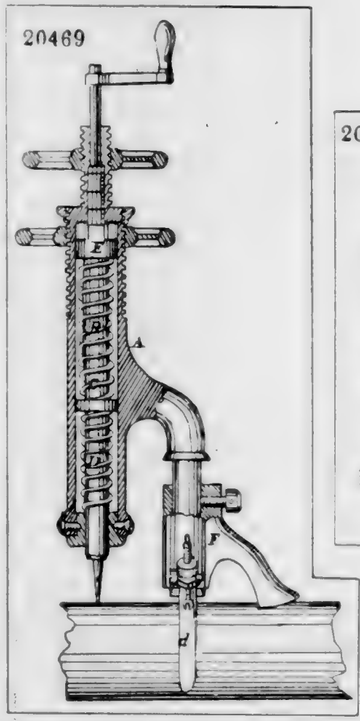
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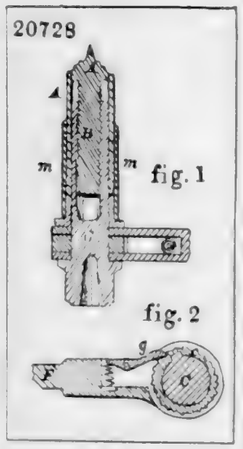
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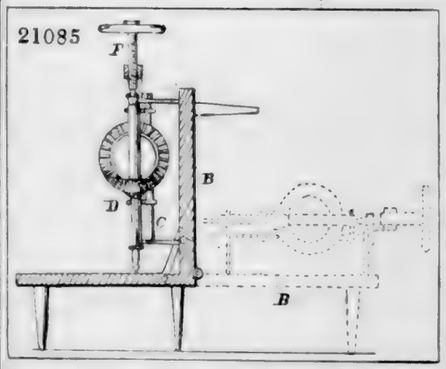
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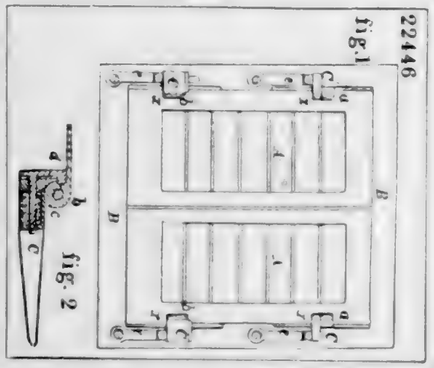
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21085



22446



20759

fig. 1

fig. 2

22187

fig. 2

fig. 1

20238

fig. 2

fig. 1

20405 fig. 1

F fig. 2

21328

fig. 1

fig. 3

fig. 2

22105

22421

21988

20526

21370

22329

20286

fig. 1

fig. 2

22034

fig. 1

fig. 2

fig. 3

19588

fig. 4

fig. 1

fig. 3

fig. 2

19143

fig. 1

fig. 2

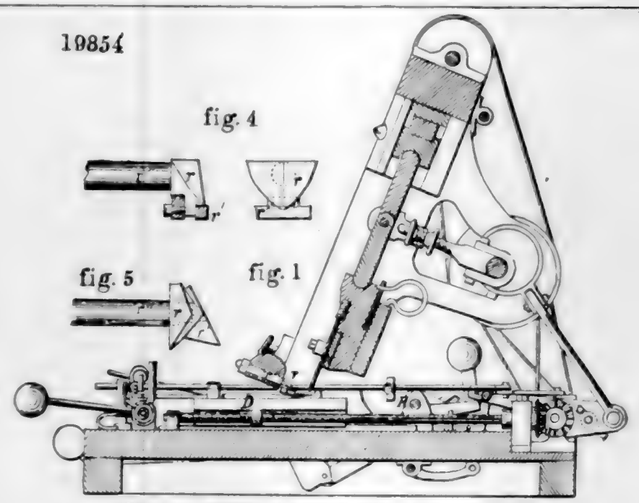
fig. 3

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fig. 4

fig. 5

fig. 1



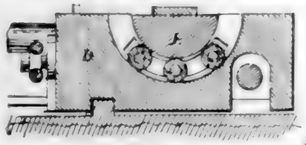
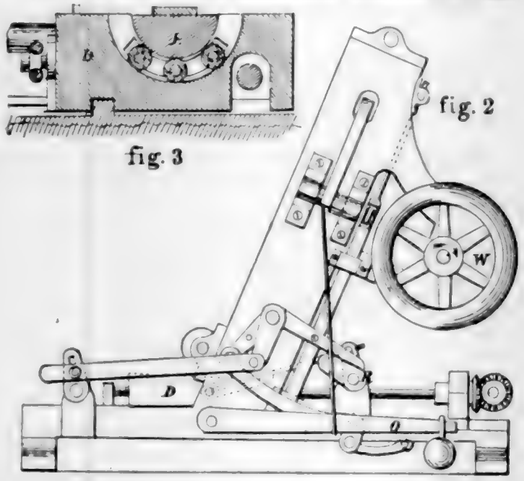


fig. 3

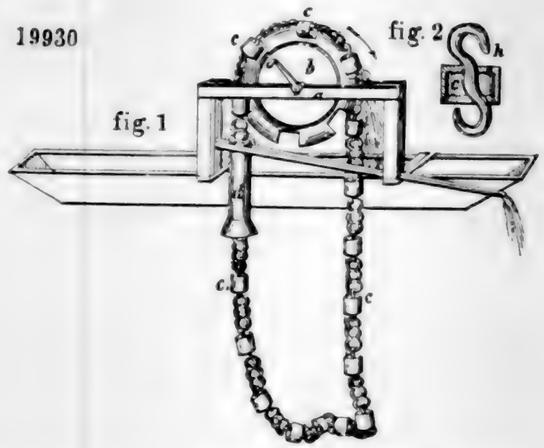
fig. 2



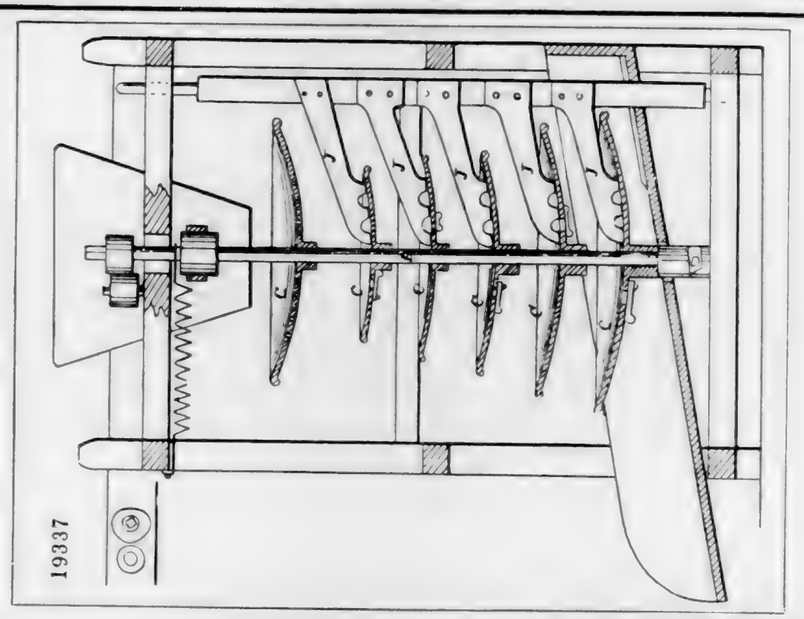
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fig. 2

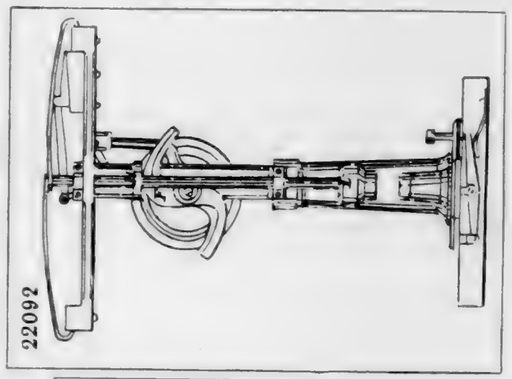
fig. 1



19337



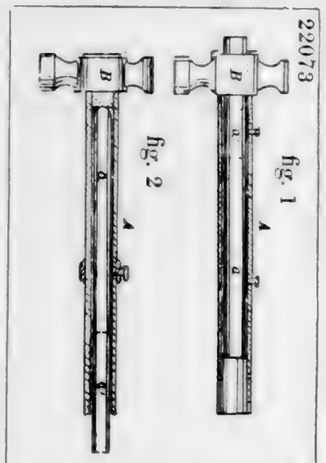
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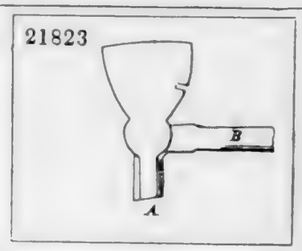
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fig. 2

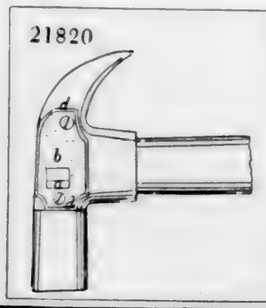
fig. 1



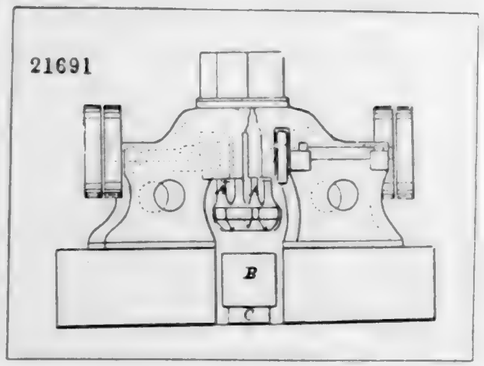
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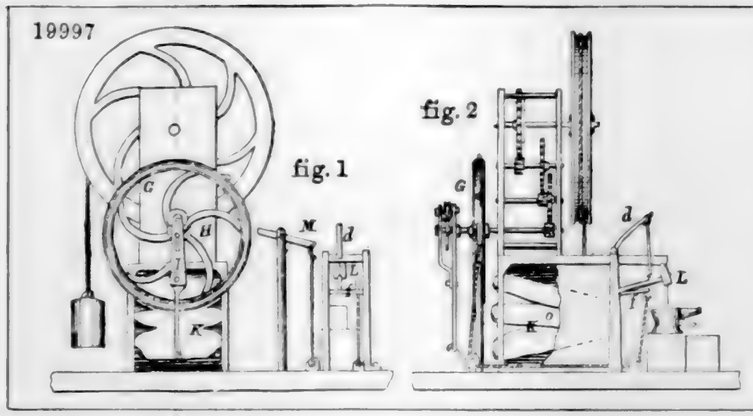
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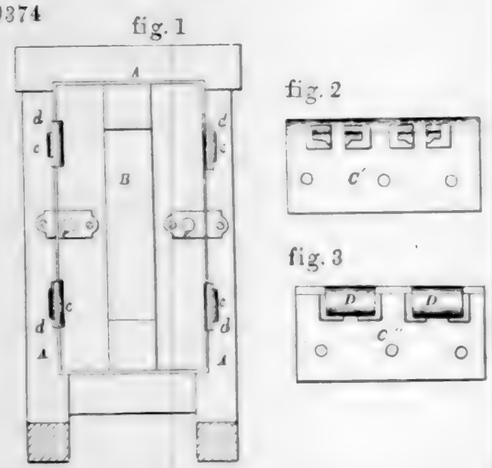
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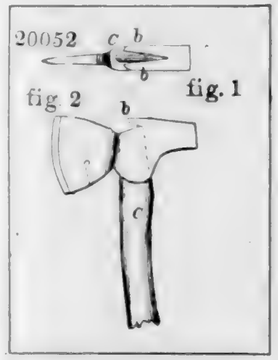
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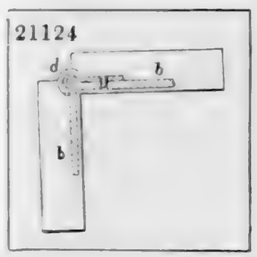
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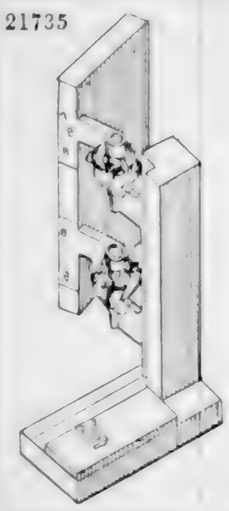
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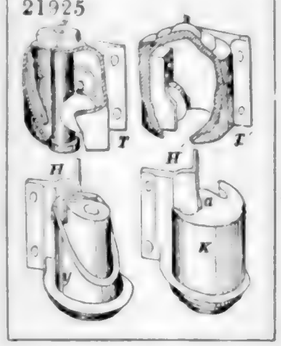
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21735



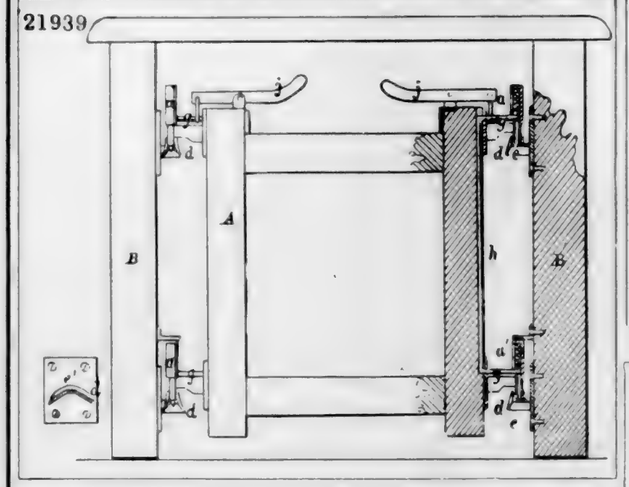
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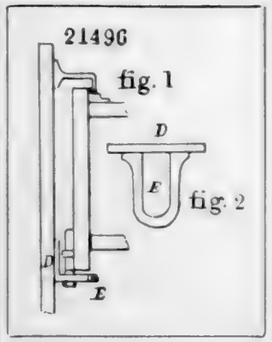
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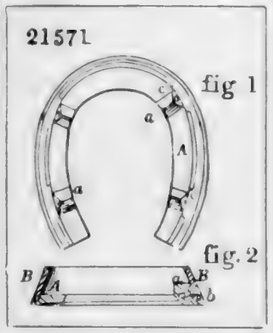
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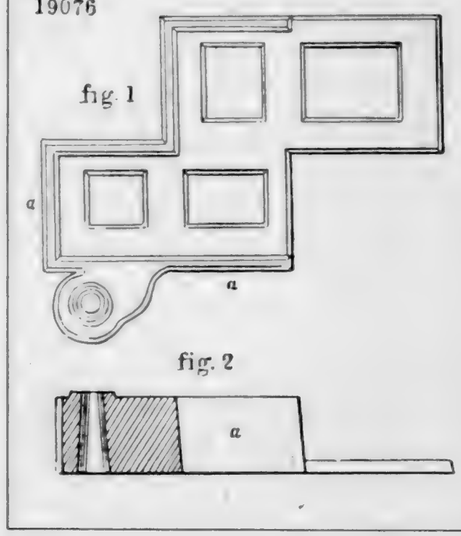
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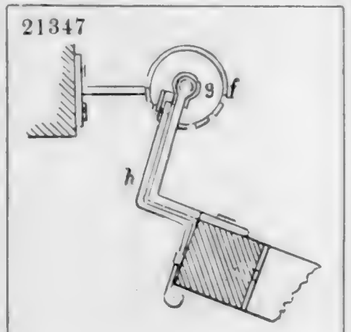
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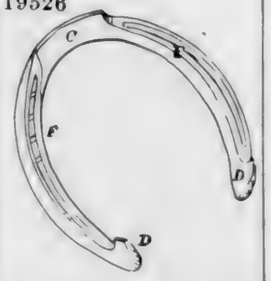
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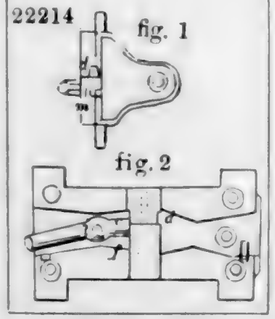
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19526



22214



19957

fig. 1

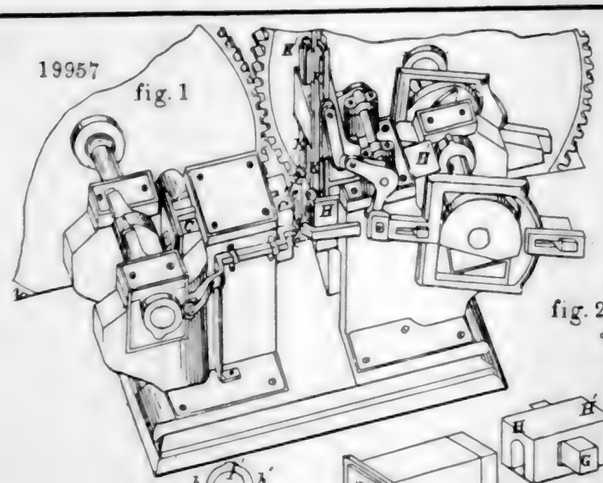


fig. 2

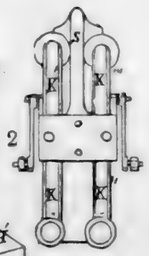
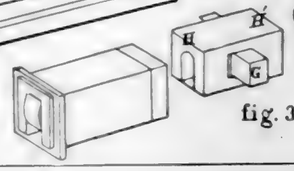


fig 4



fig. 3



20023

fig. 1

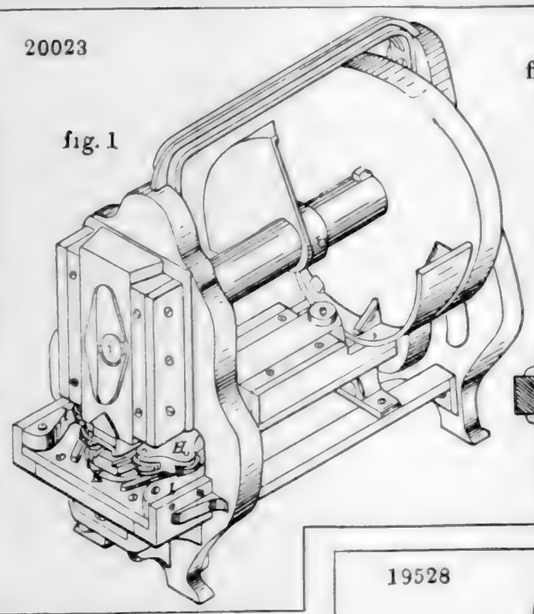
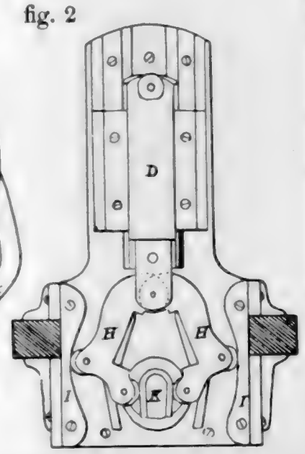


fig. 2



19528

fig. 1

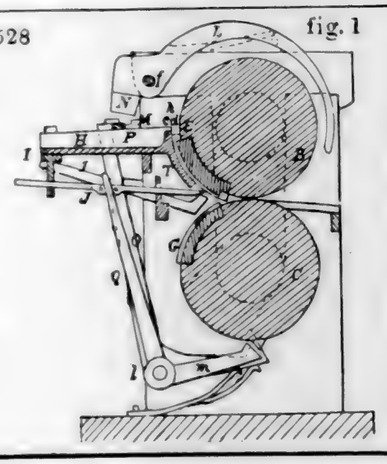
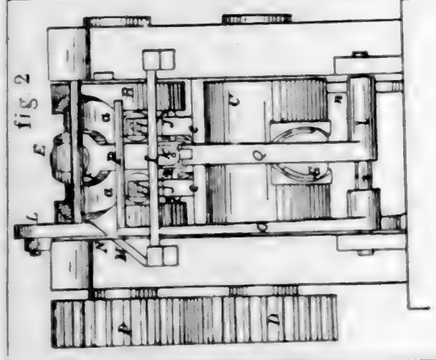
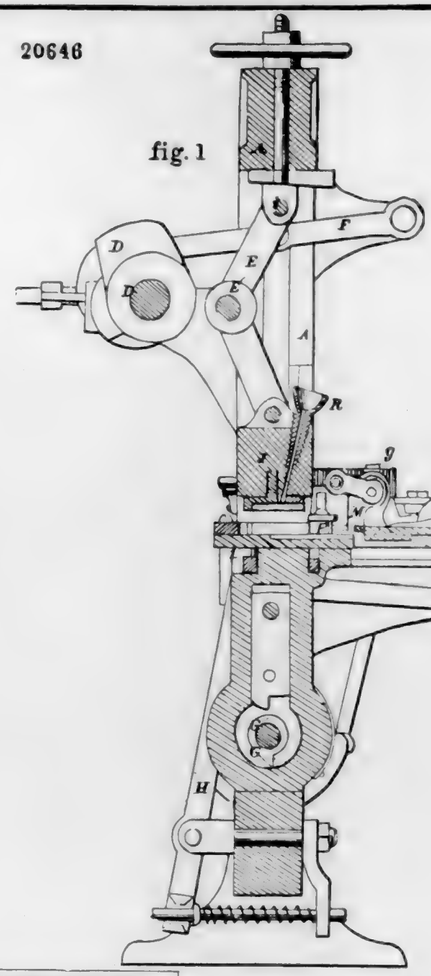


fig 2



20646

fig. 1



21779

fig. 1

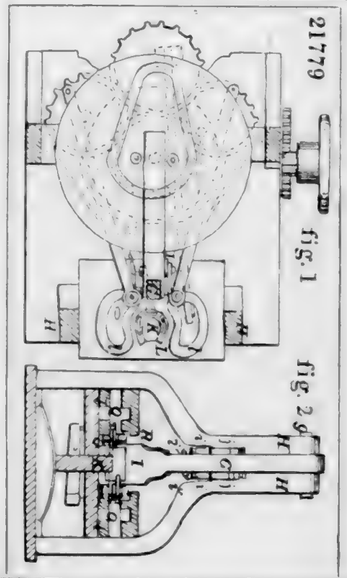


fig. 2

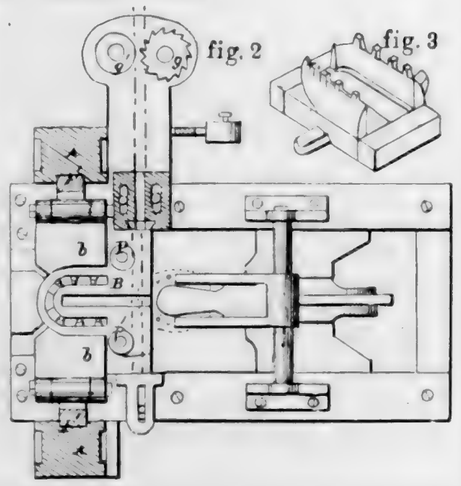


fig. 3

20079

fig. 1

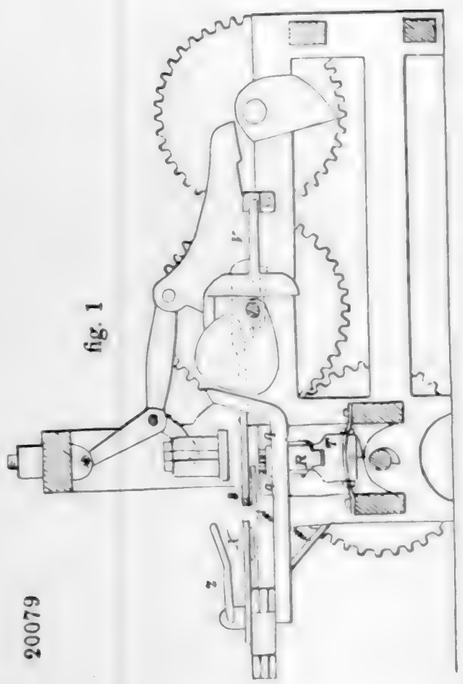


fig. 2

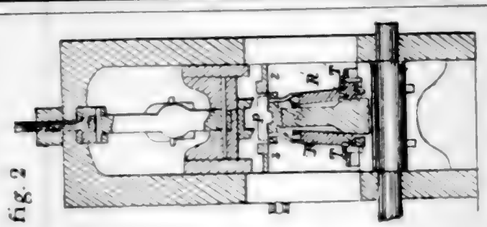
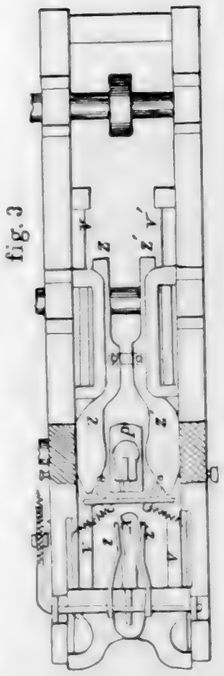


fig. 3



20441 fig. 1

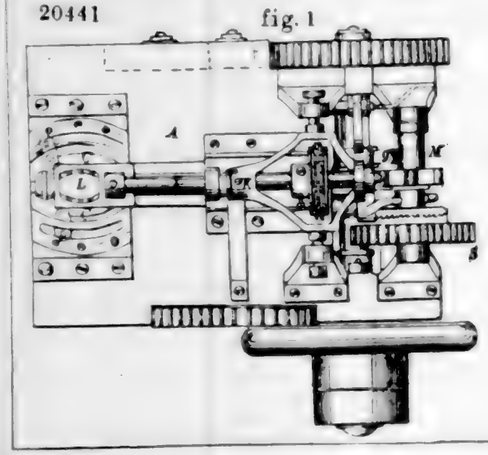
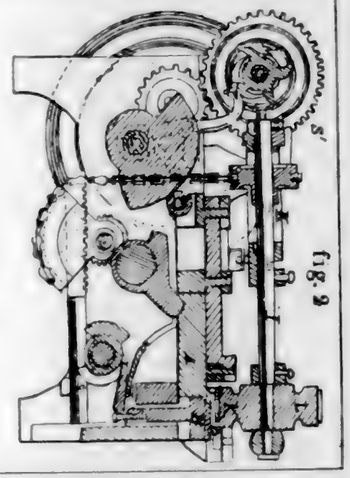


fig. 2



22476 fig. 1

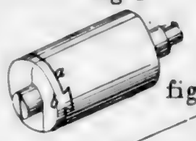


fig. 2

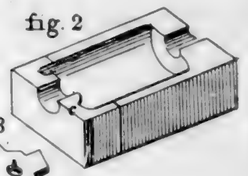


fig. 3

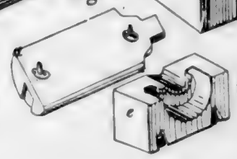
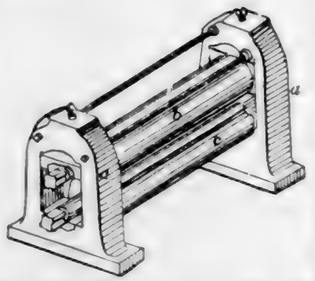


fig. 4

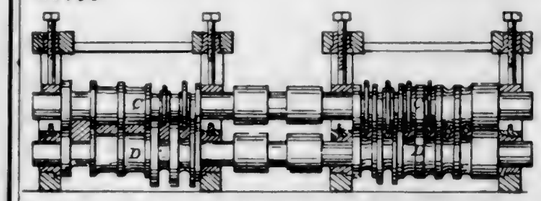


fig. 5

21844



19799



20009



19641 fig. 1

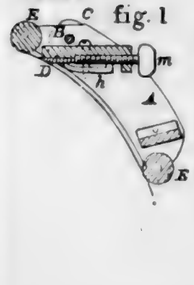
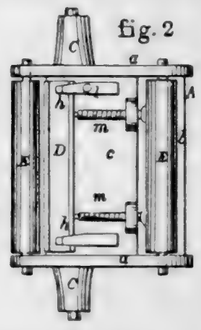


fig. 2



20280 fig. 1

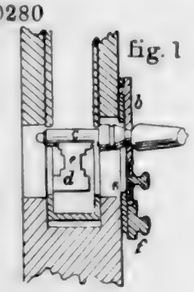
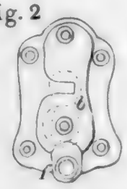
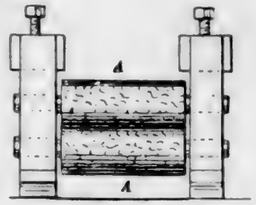


fig. 2



21692



21616



21817

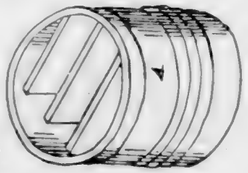


fig. 1 19017

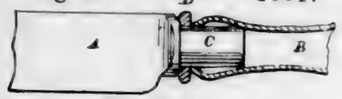


fig. 3



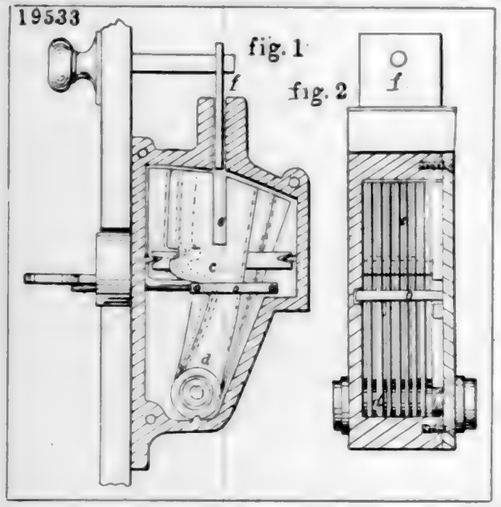
fig. 4



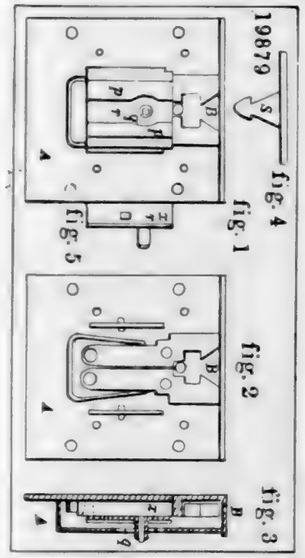
fig. 2



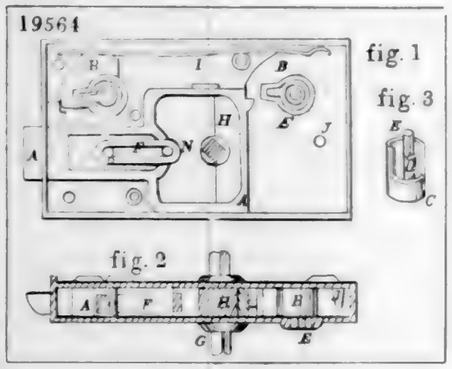
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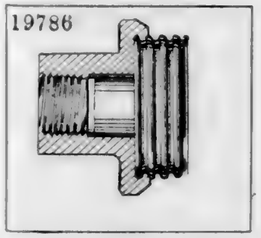
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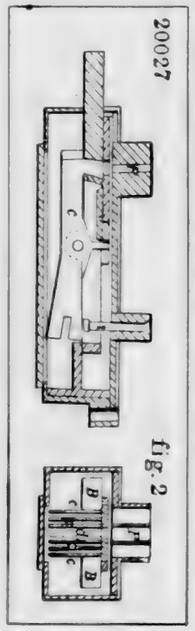
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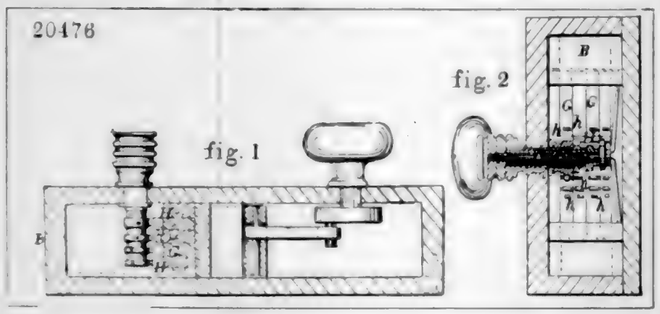
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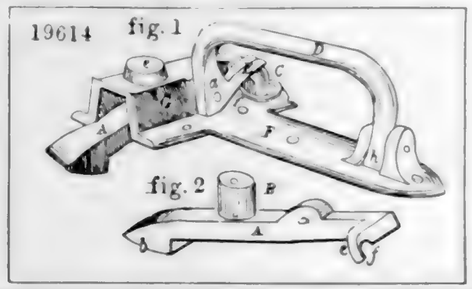
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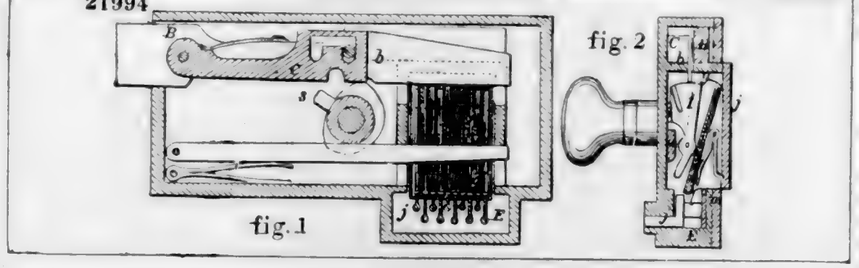
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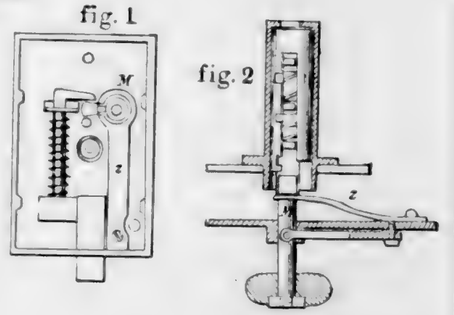
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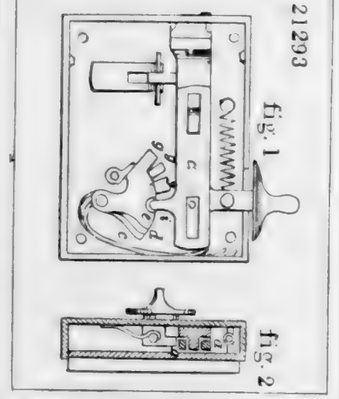
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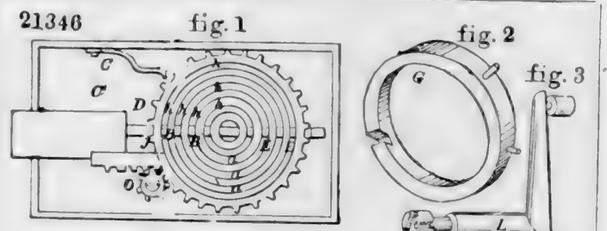
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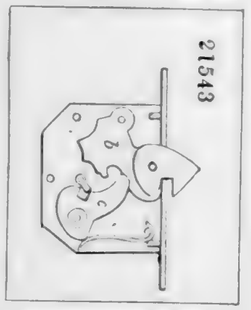
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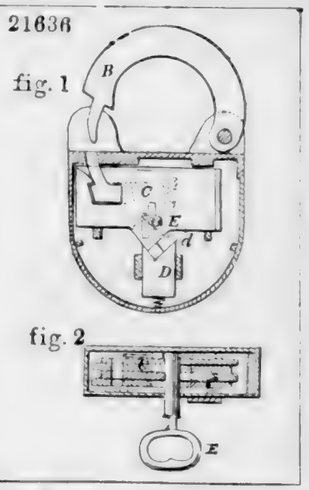
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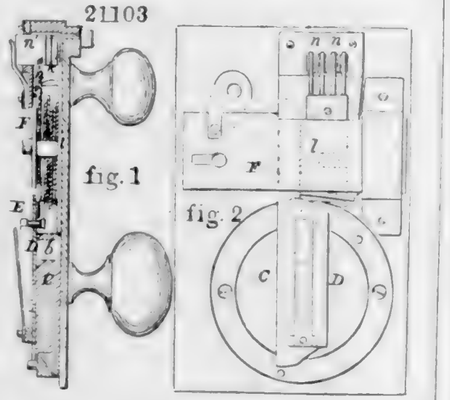
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21636



21103



21689 fig. 1

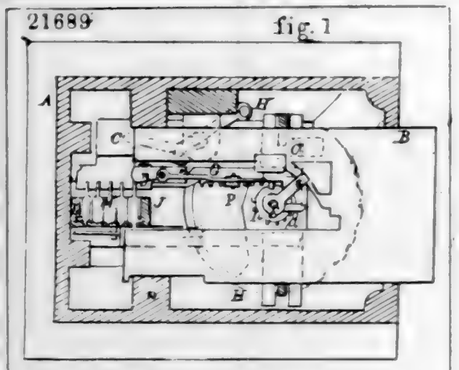


fig. 3

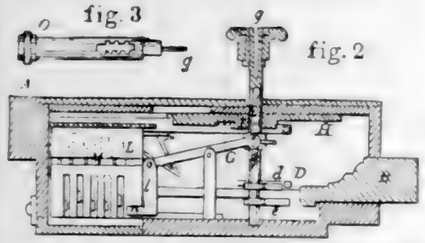


fig. 2

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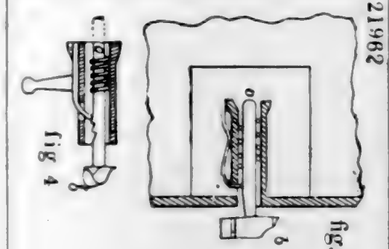


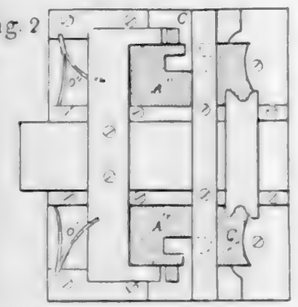
fig. 4 fig. 1 fig. 2 fig. 3

22048

fig. 1



fig. 2



22425

fig. 1

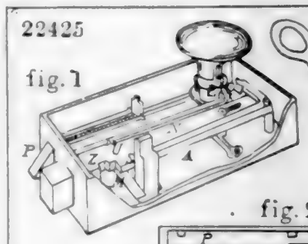
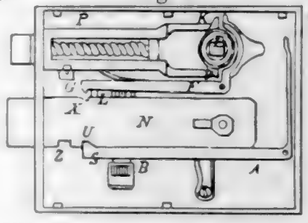


fig. 3

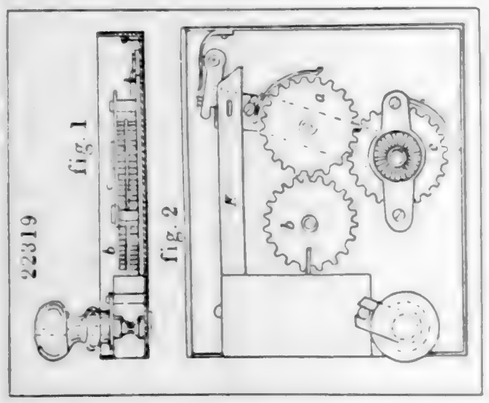
fig. 2



22319

fig. 1

fig. 2



22146

fig. 1

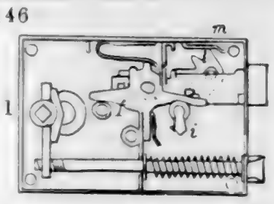
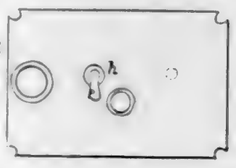


fig. 2



21947

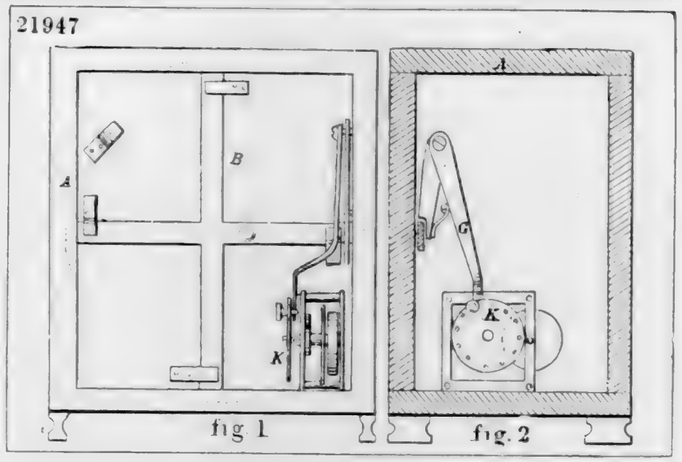
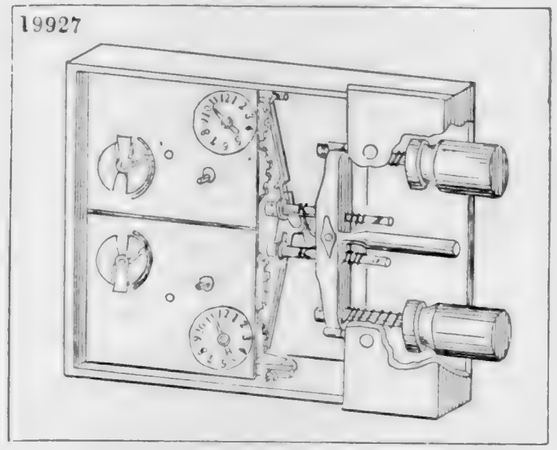


fig. 1 fig. 2

19927



21862

fig. 1

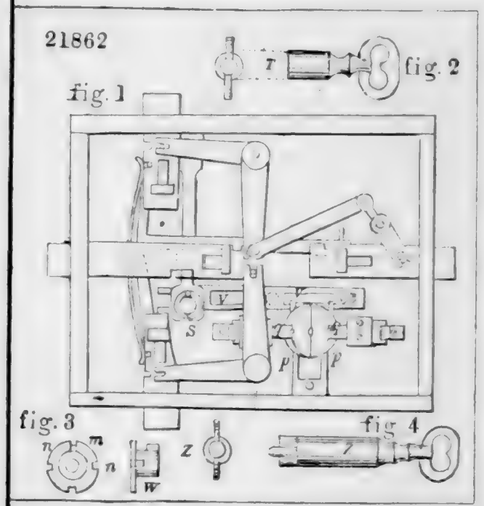


fig. 2 fig. 3 fig. 4

20716 fig. 1

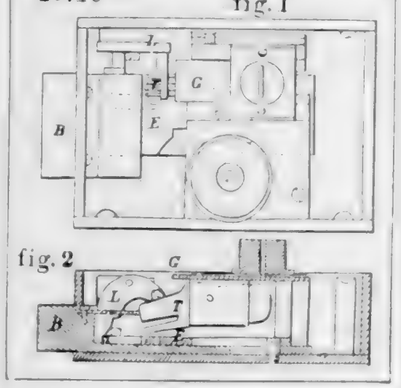


fig. 2

20658

fig. 1

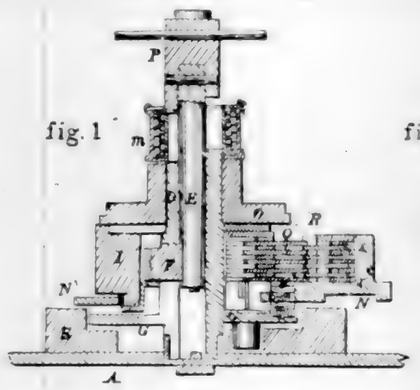


fig. 6

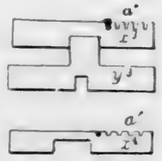


fig. 7



fig. 8



fig. 2

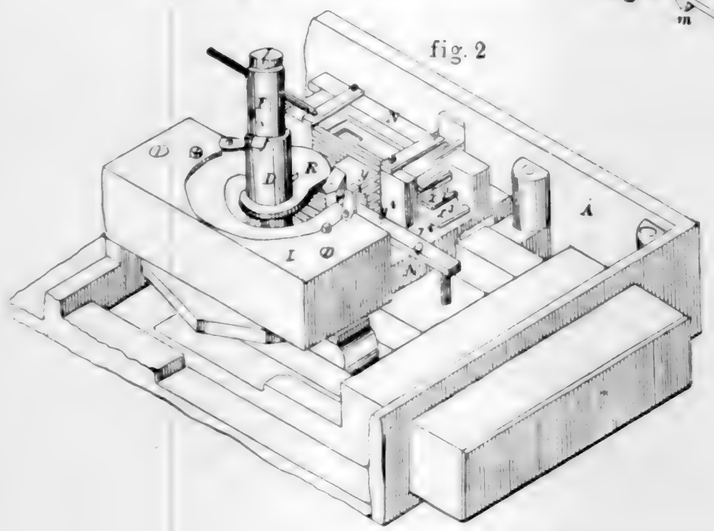


fig. 4

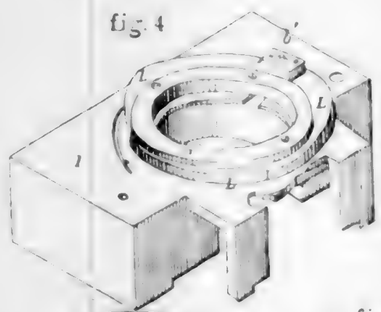


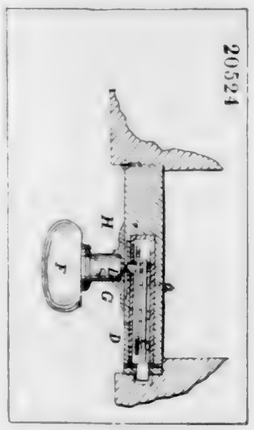
fig. 3



fig. 5



20524



19208

fig. 1

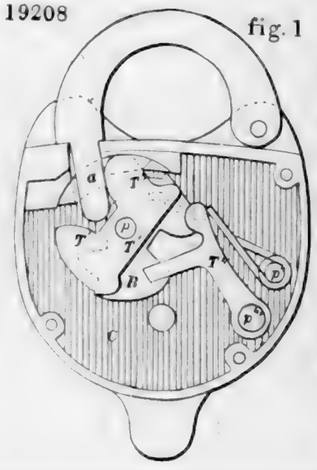


fig. 2

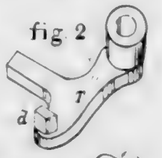


fig. 3



fig. 4



19315

fig. 1

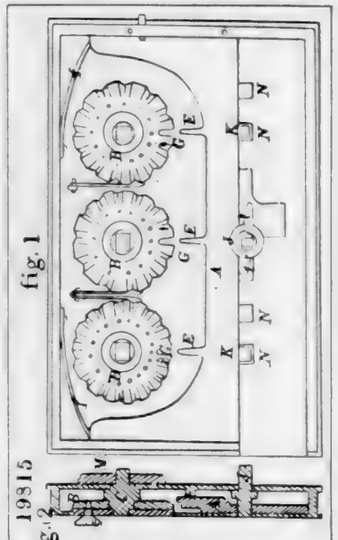
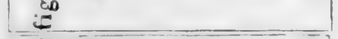


fig. 2



20063

fig. 1

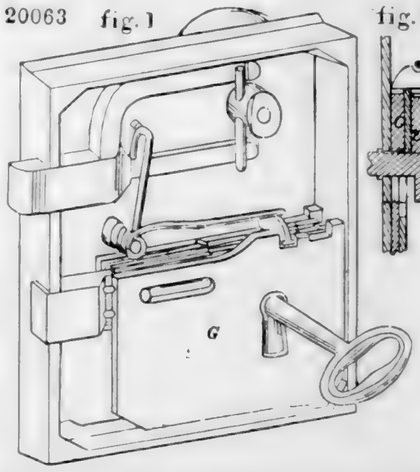
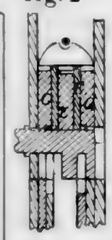
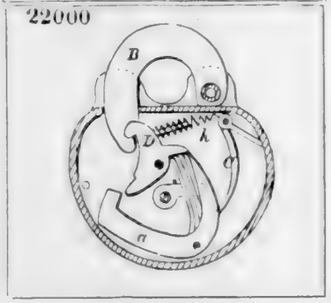


fig. 2



22000



20571

fig. 1

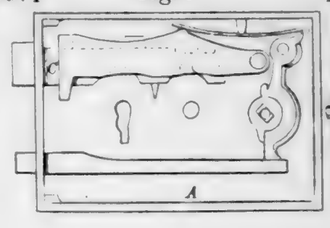


fig. 2

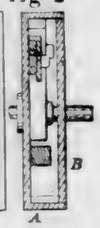
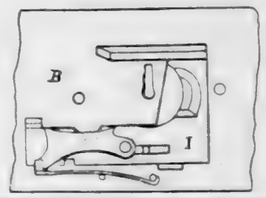


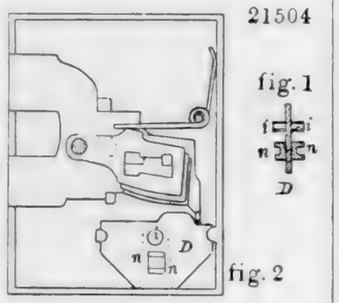
fig. 3



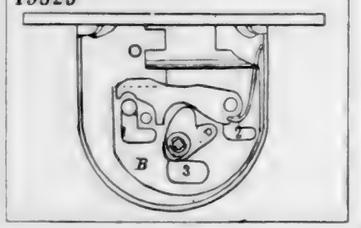
21504

fig. 1

fig. 2



19529



19517

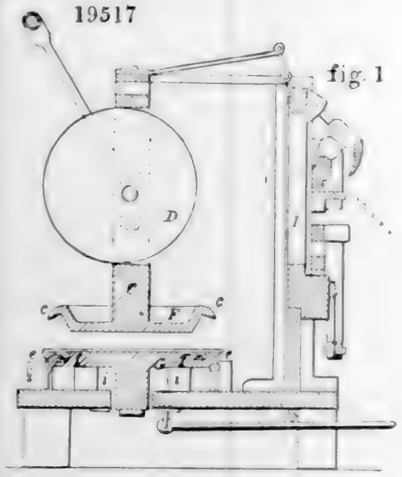


fig. 1

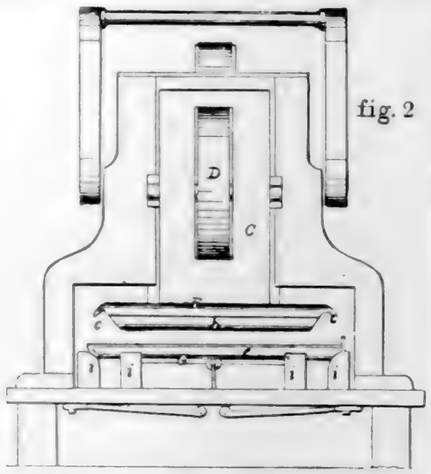


fig. 2

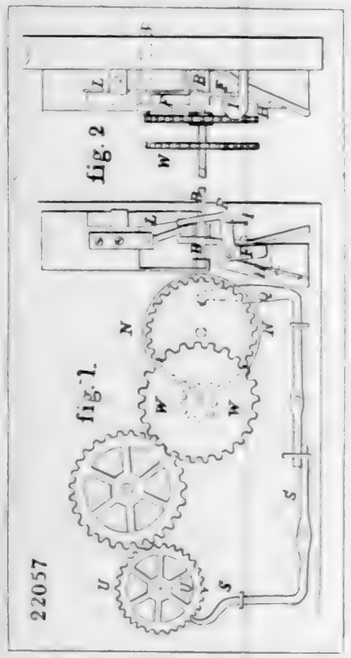


fig. 2

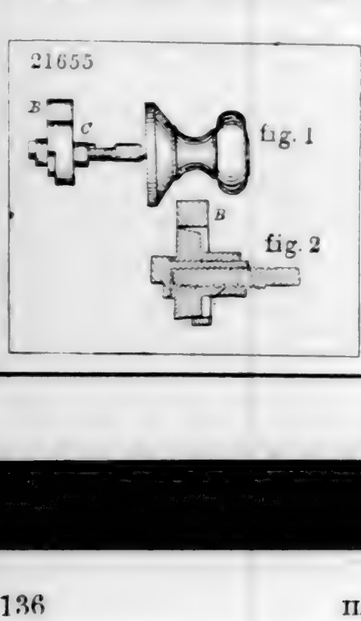


fig. 1

22057

21567

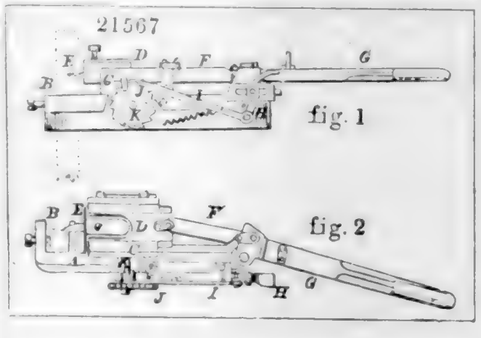


fig. 1

fig. 2

22068

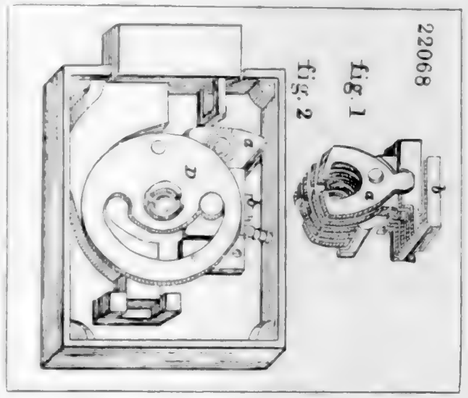


fig. 1

fig. 2

21655

fig. 1

fig. 2

19945

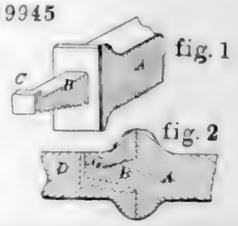


fig. 1

fig. 2

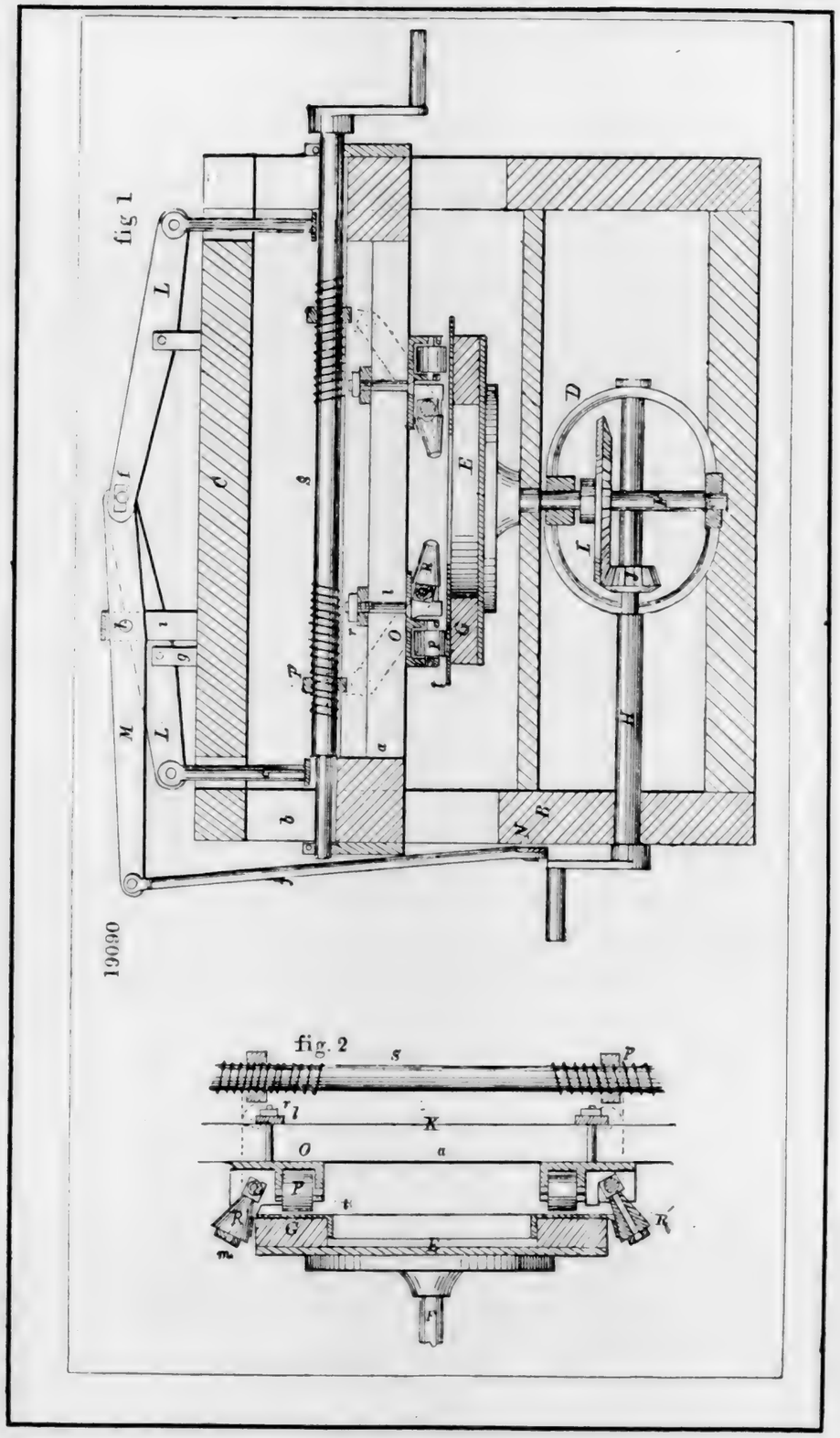


fig. 1

19990

fig. 2

22044

fig. 1

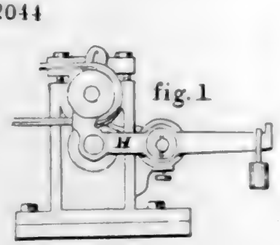
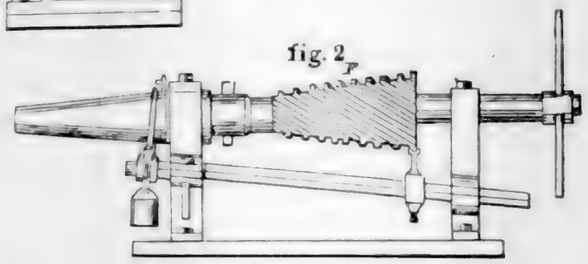




fig. 3

fig. 2



20446

fig. 1

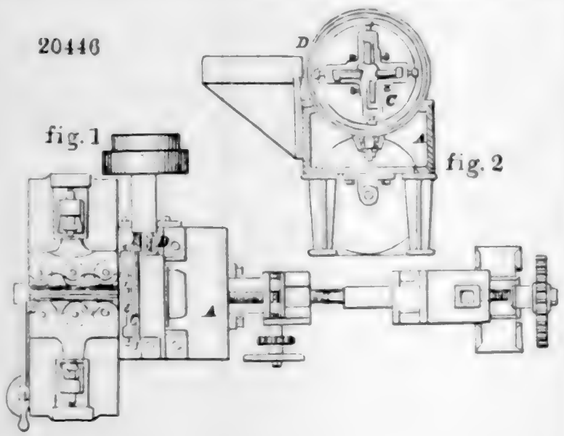


fig. 2

20846



19868

fig. 1

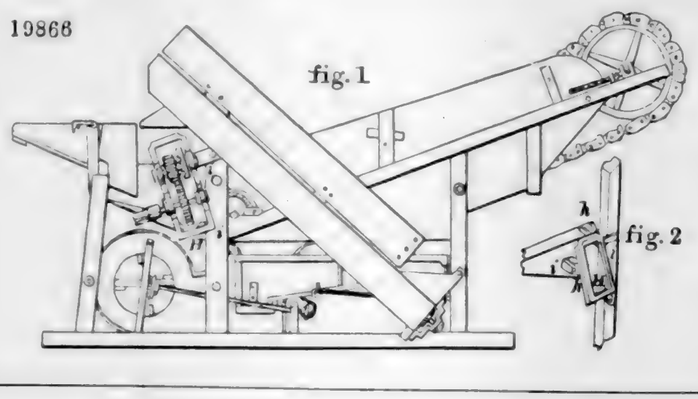


fig. 2

21749

fig. 1

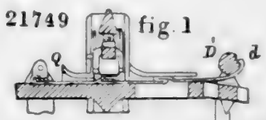
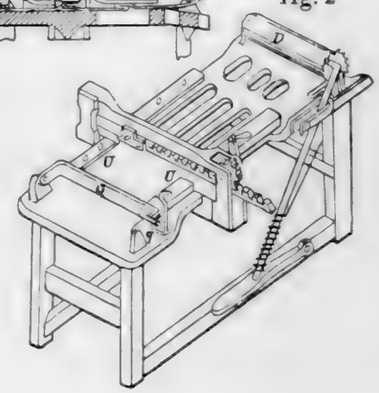
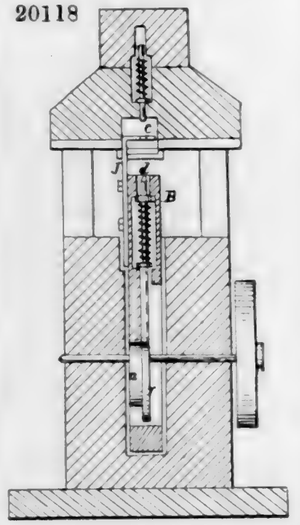


fig. 2



20118



20165

fig. 1

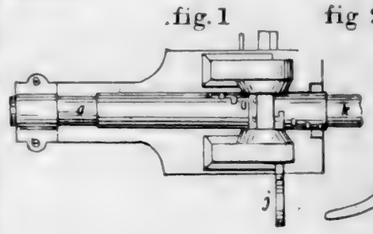
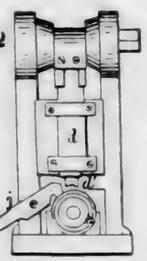


fig 2



19677

fig. 1

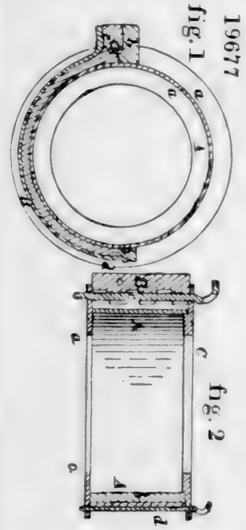
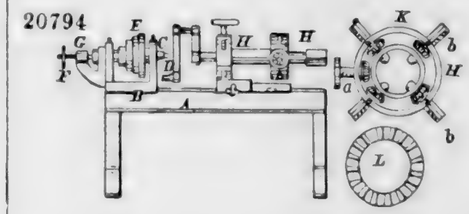


fig. 2

20794



19498

fig. 1

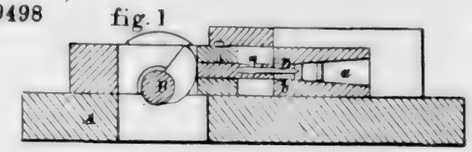


fig. 2



22211

fig. 1

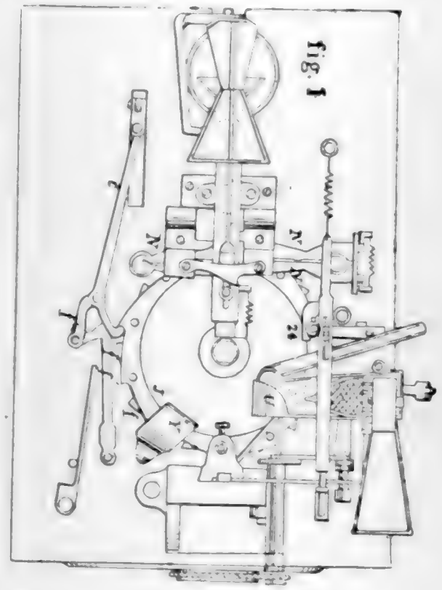
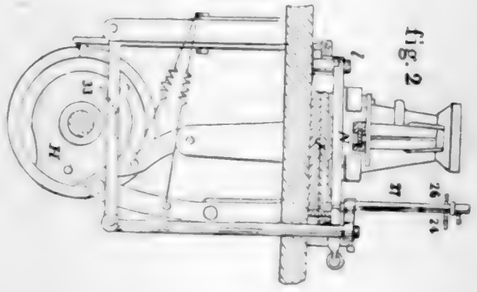


fig. 2



20126

fig. 1

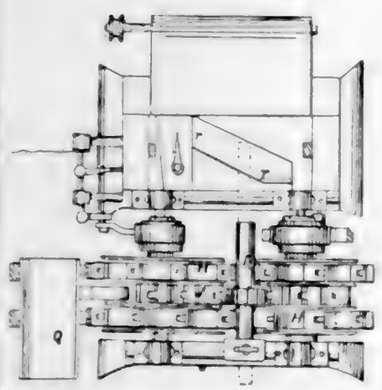
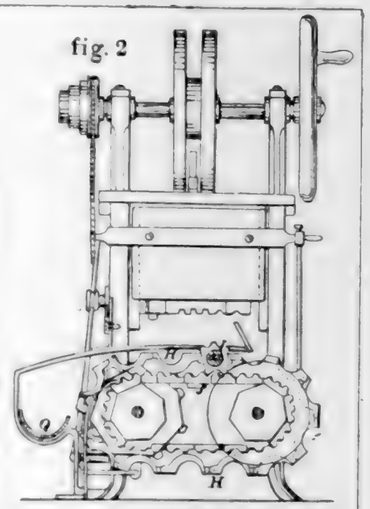


fig. 2



20829

fig. 1

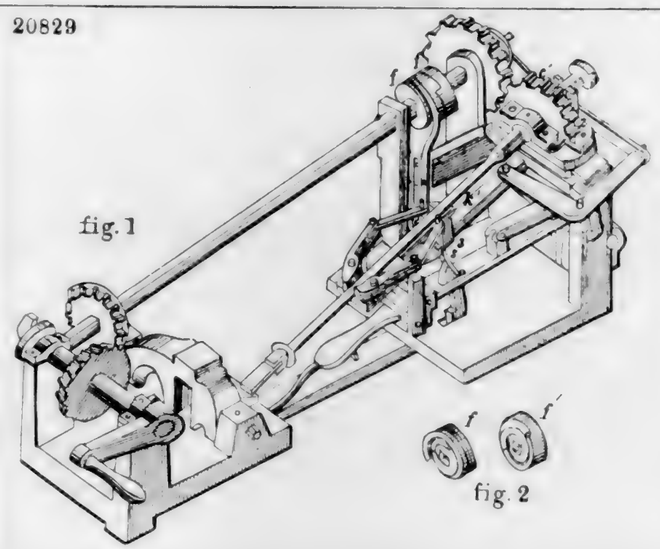


fig. 2

19631

fig. 1

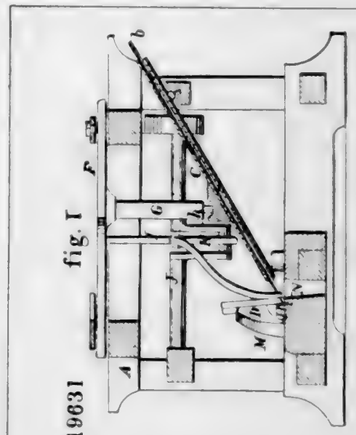
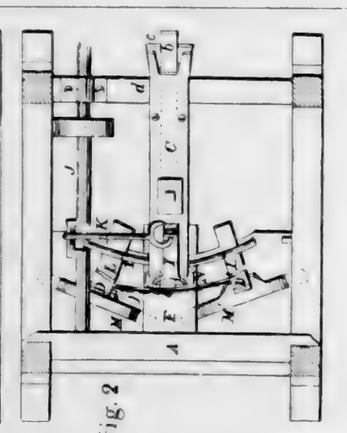


fig. 2



20312

fig. 1

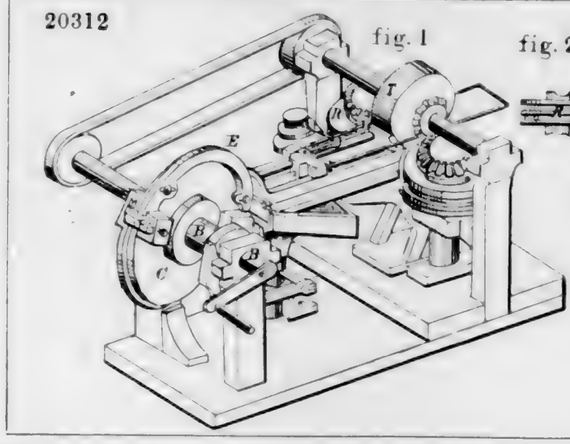
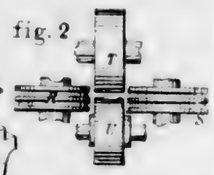
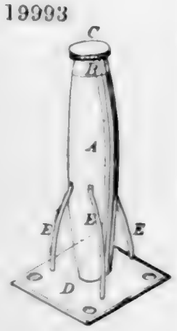


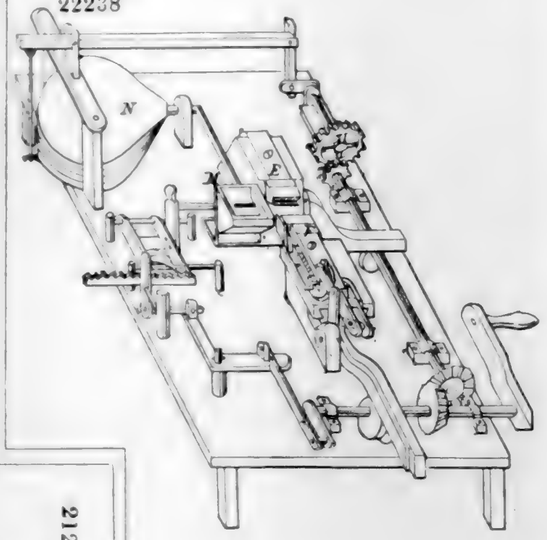
fig. 2



19993



22238



21222

fig. 1

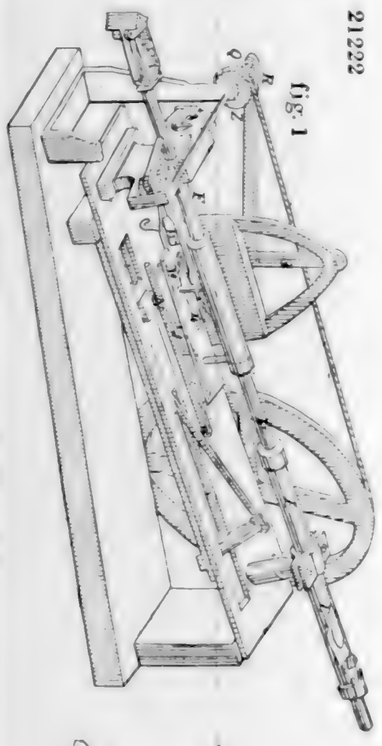
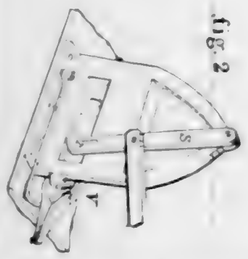


fig. 2



21198

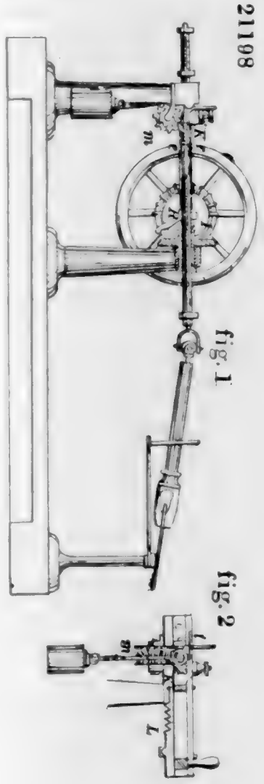


fig. 1

fig. 2

20141

fig. 1

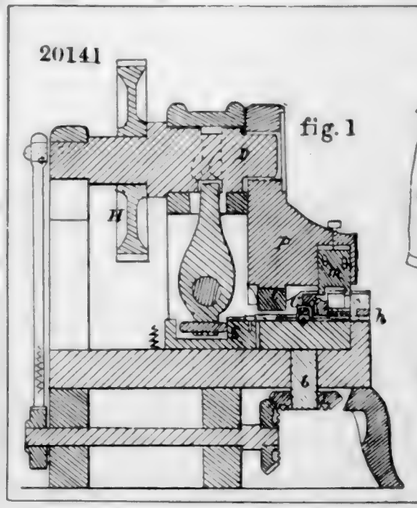
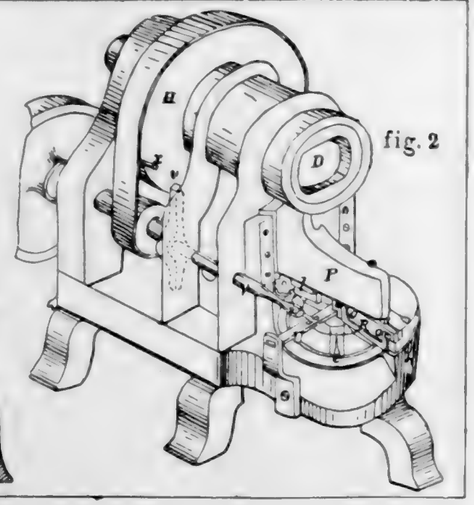


fig. 2



21005 fig. 1

fig. 2

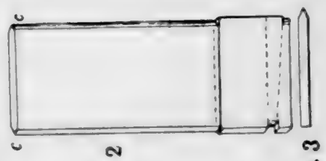
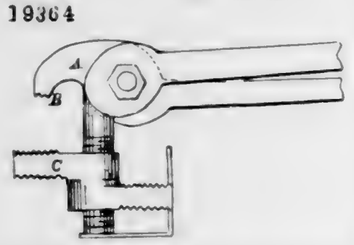
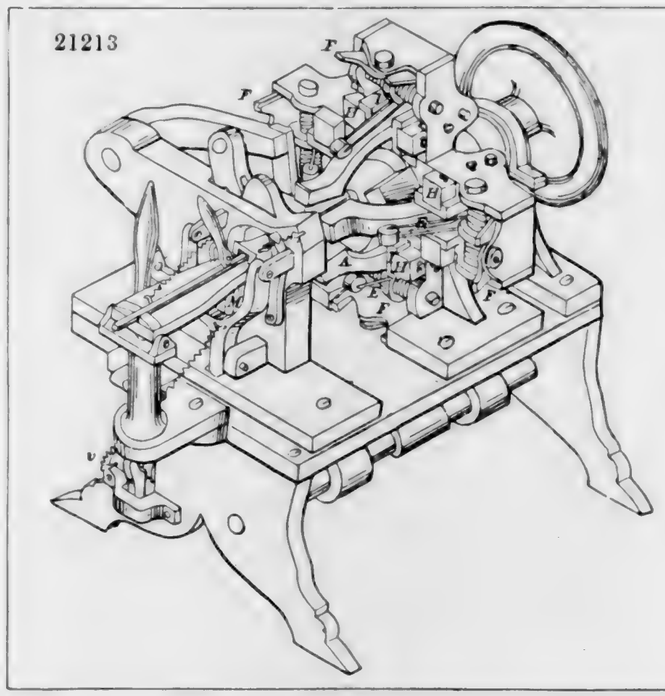


fig. 3

19364



21213



19123

fig. 1

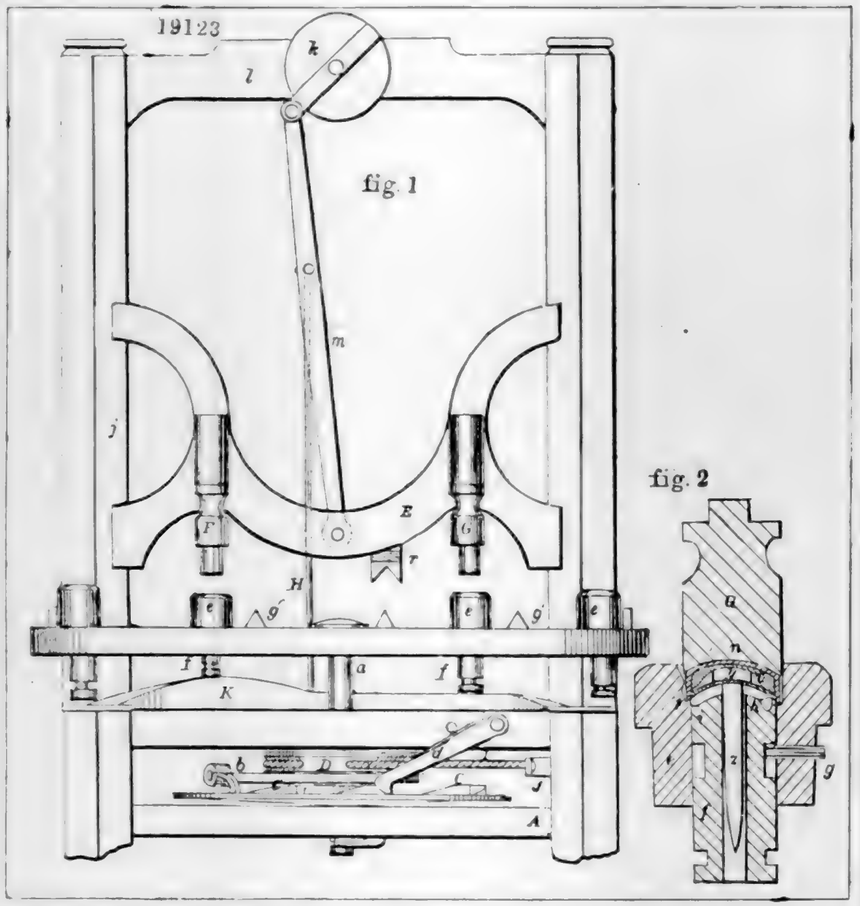


fig. 2

21812

fig. 1

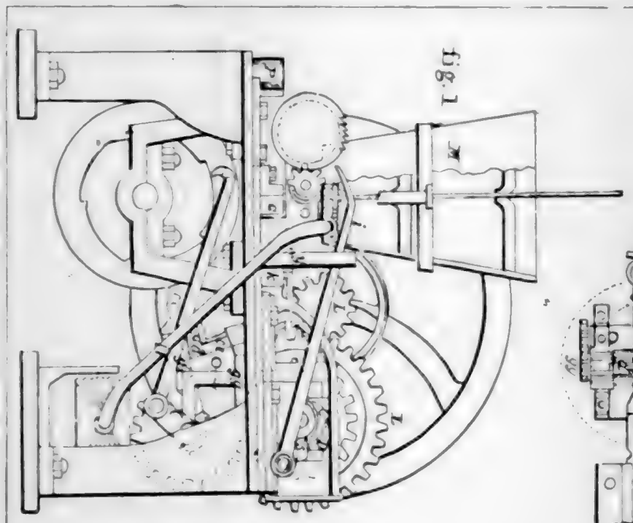
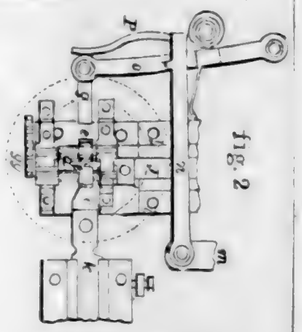


fig. 2



21551

fig. 1

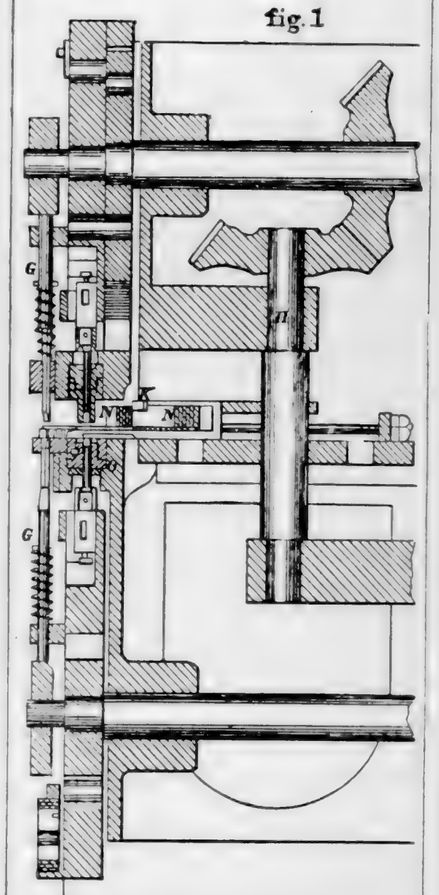
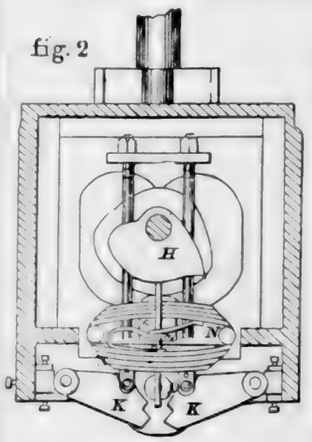


fig. 2



20145

fig. 1

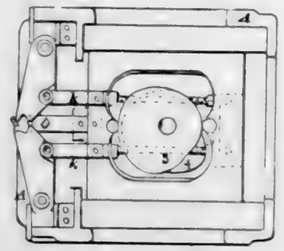
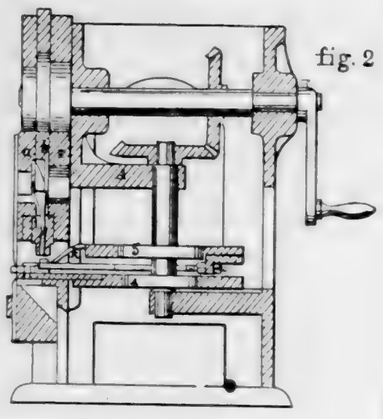
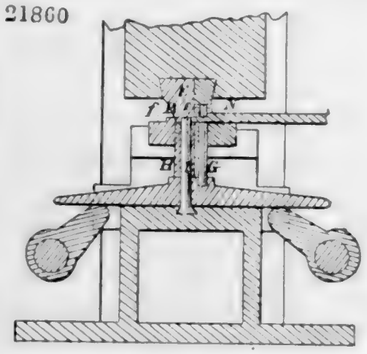


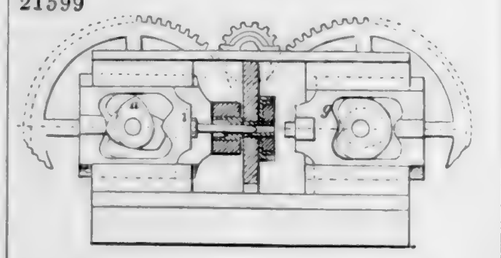
fig. 2



21860



21599



20666

fig. 1

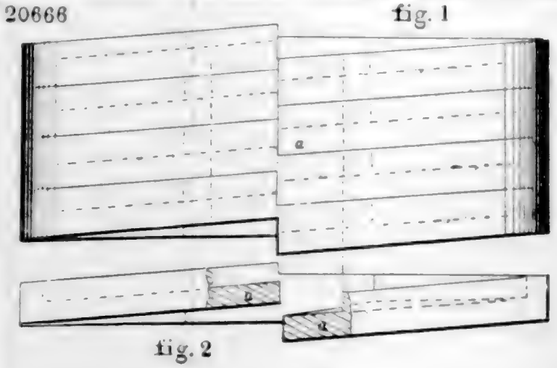
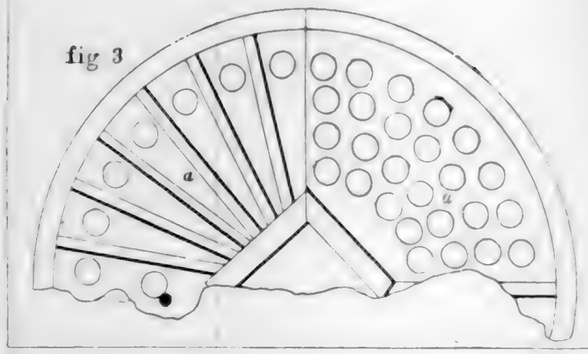
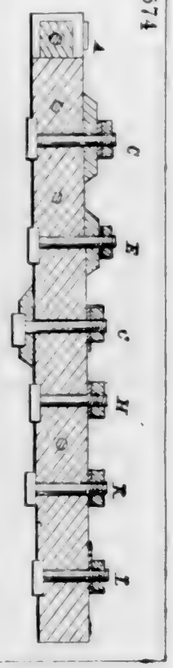


fig. 2

fig 3



21574



22310

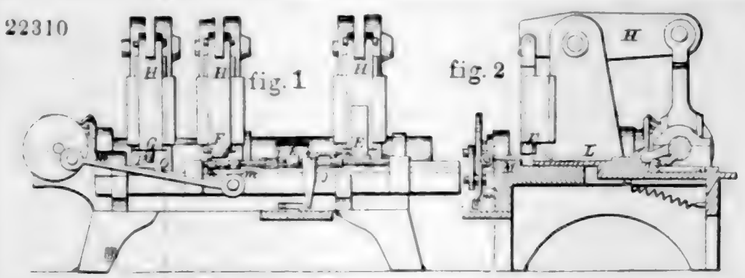


fig. 1

fig. 2

19670

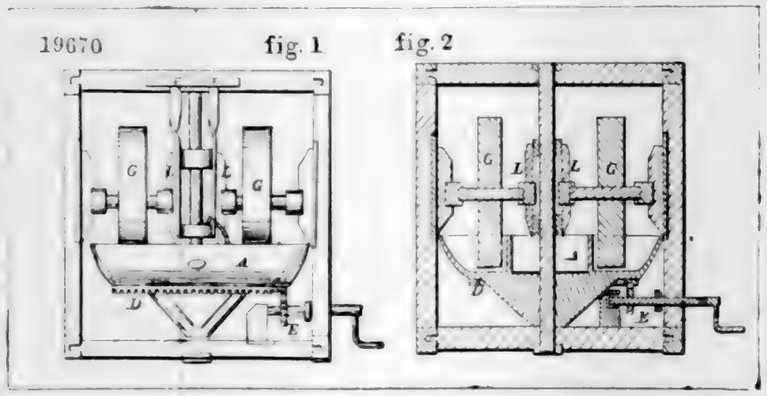
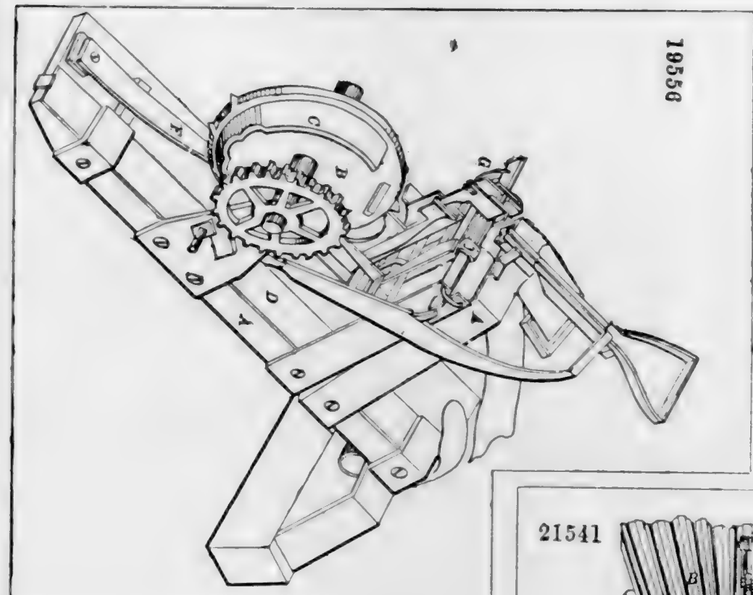


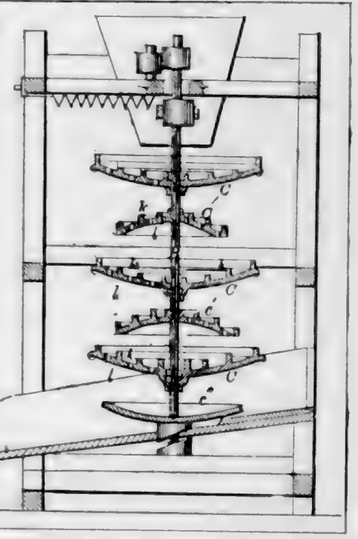
fig. 1

fig. 2

19556



19338



21541

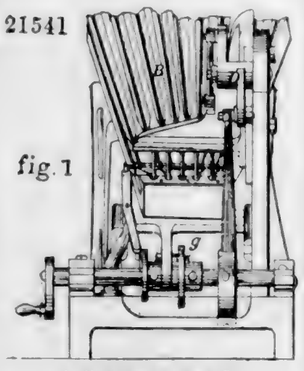


fig. 1

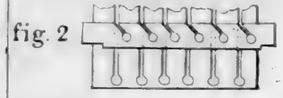
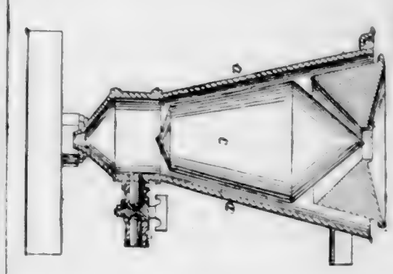


fig. 2

22138



20756

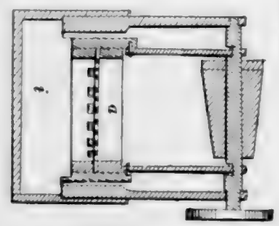


fig. 1

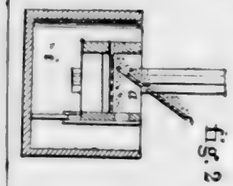
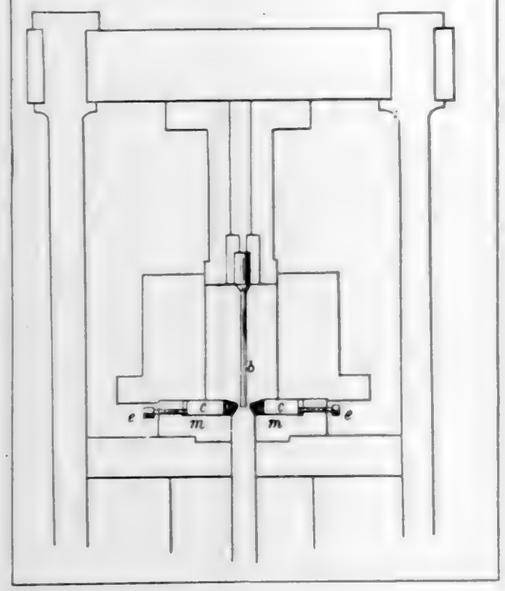


fig. 2

19313



20171

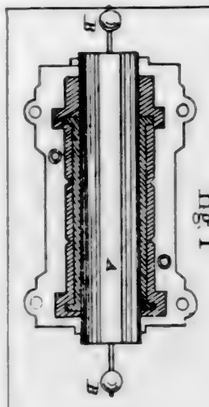


fig. 1

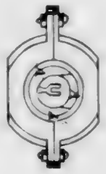
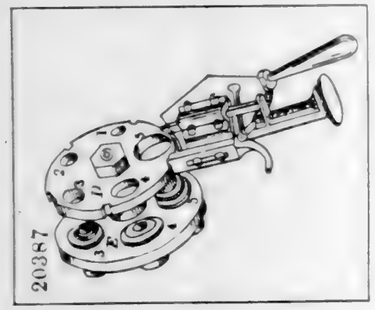
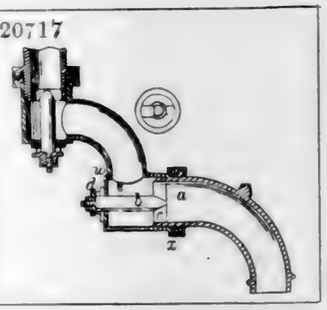


fig. 2

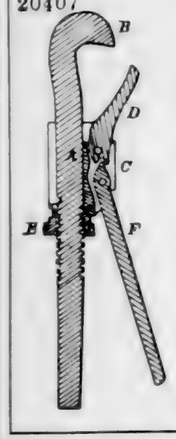
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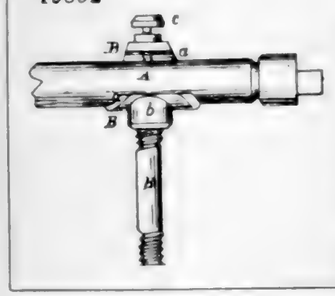
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20407



19852



19944

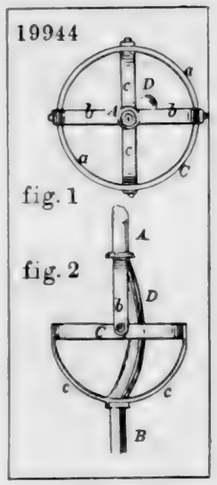
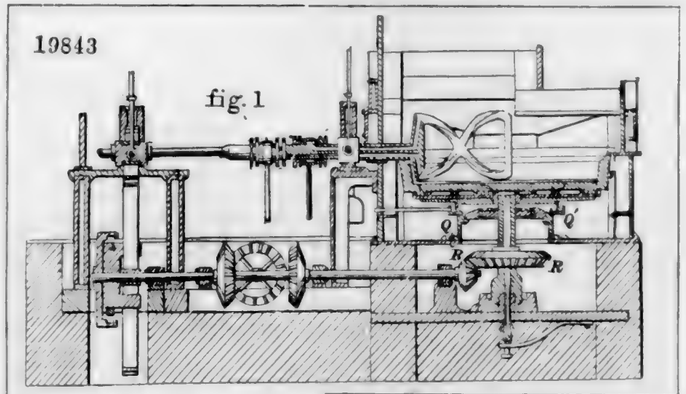


fig. 1

fig. 2

19843

fig. 1



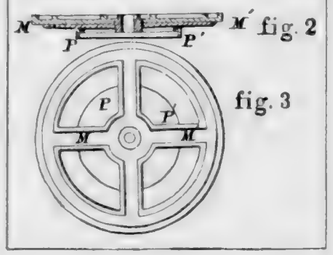


fig. 2

fig. 3

20743

fig 1

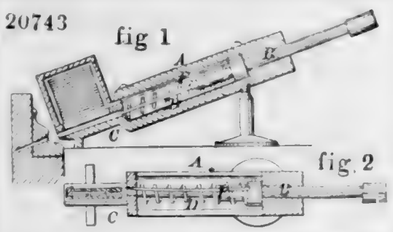
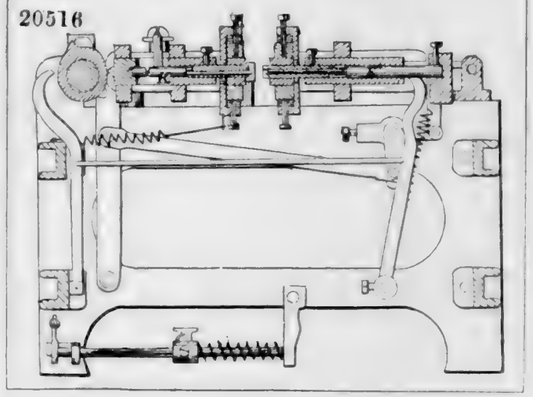


fig. 2

20516



20460

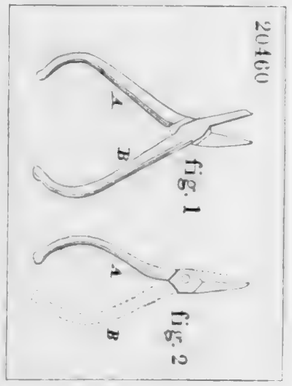
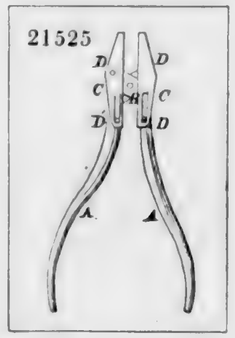


fig. 1

fig. 2

21525



22157

fig. 1

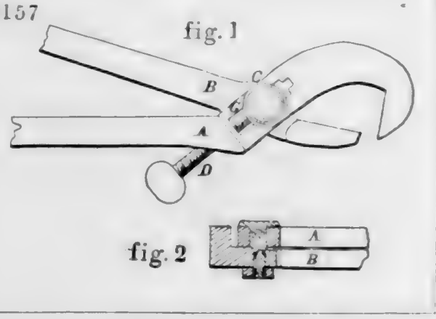


fig. 2

20685

fig. 1

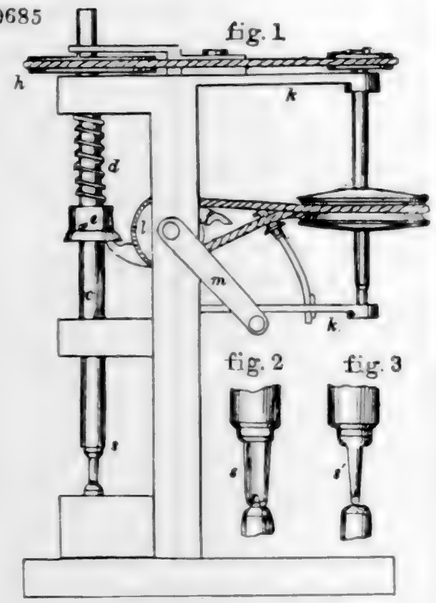
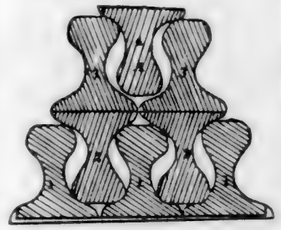


fig. 2 fig. 3

20702



19963

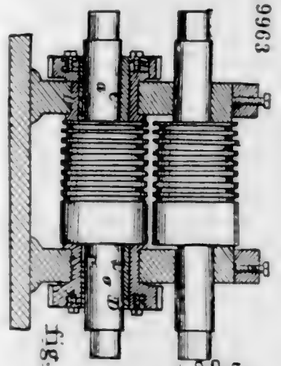
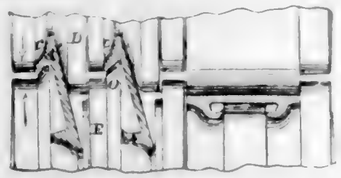


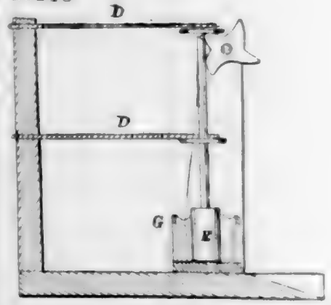
fig. 1

fig. 2

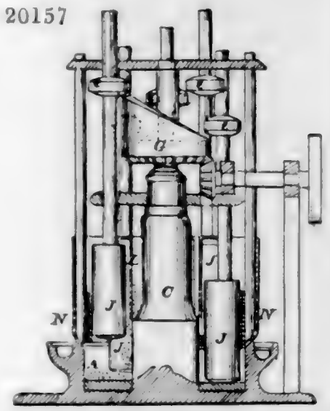
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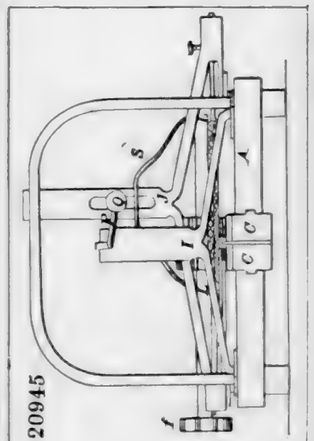
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20157



20945



20736

fig. 1

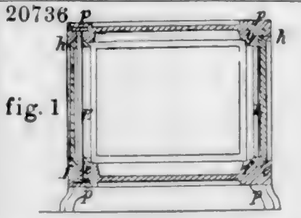
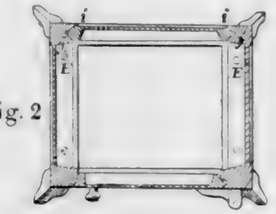
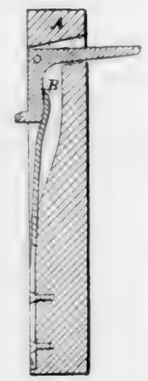


fig. 2



20544



21666

fig. 1

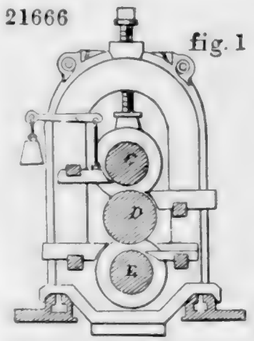
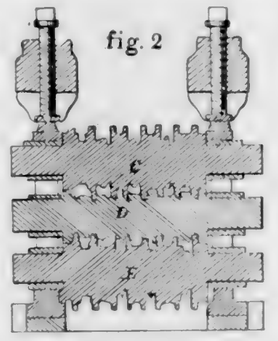
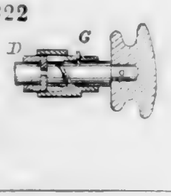


fig. 2



20822



21427

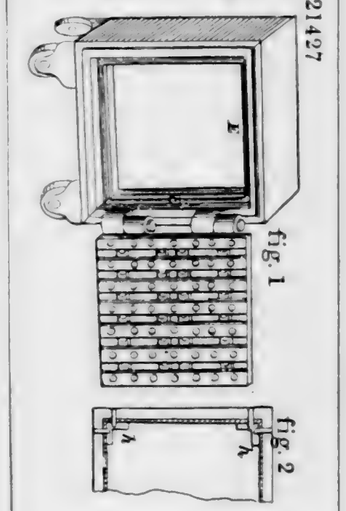


fig. 1

fig. 2

21483

fig. 1

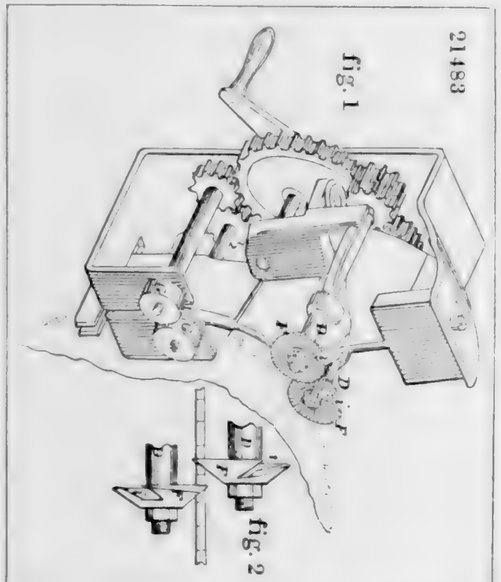


fig. 2

22260

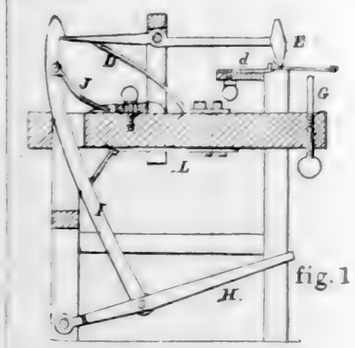


fig. 1

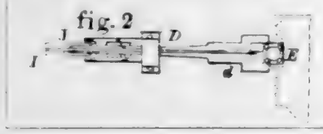


fig. 2

19835

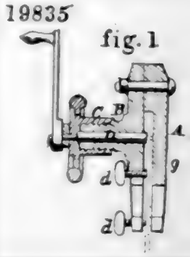


fig. 1

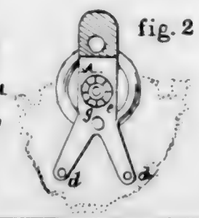


fig. 2

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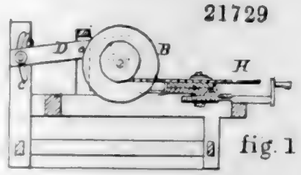


fig. 1

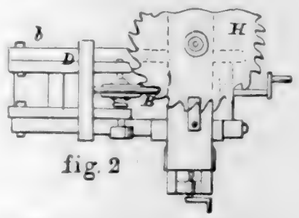


fig. 2



fig. 2

21935

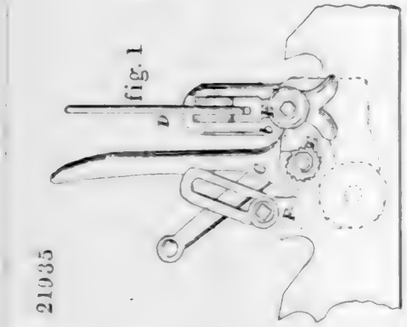


fig. 1

22256



fig. 1

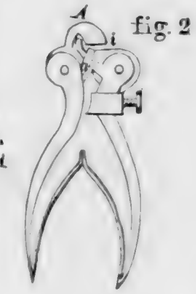
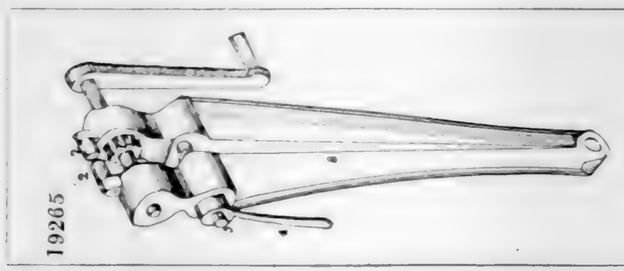


fig. 2

19265



19244

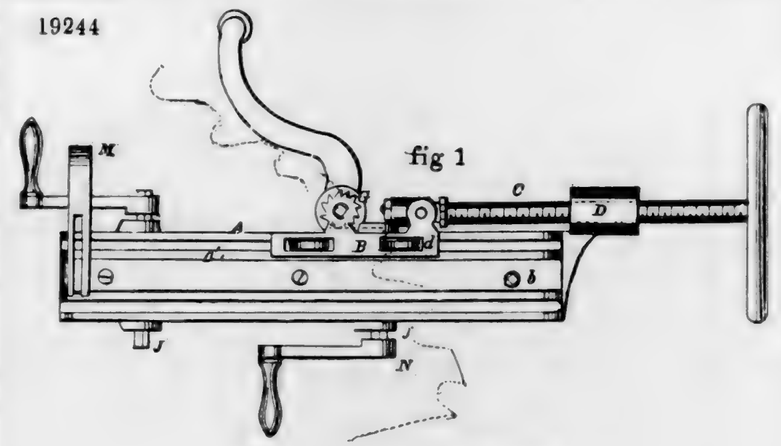


fig 1

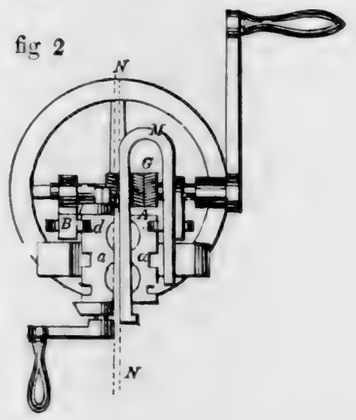


fig 2

20933

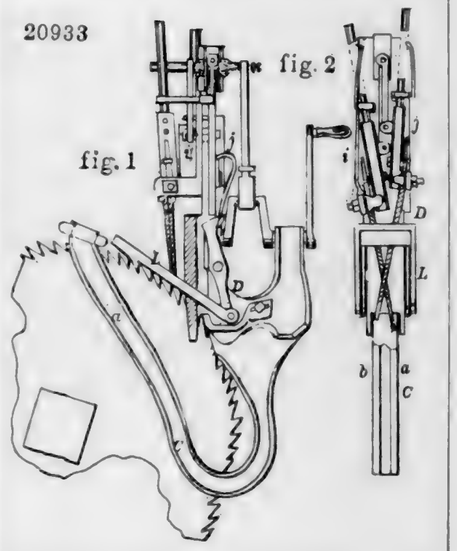


fig. 1

fig. 2

20330

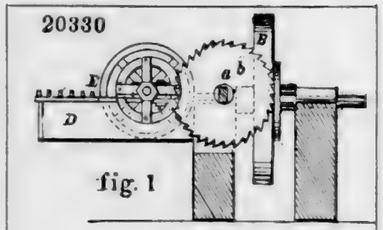


fig. 1

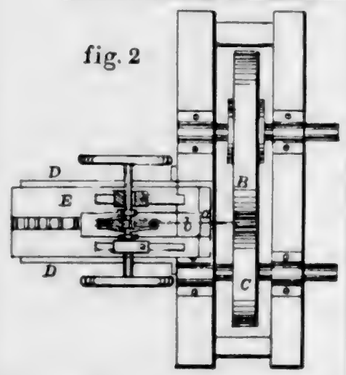
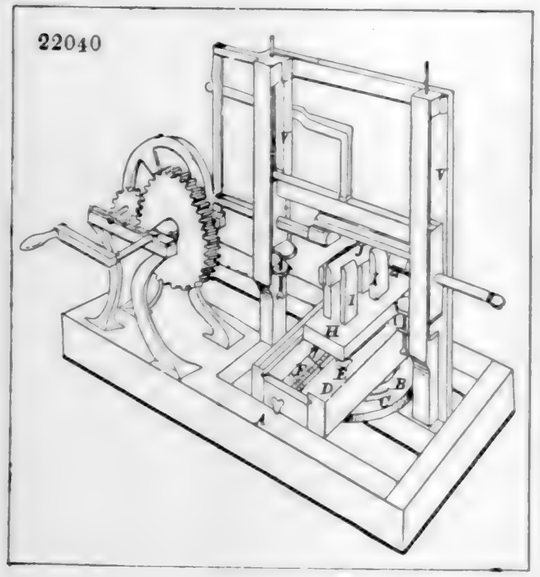


fig. 2

22040



20168

fig. 1

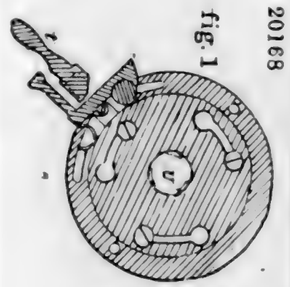


fig. 2



21531

fig. 1

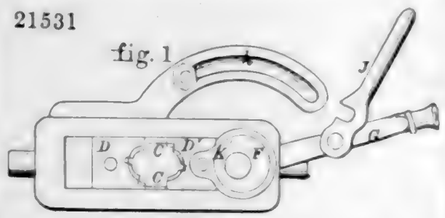


fig. 2

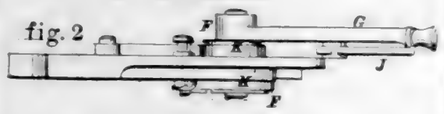
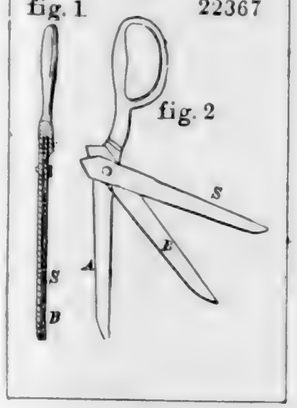


fig. 1 22367

fig. 2



20619

fig. 1



fig. 3

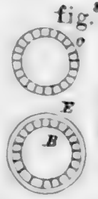
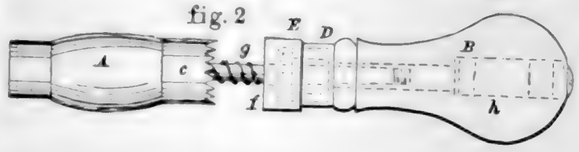


fig. 2



19752

fig. 1

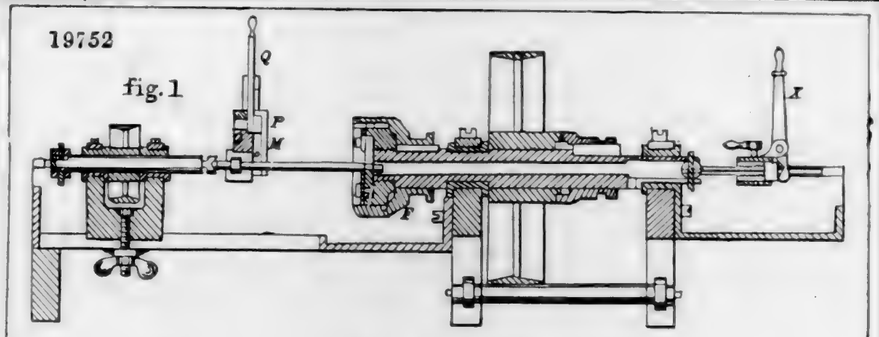


fig. 2

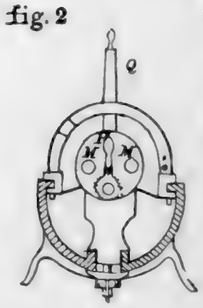
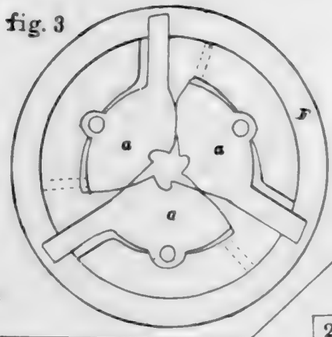


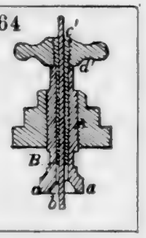
fig. 3



19805



21864



19162

fig. 1

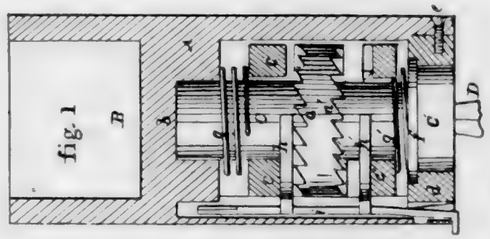
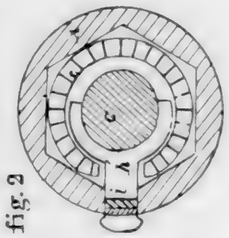


fig. 2



20036

fig. 1

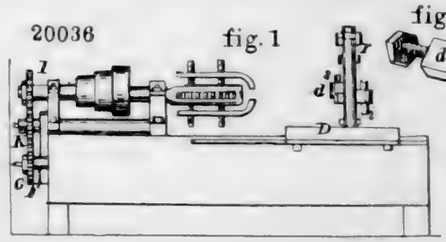


fig. 2



fig. 3

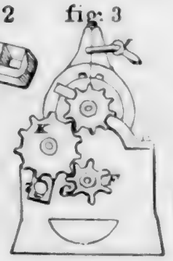
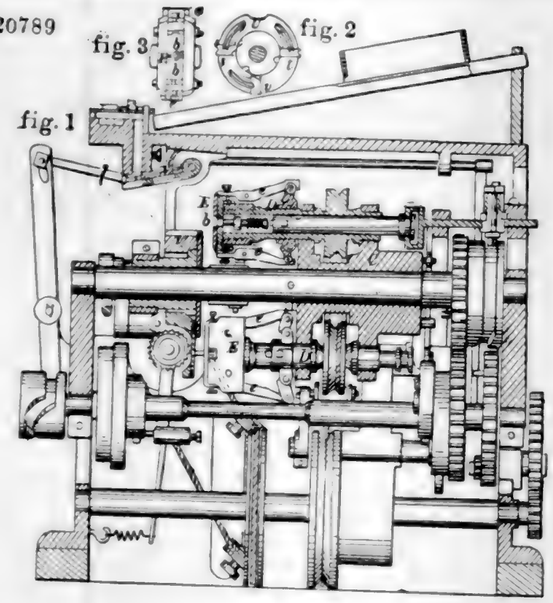


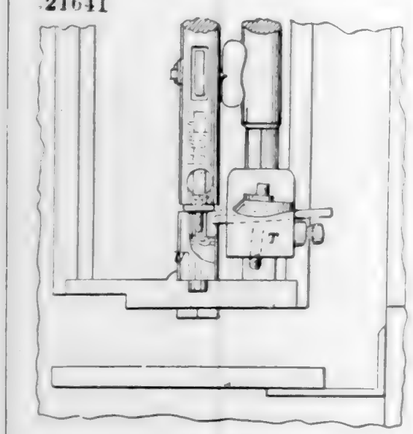
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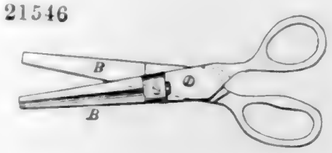
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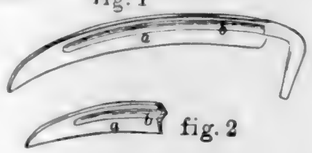
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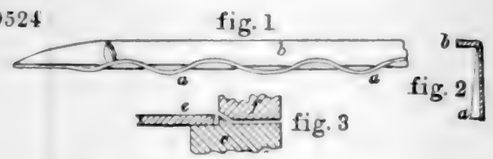
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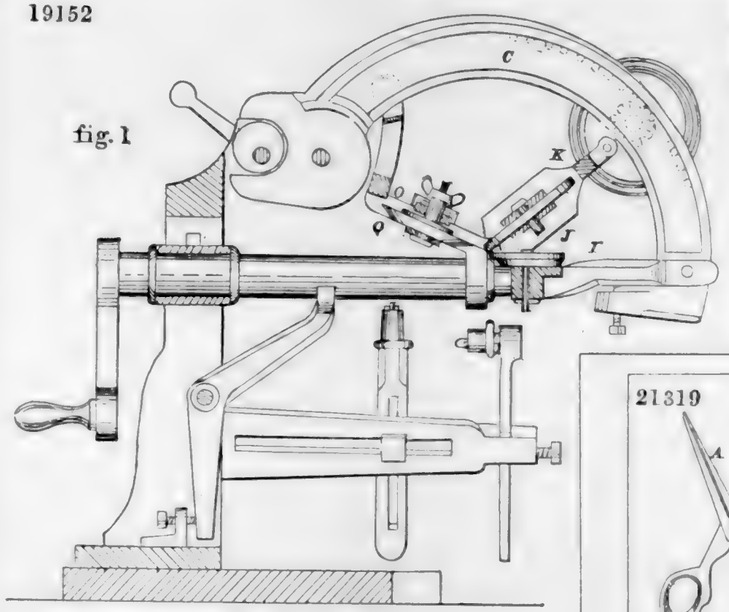
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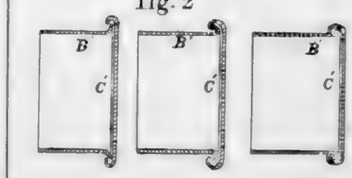


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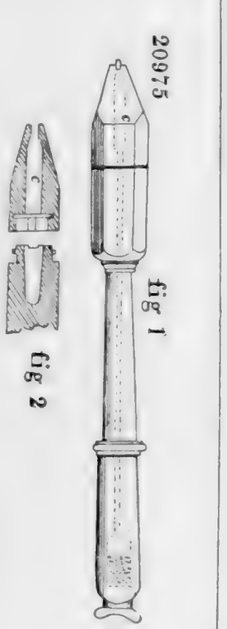




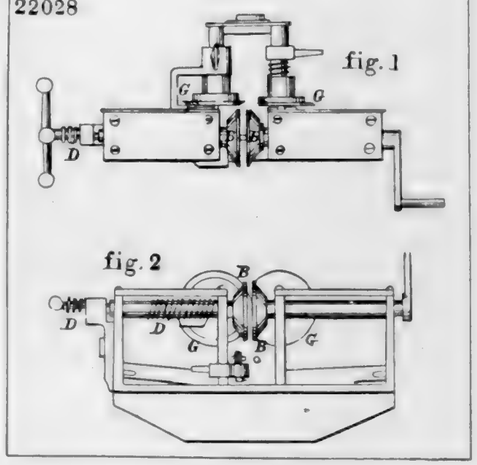
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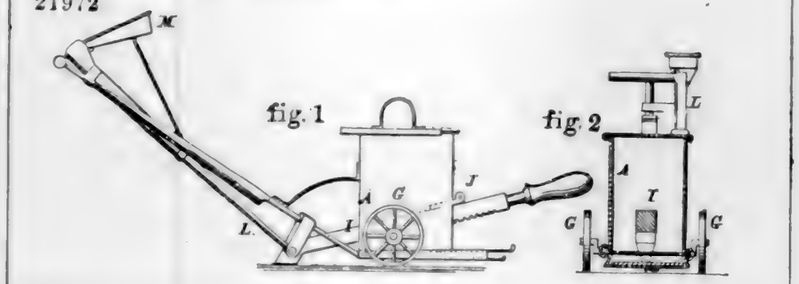
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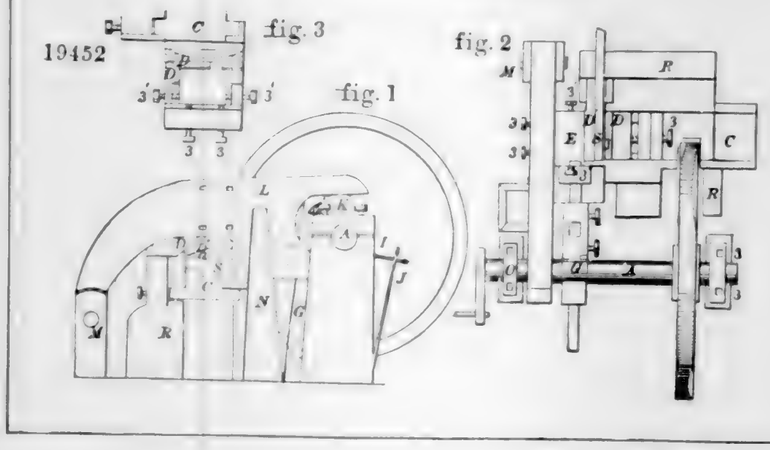
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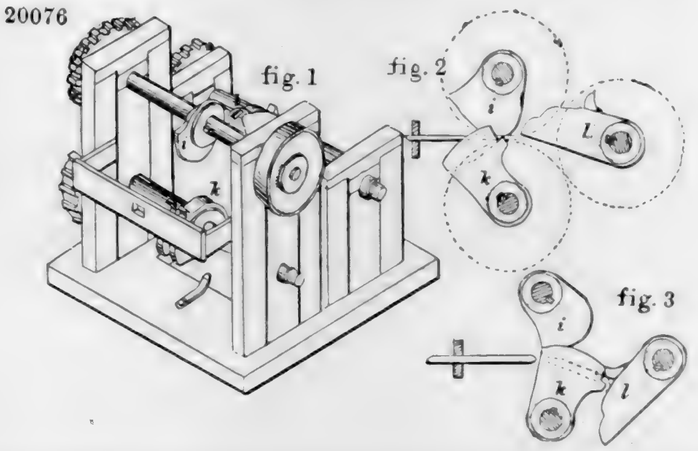
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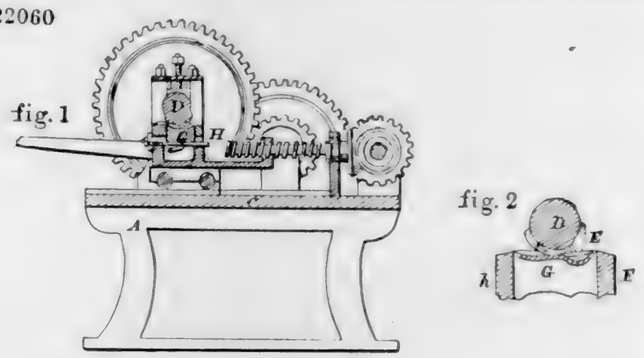
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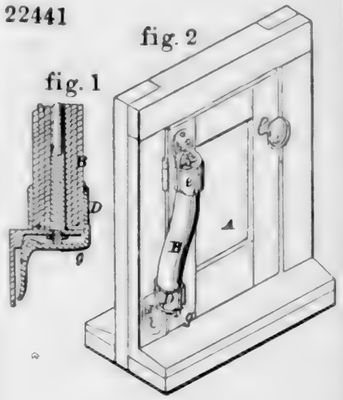
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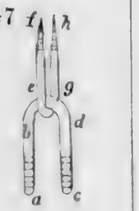
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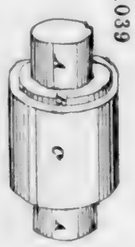
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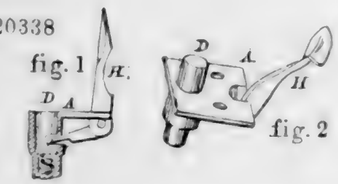
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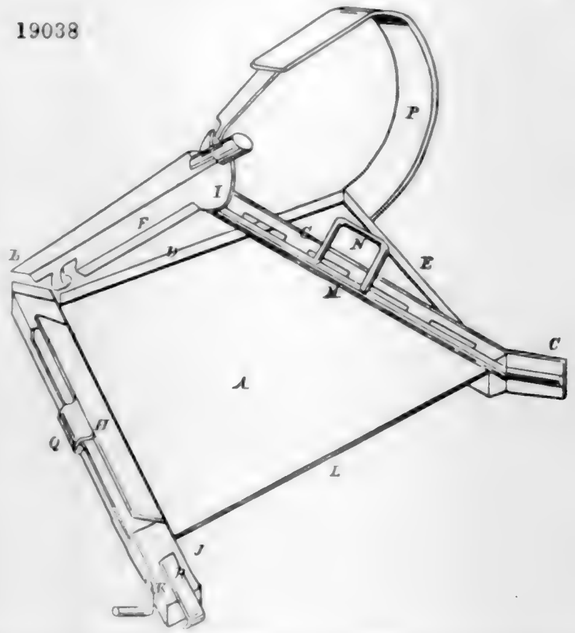
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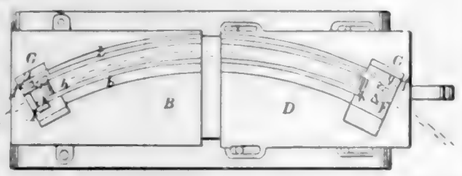
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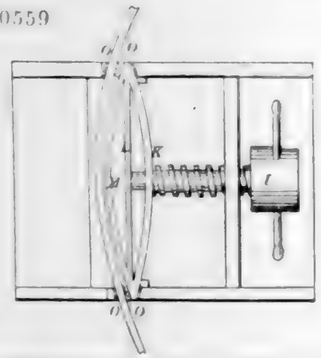
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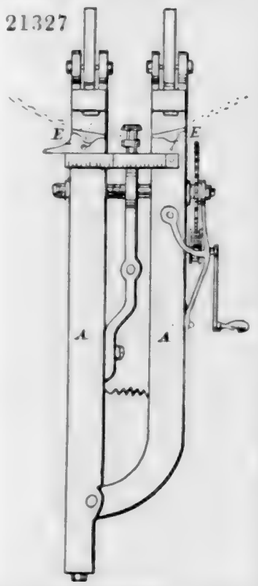
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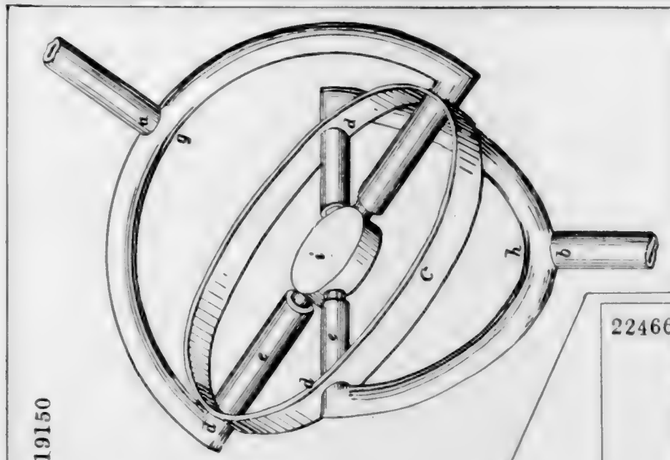
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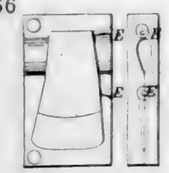
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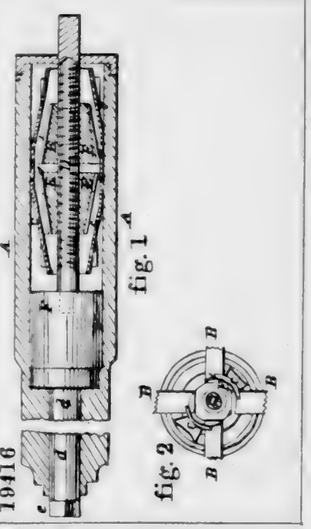
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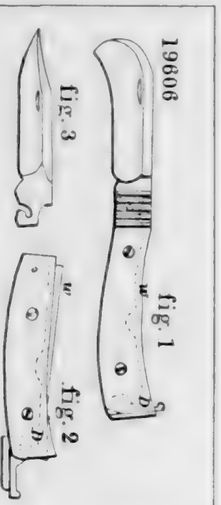
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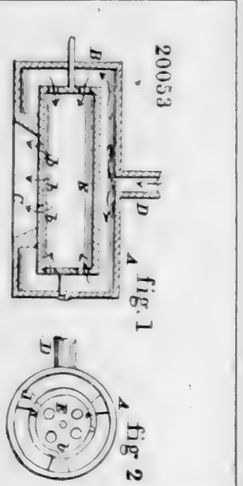
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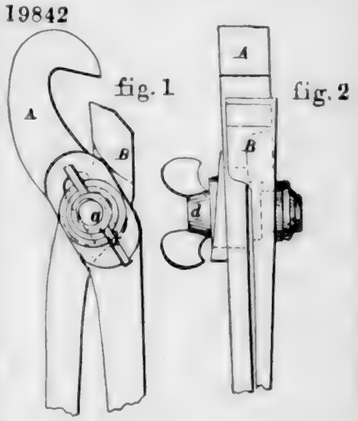
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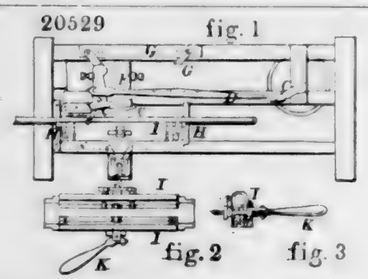
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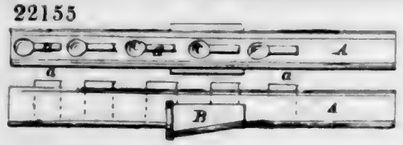
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20529



22153



20043

fig. 1

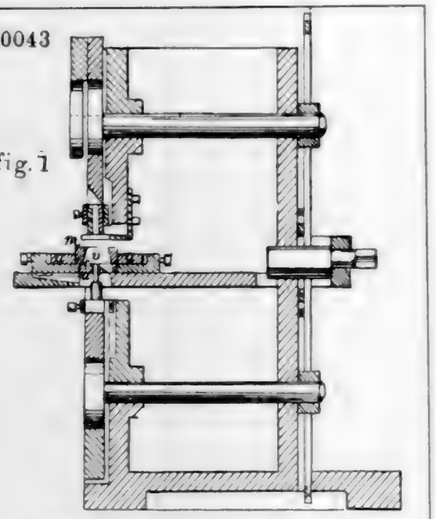
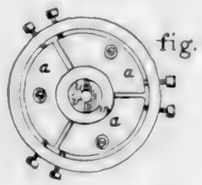


fig. 2



21951

fig. 1

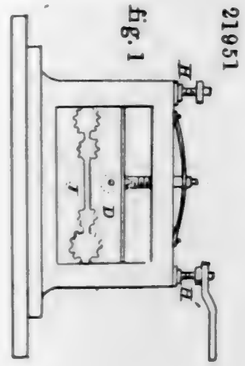
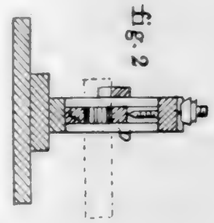


fig. 2



19861

fig. 1

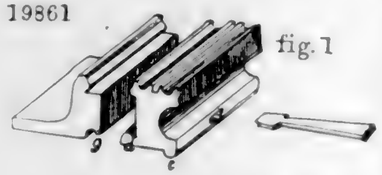
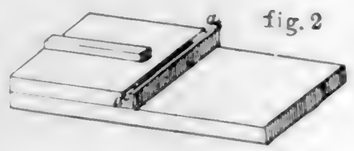


fig. 2



22111

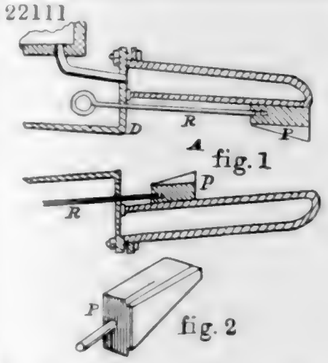
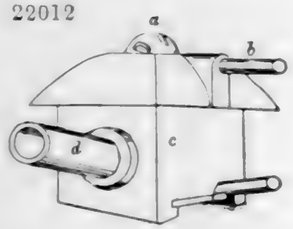


fig. 1

fig. 2

22012



19622

fig. 1

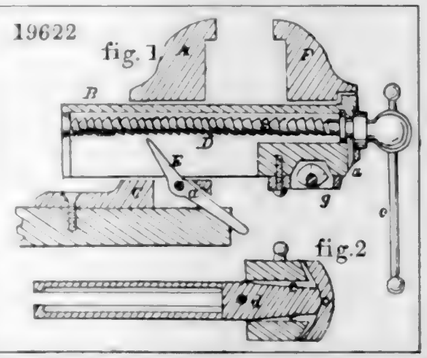


fig. 2

21359

fig. 1

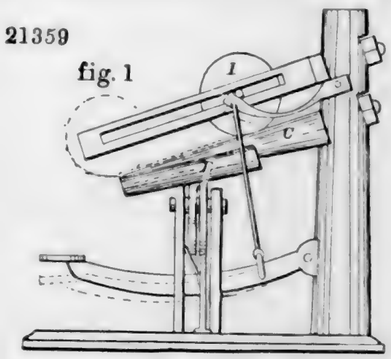
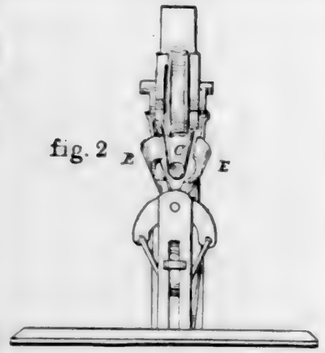


fig. 2



21866

fig. 1

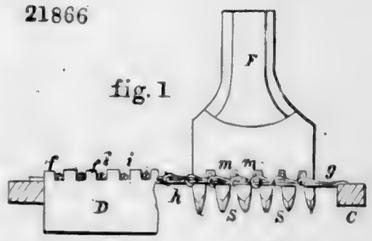
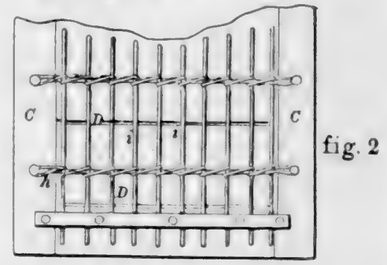


fig. 2



21635

fig. 1

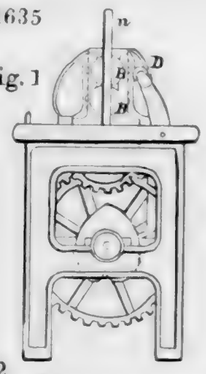
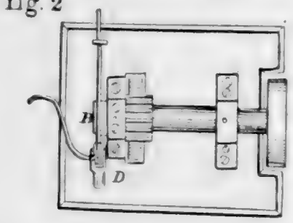
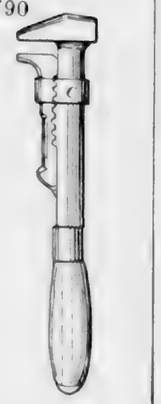


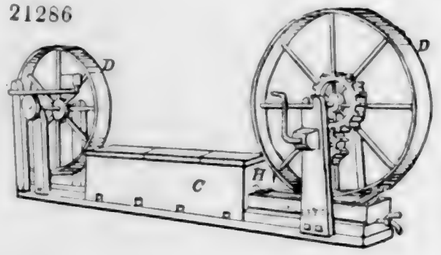
fig. 2



19790



21286



22122

fig. 1

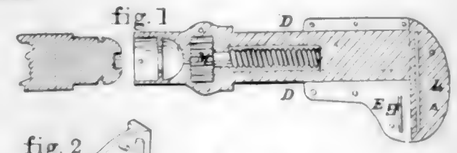


fig. 2

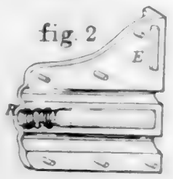
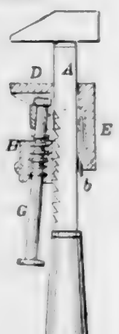


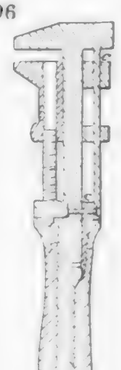
fig. 3



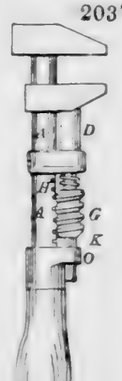
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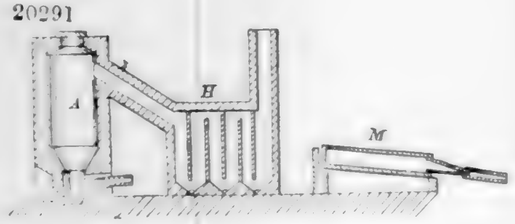
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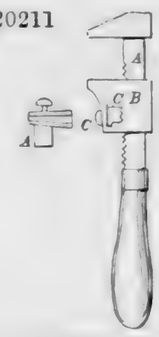
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20291



20211



19231

fig. 1

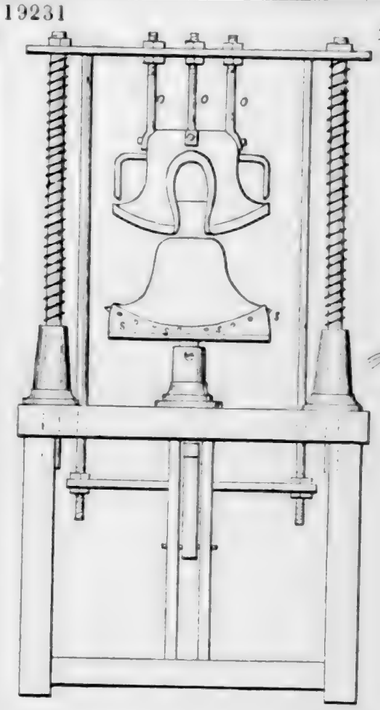
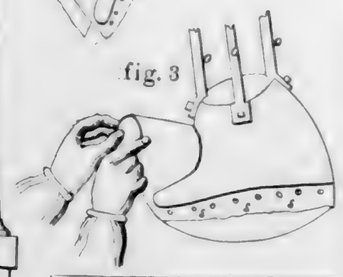


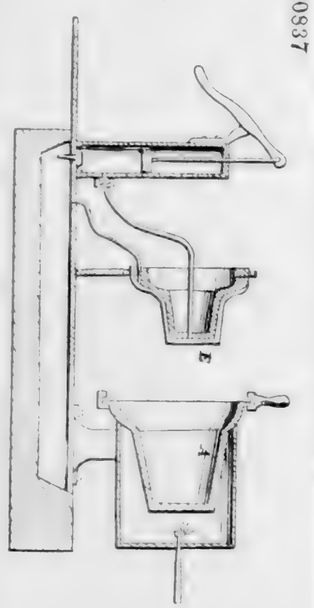
fig. 2



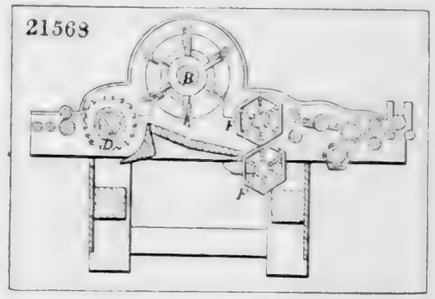
fig. 3



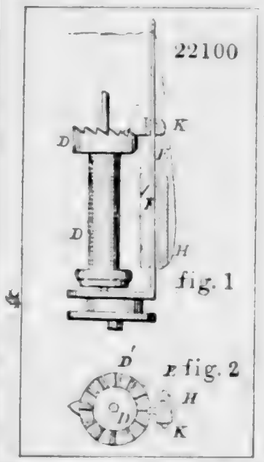
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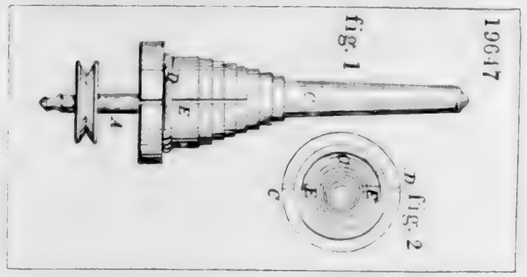
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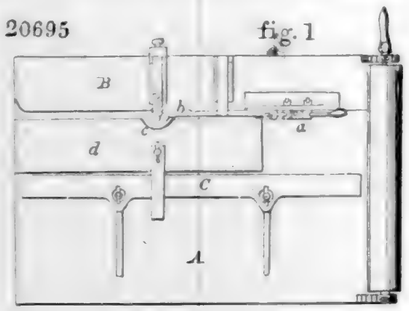
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19047



20695 fig. 1



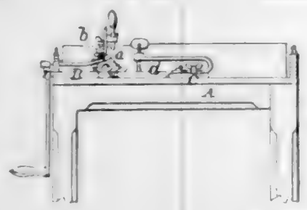


fig. 2

21364 fig. 1

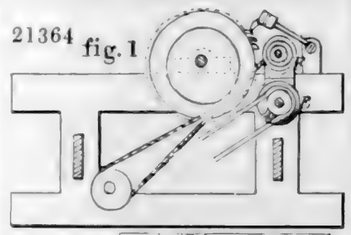
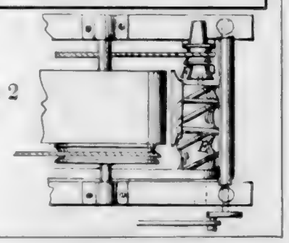


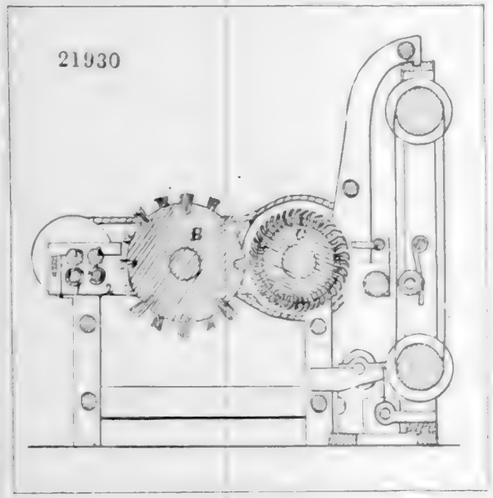
fig. 2



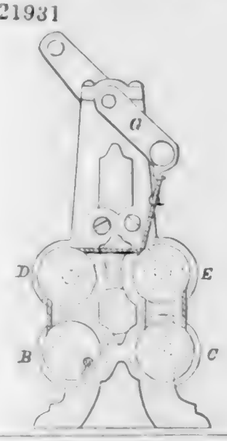
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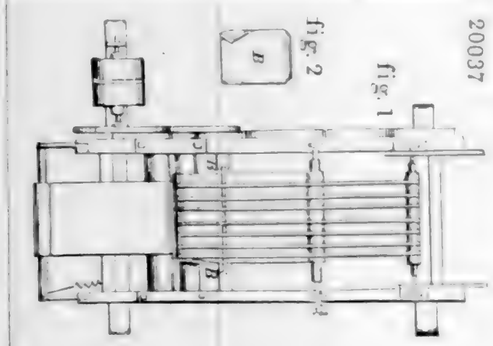
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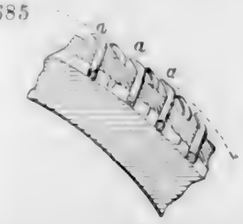
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20037 fig. 1 fig. 2



21685



20677 fig. 1

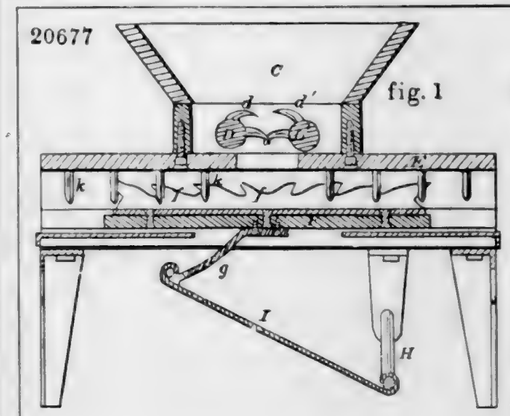
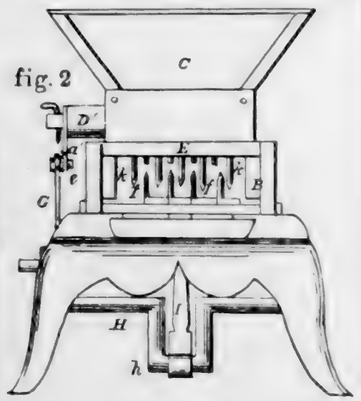


fig. 2



19554 fig. 1

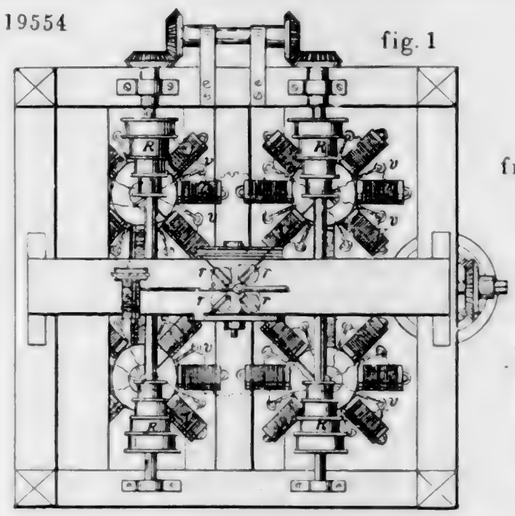
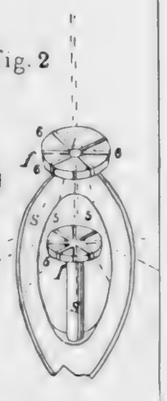


fig. 2



20690

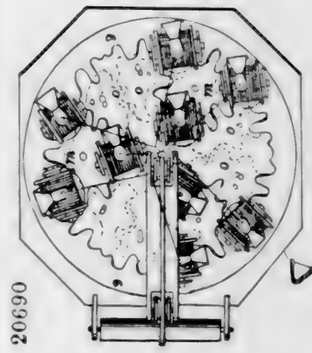
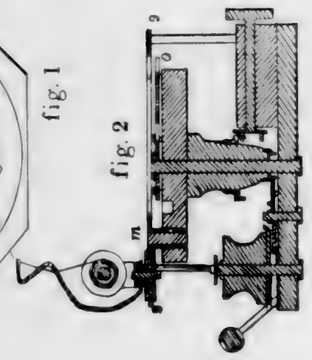


fig. 1

fig. 2



20691

fig. 1

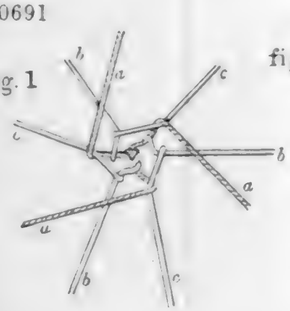


fig. 2



20267

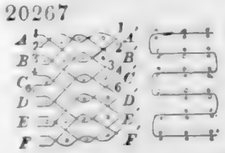
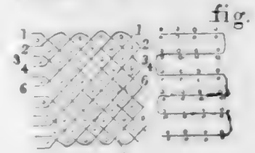
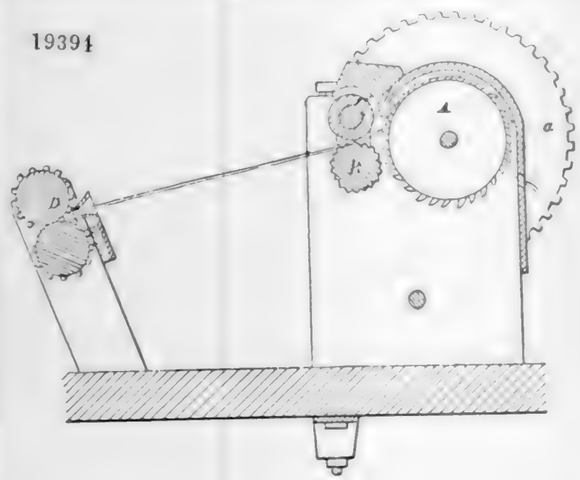


fig. 1

fig. 2



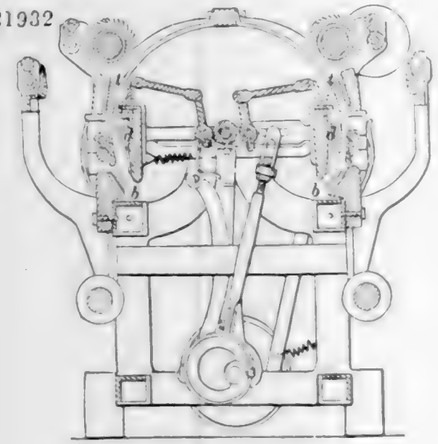
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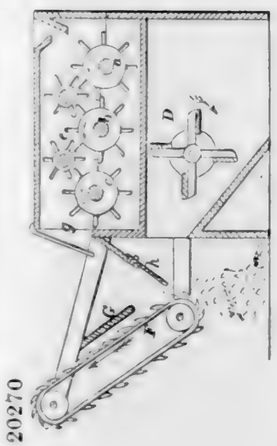
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20270



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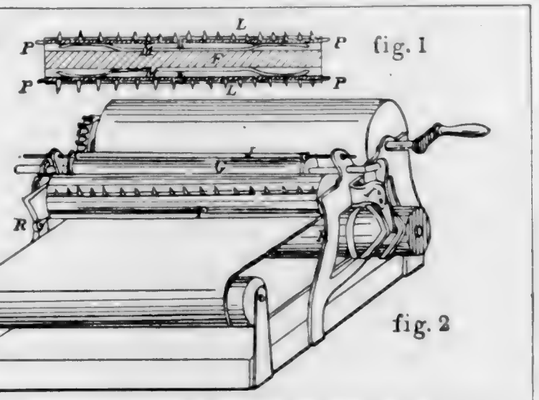


fig. 1

fig. 2

21659

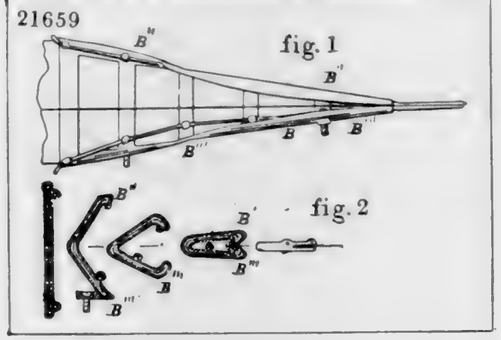
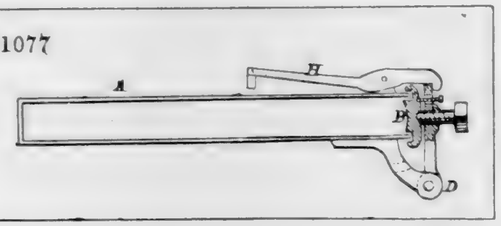


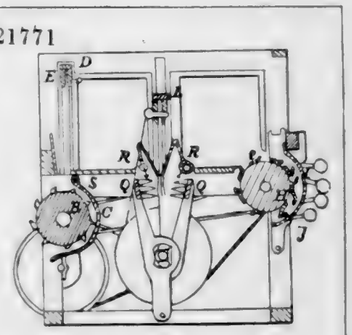
fig. 1

fig. 2

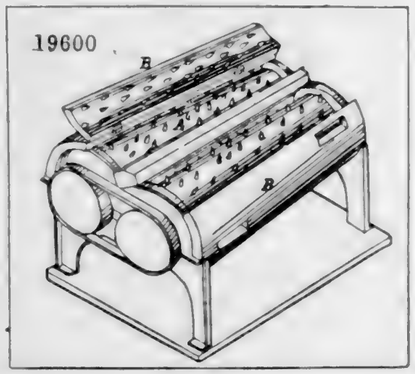
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21771



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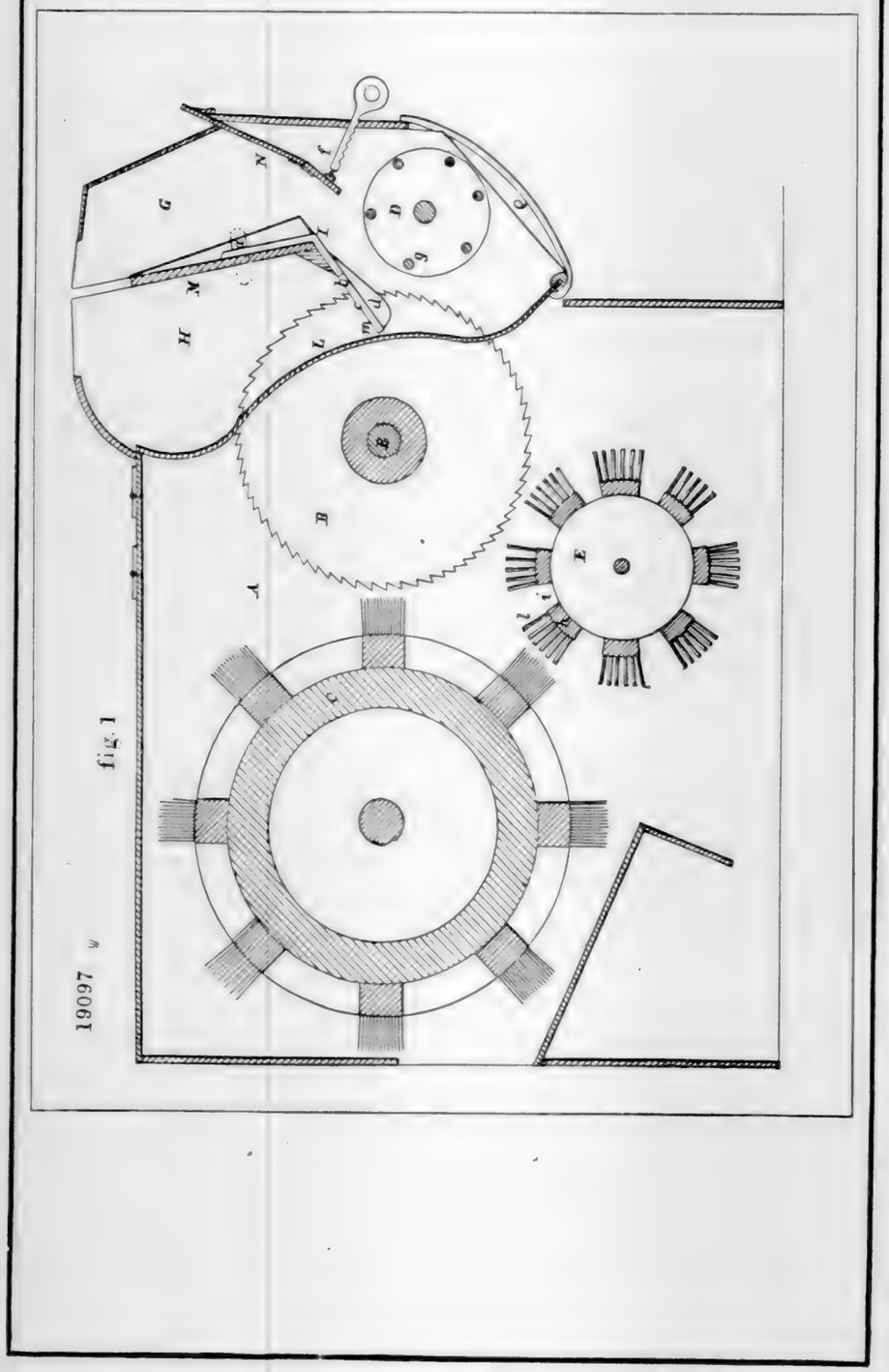


fig. 1

ad 19097

fig. 3

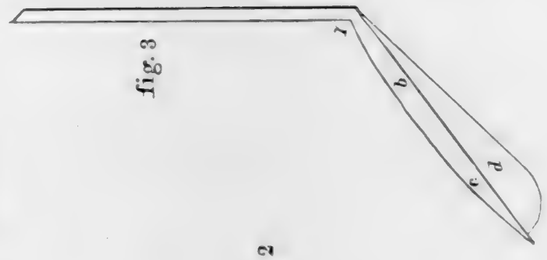
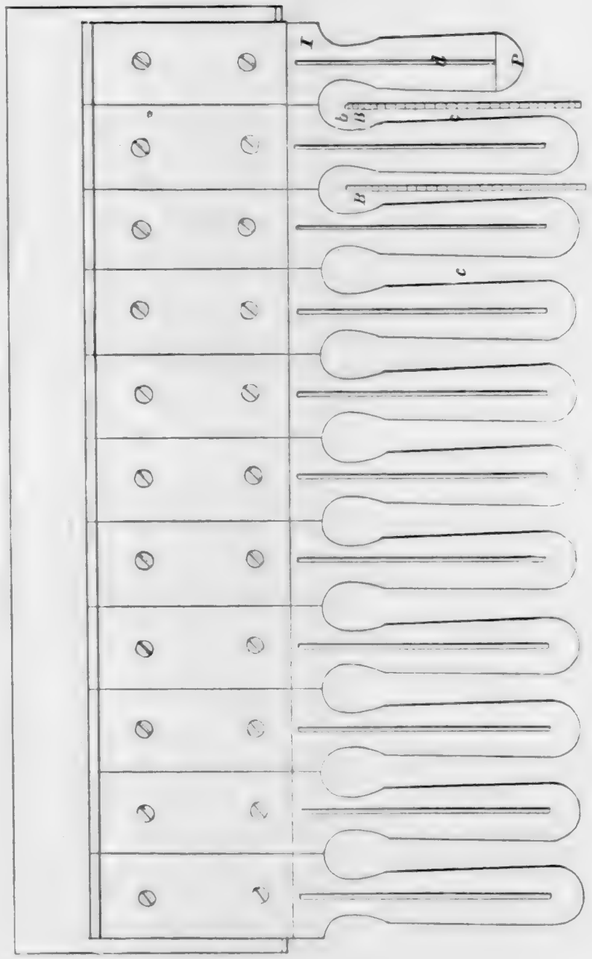


fig. 2



19041

fig. 1

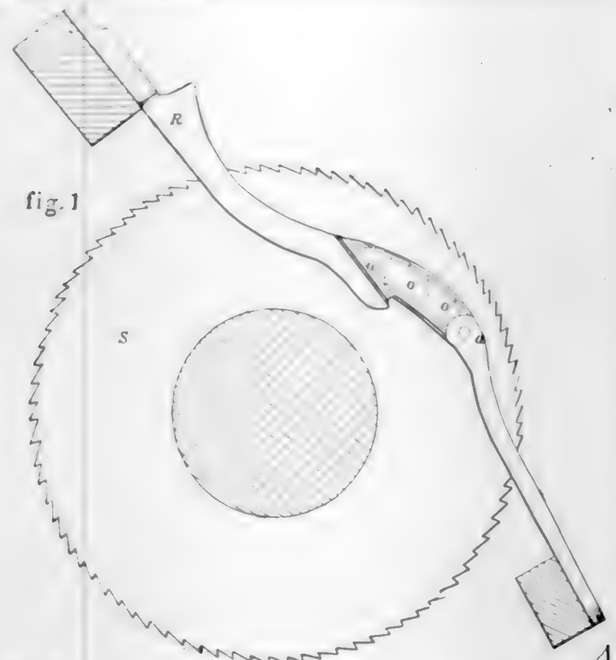
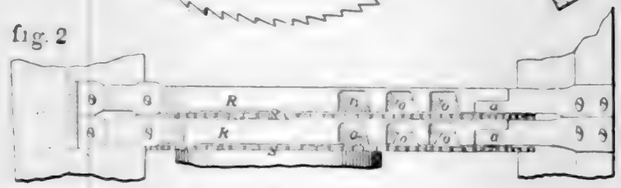


fig. 2



19324

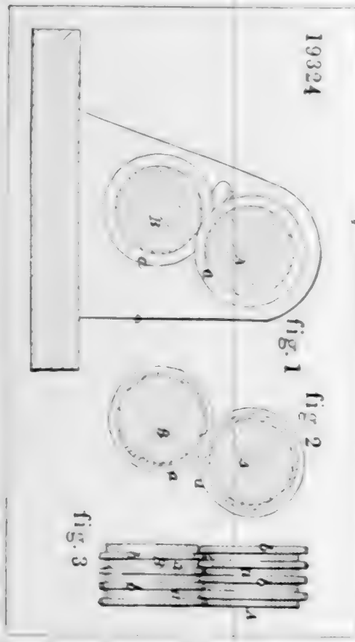
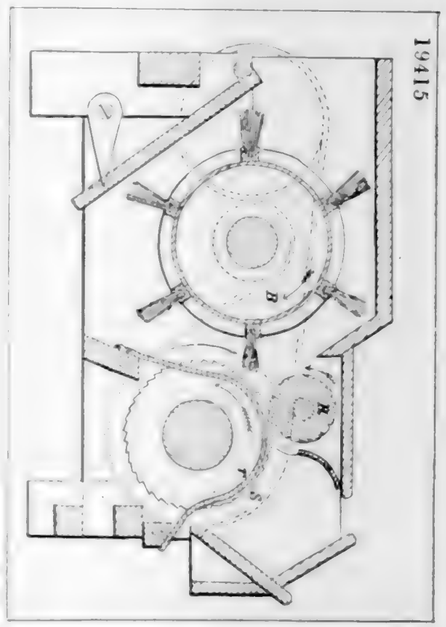


fig. 1 fig. 2 fig. 3

19415



20120

fig. 1

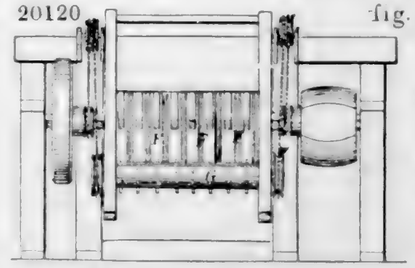


fig. 2

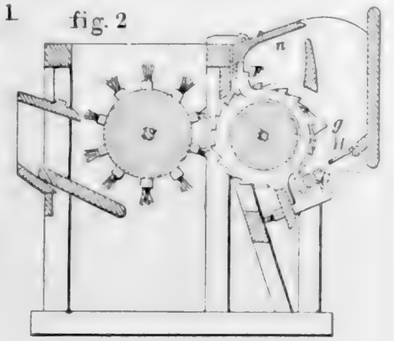
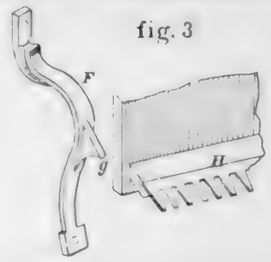
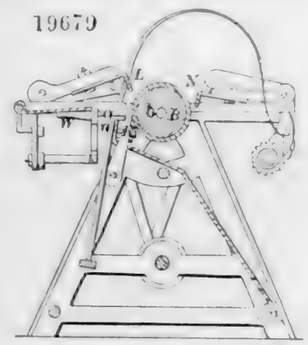


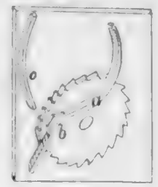
fig. 3



19679



20051



19598

fig. 1

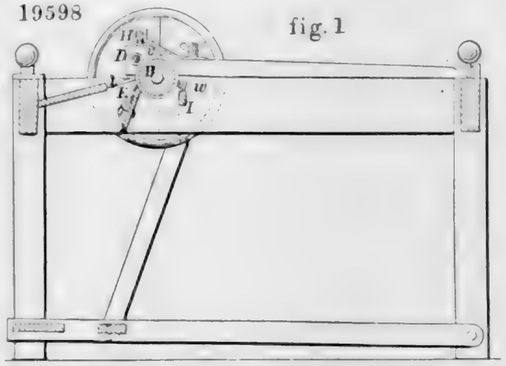


fig. 2

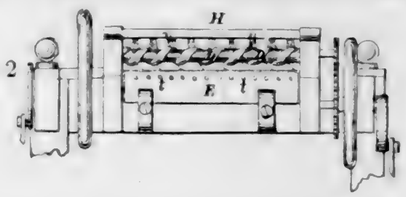
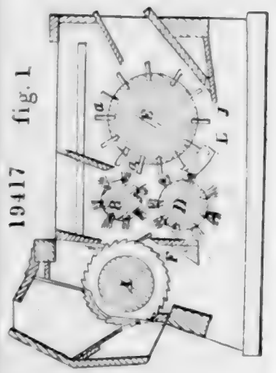


fig. 2



19417 fig. 1



20904

fig. 1

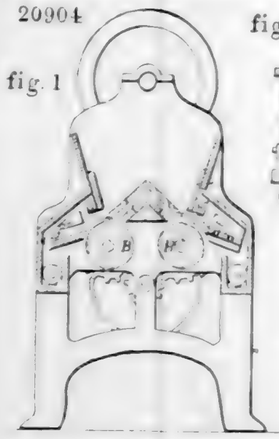
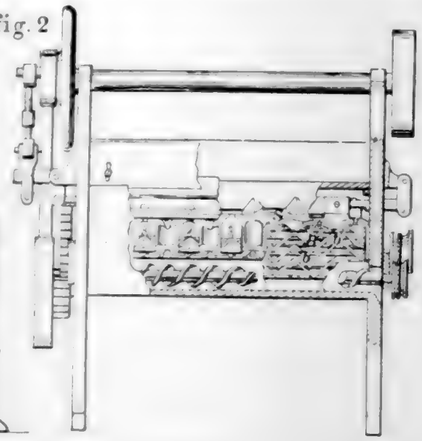
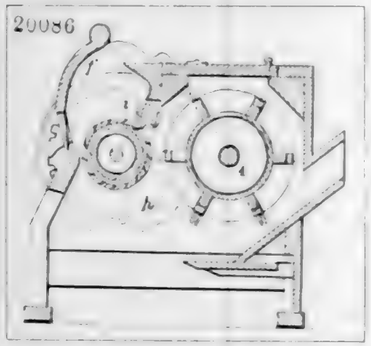


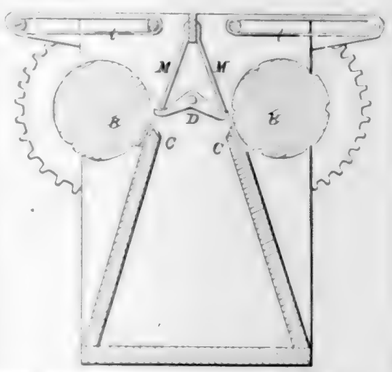
fig. 2



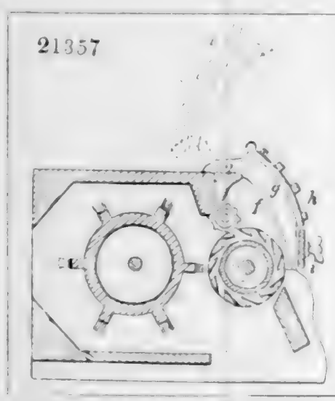
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20216



21357

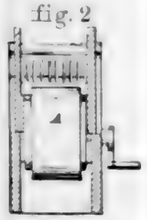


21582

fig. 1



fig. 2



20747

fig. 1

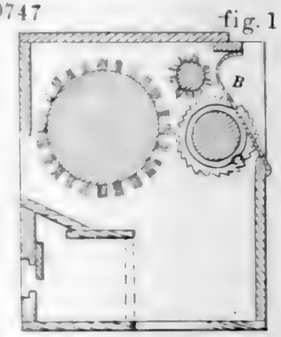


fig. 2



21714

fig. 1

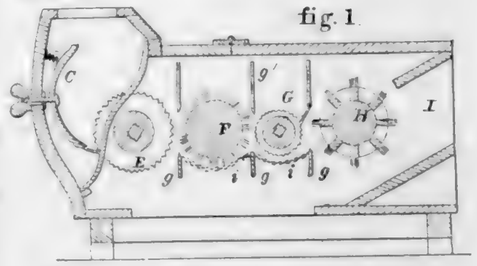
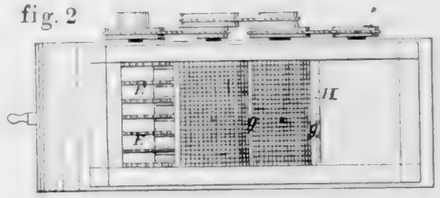
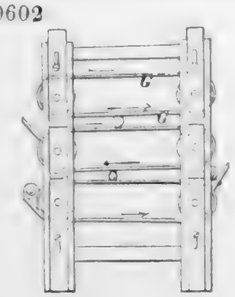


fig. 2



20602



19616

fig. 1

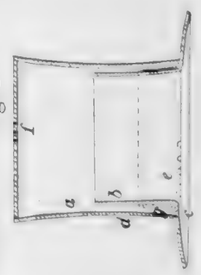
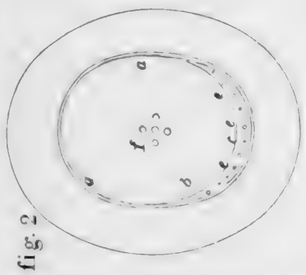


fig. 2



21795

fig. 1

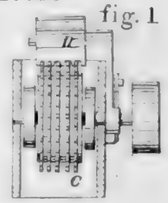
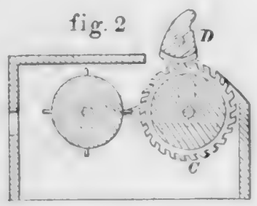
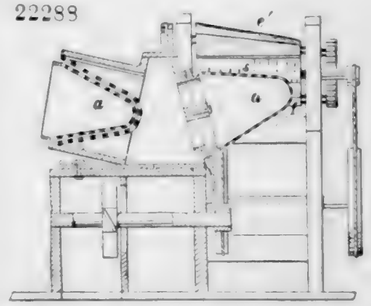


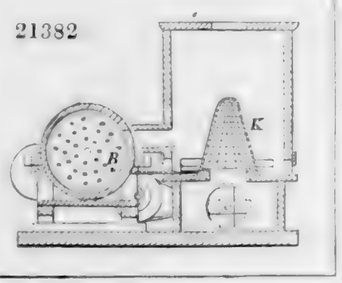
fig. 2



22288



21382



19138

fig. 1

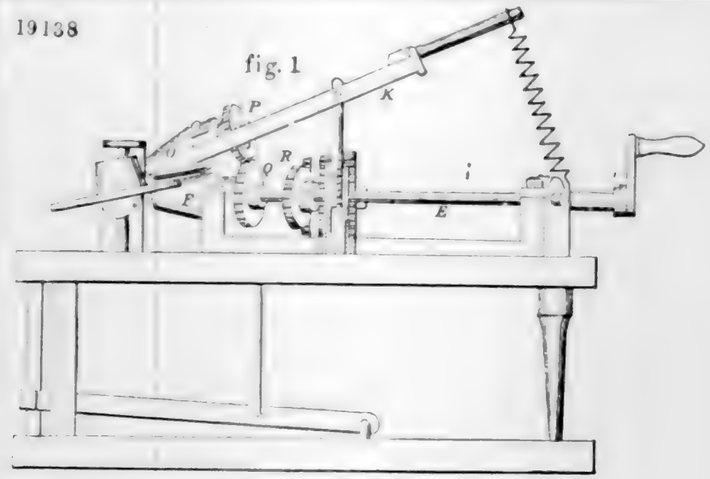


fig. 2

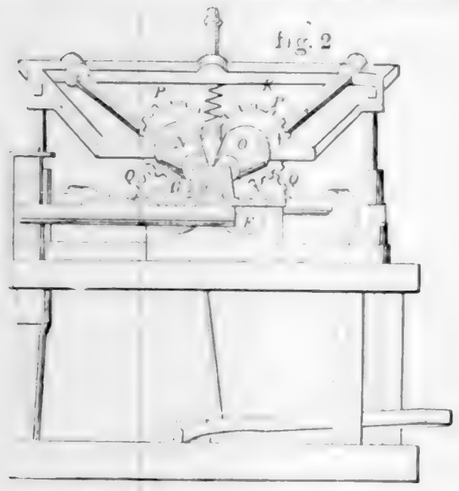
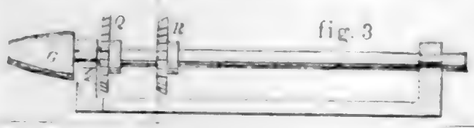
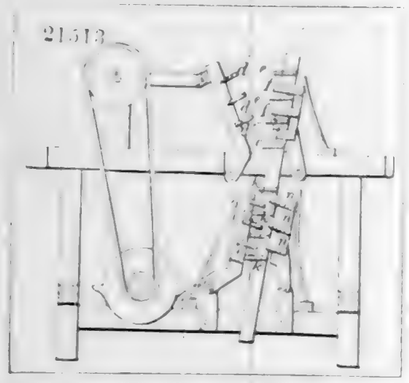


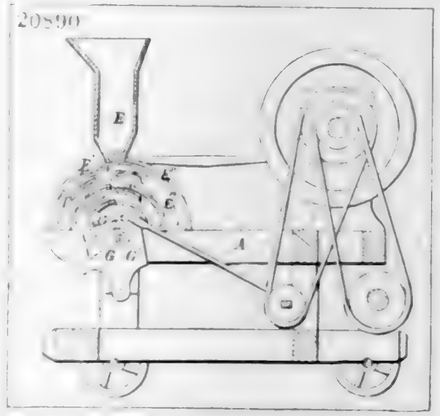
fig. 3



21513



20590



19255

fig. 1

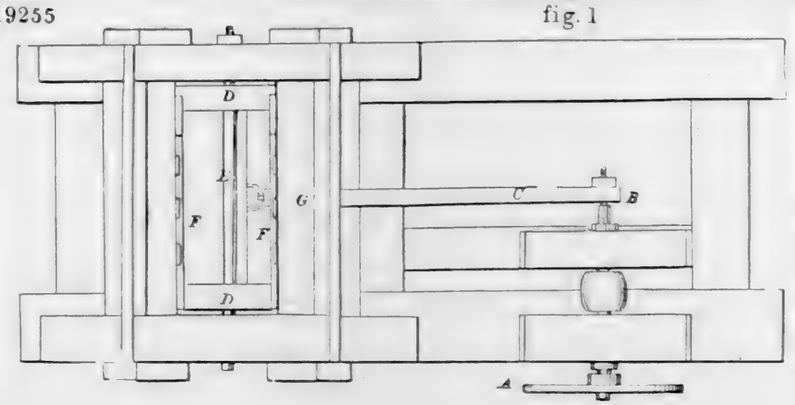


fig. 2

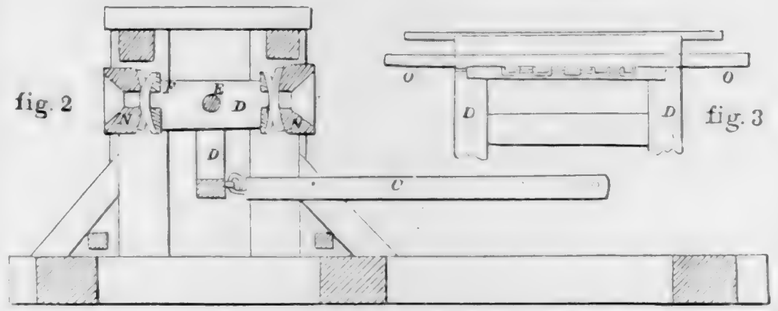


fig. 3

21983

fig. 1

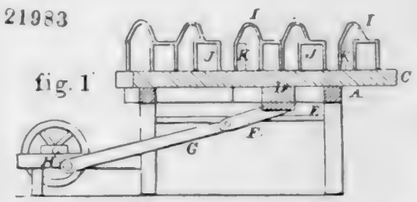
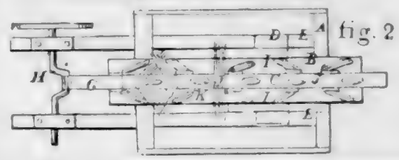
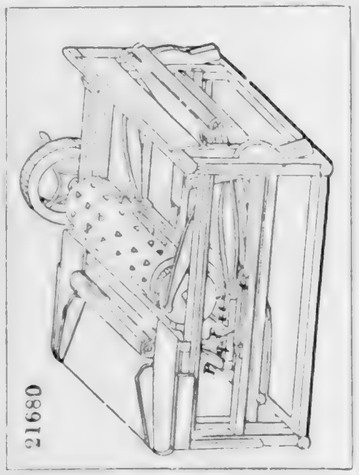


fig. 2



21680



22399

fig. 1

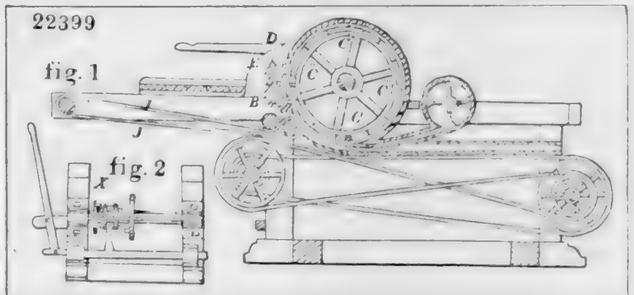


fig. 2

19370

fig. 1

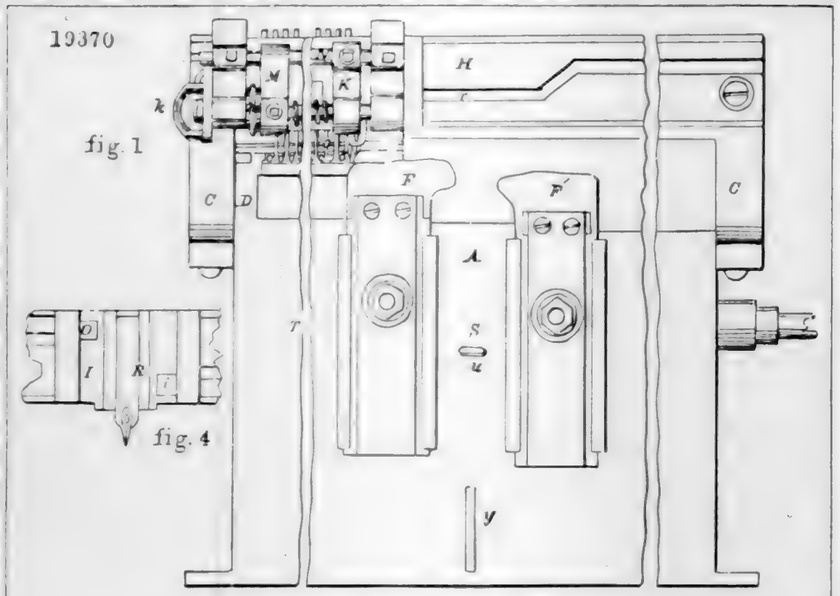
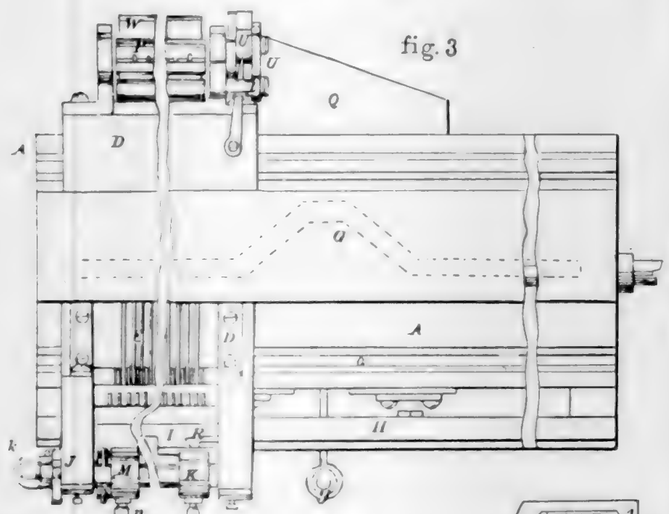


fig. 4

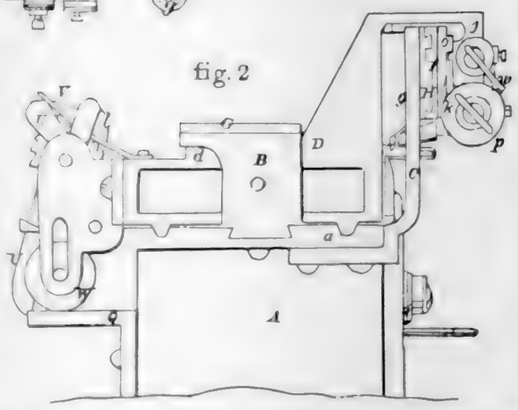
fig. 3



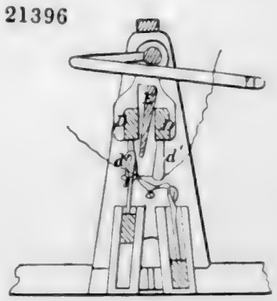
20893



fig. 2



21396



19625

fig. 1

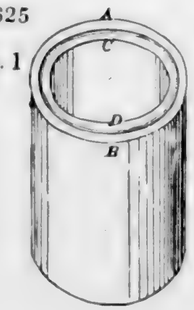
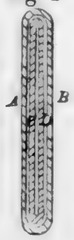


fig. 2



21264

fig. 1

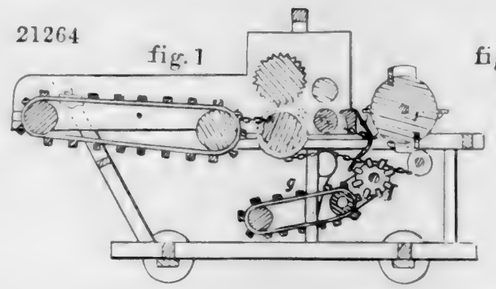
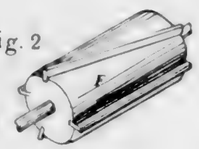
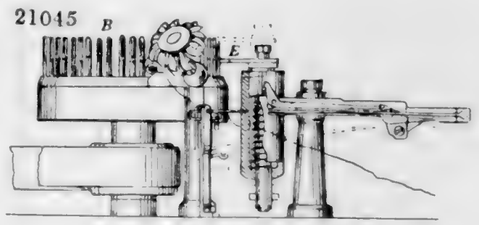


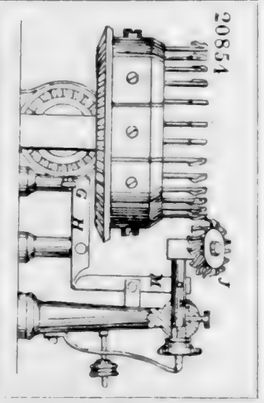
fig. 2



21045



20854



19740

fig. 1

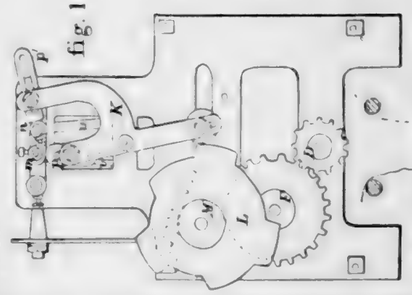
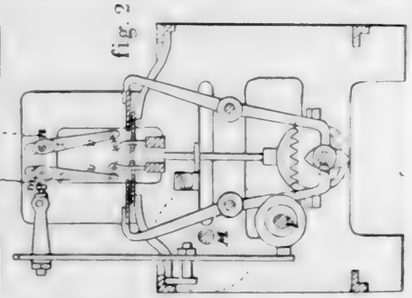
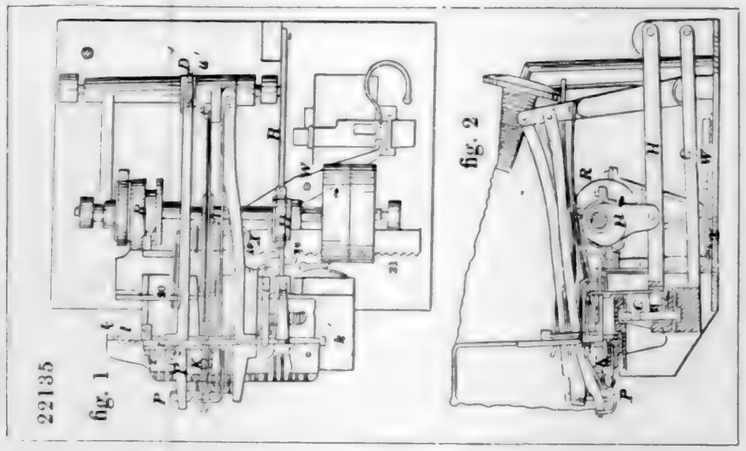


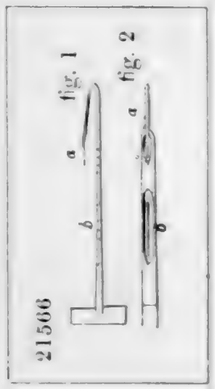
fig. 2



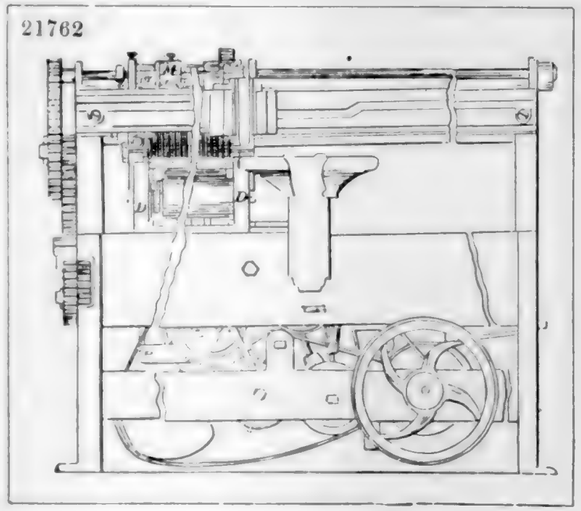
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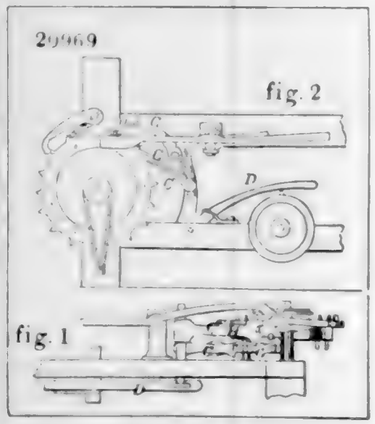
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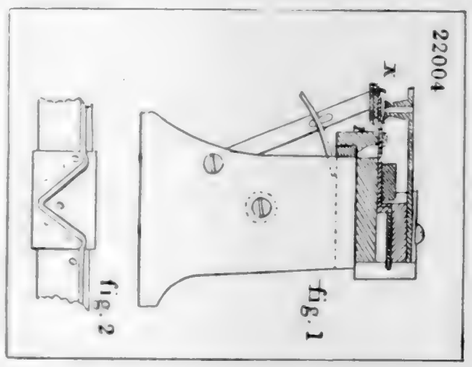
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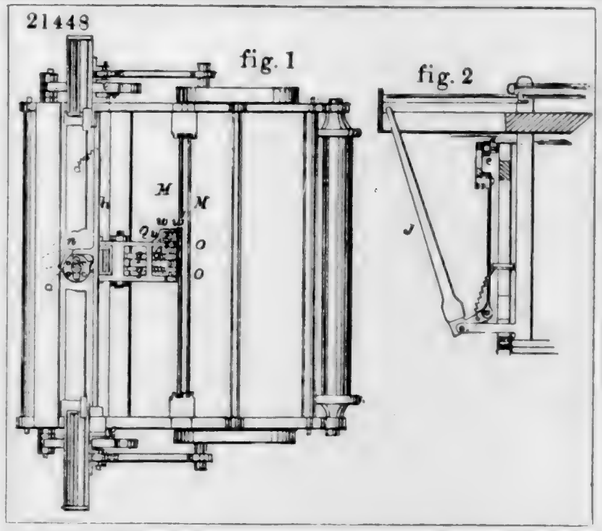
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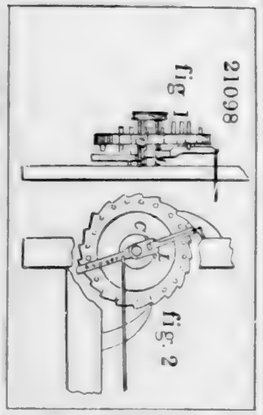
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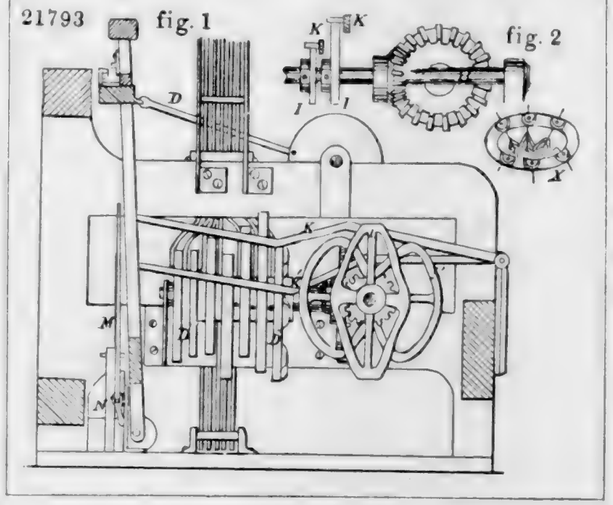
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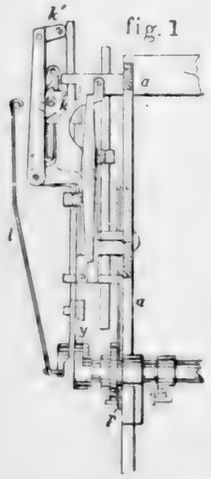
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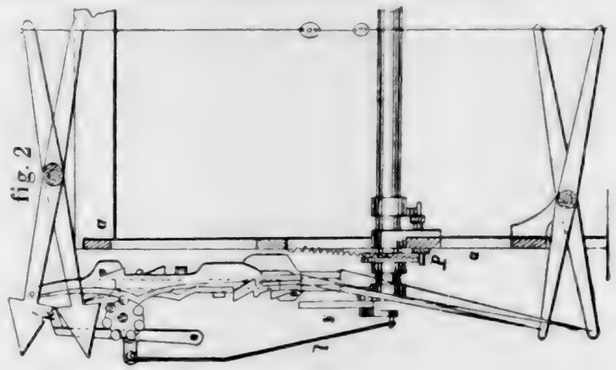


21793



20044





19719

fig. 1

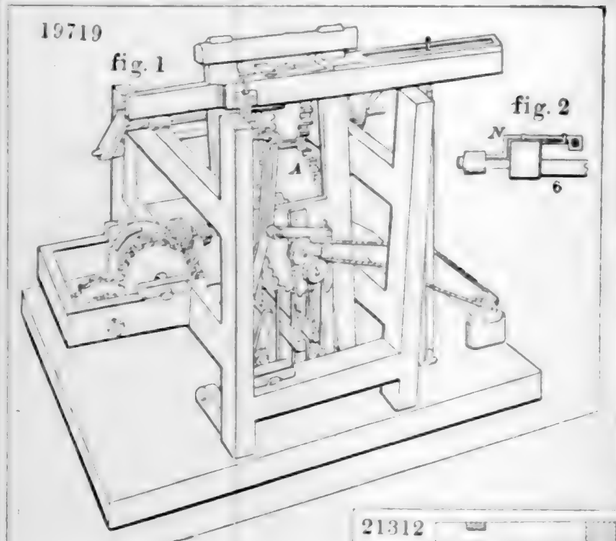


fig. 2

19428

fig. 2

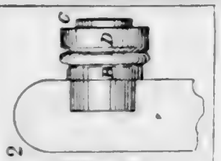


fig. 1

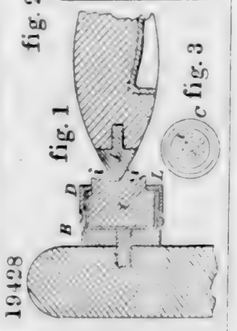
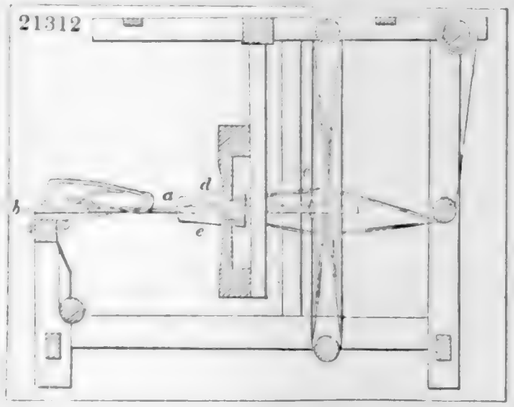
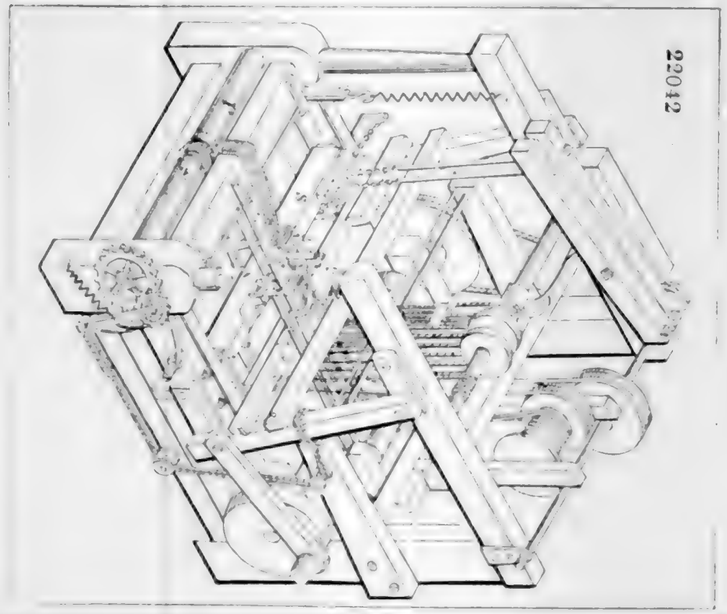


fig. 3

21312



22042



22114

fig. 1

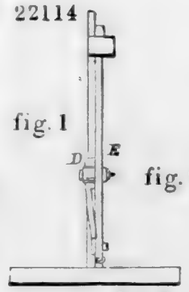


fig. 2

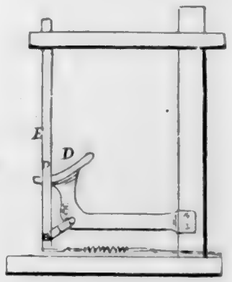
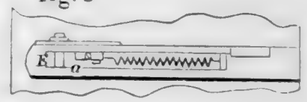


fig. 3



22005

fig. 1

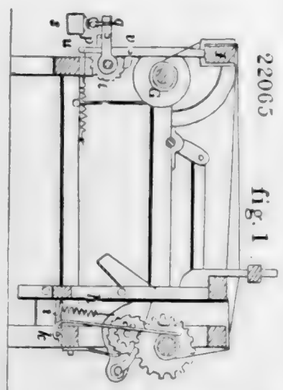
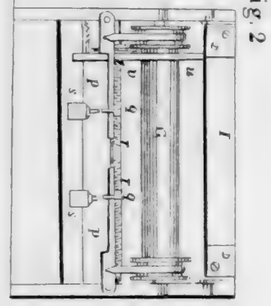
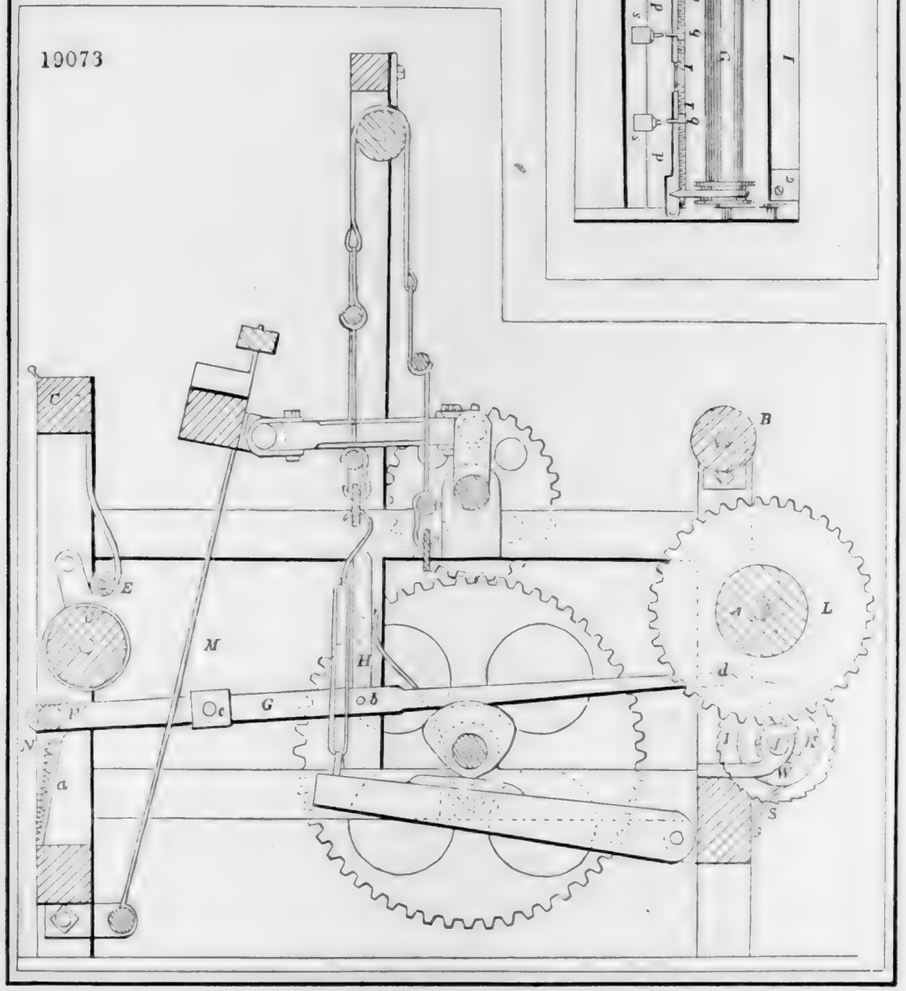


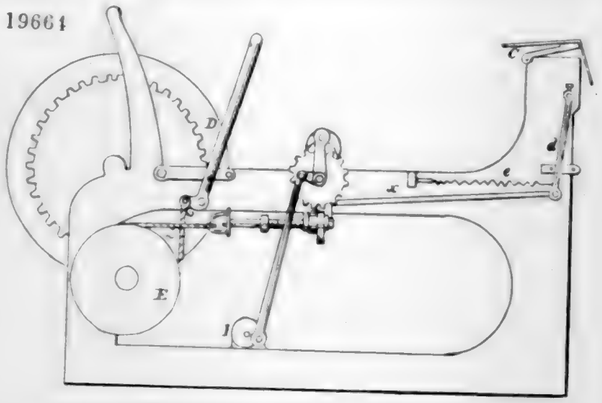
fig. 2



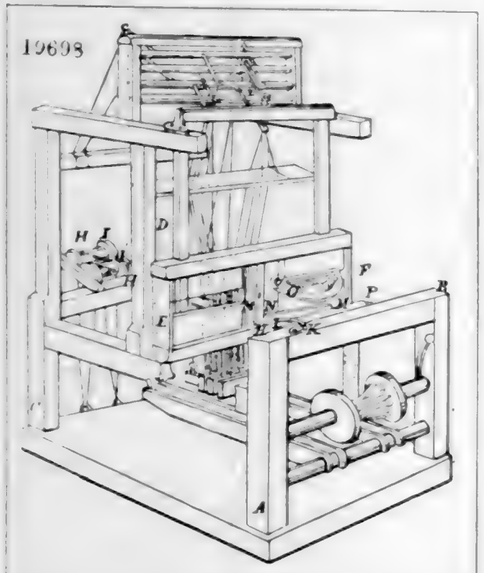
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19664



19698



22420

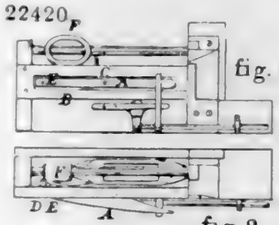
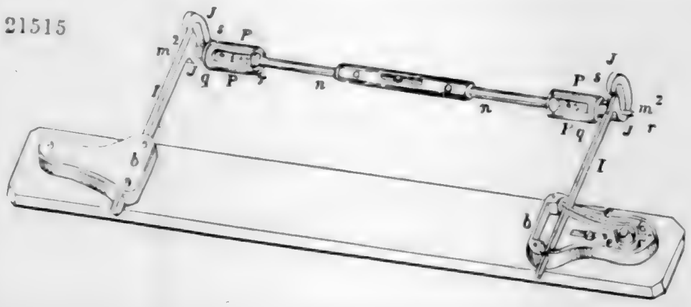


fig. 1

fig. 2

21515



19270

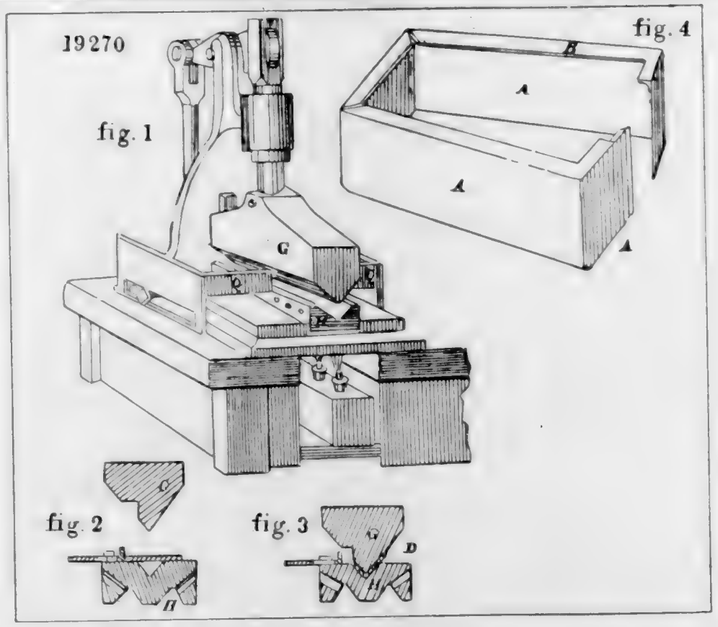


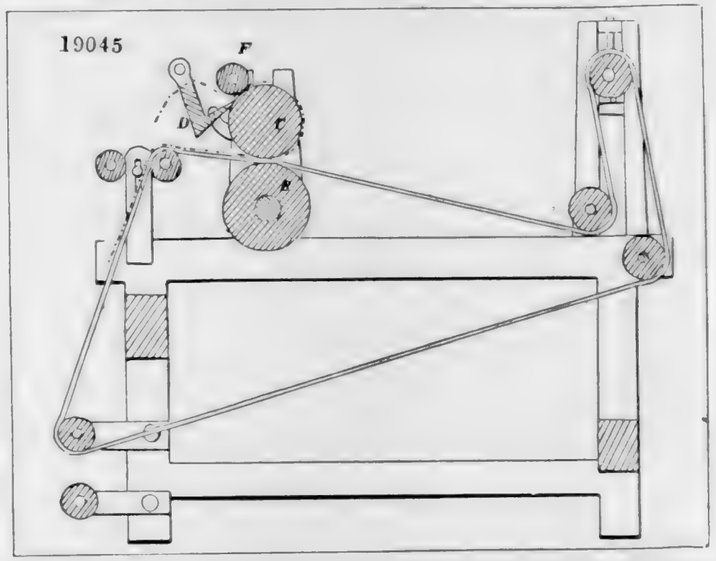
fig. 1

fig. 4

fig. 2

fig. 3

19045



21004

fig. 1

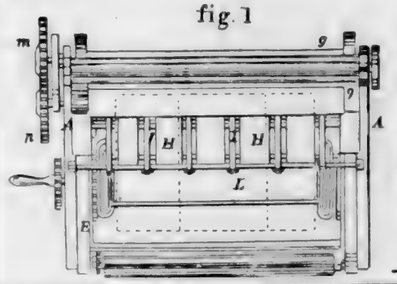
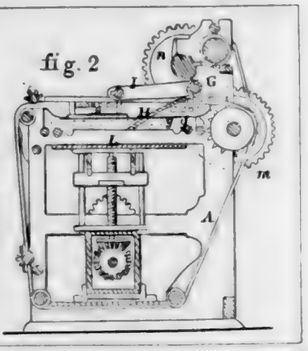
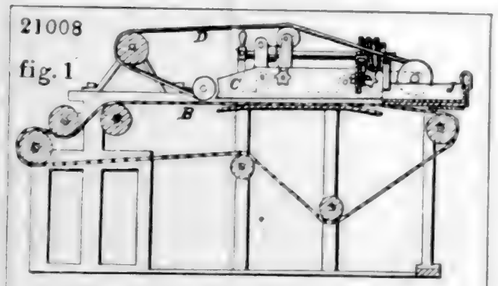


fig. 2



21008

fig. 1



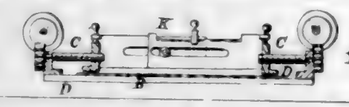


fig. 2

22401

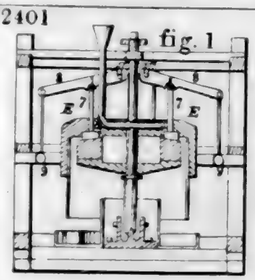


fig. 1

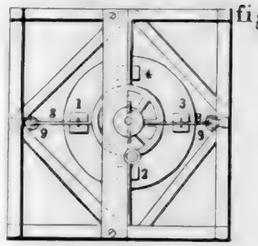
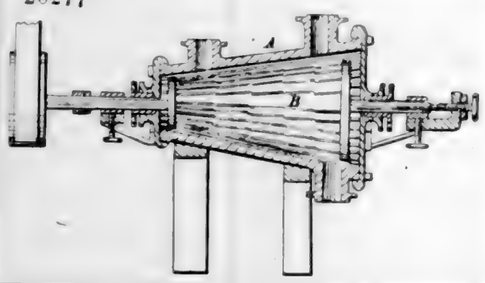
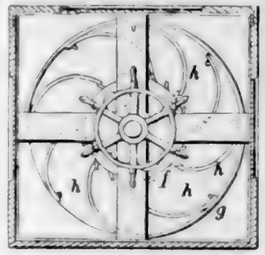


fig. 2

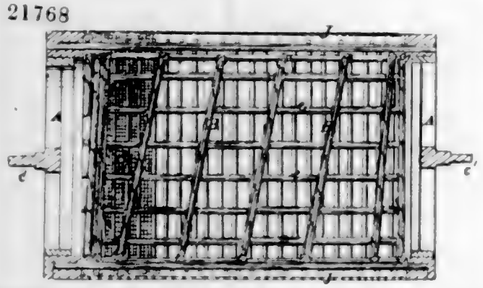
20277



20355



21768



20294

fig. 1

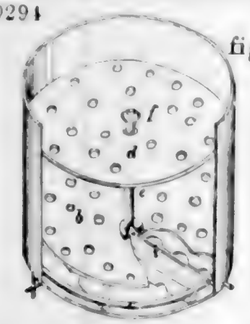
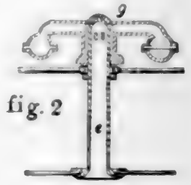
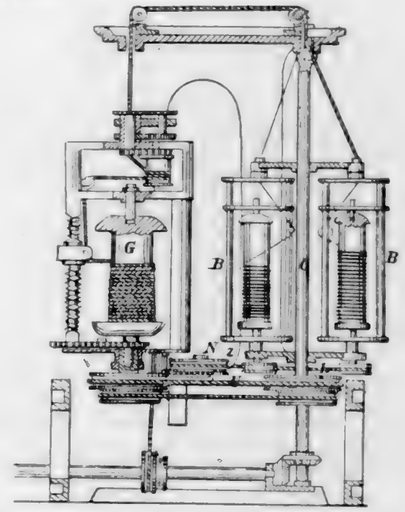


fig. 2



21238



19623



20766

fig. 1

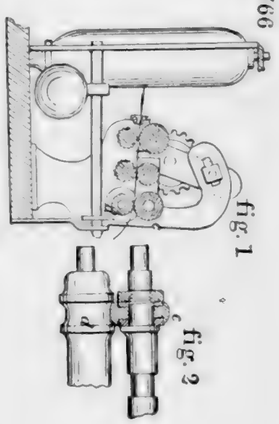
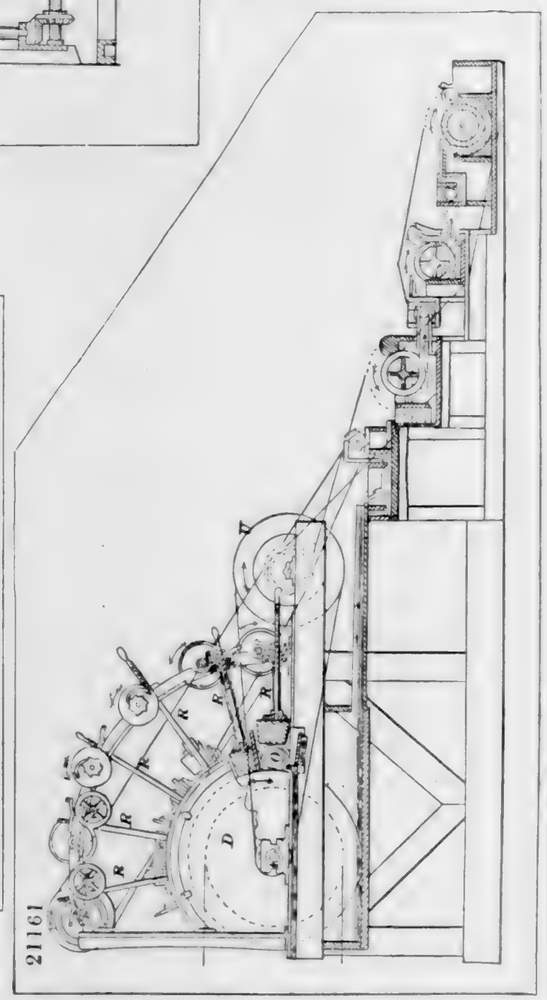


fig. 2

21161



19133

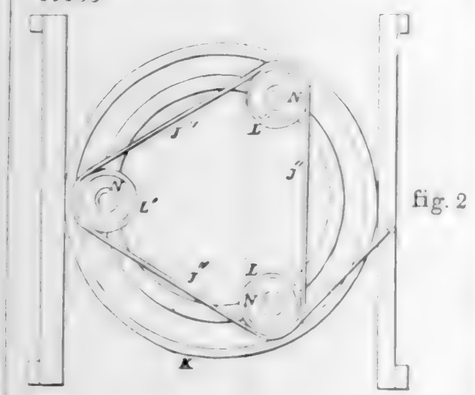
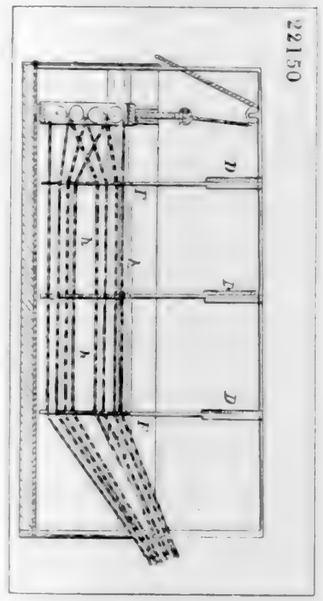


fig. 2



22150

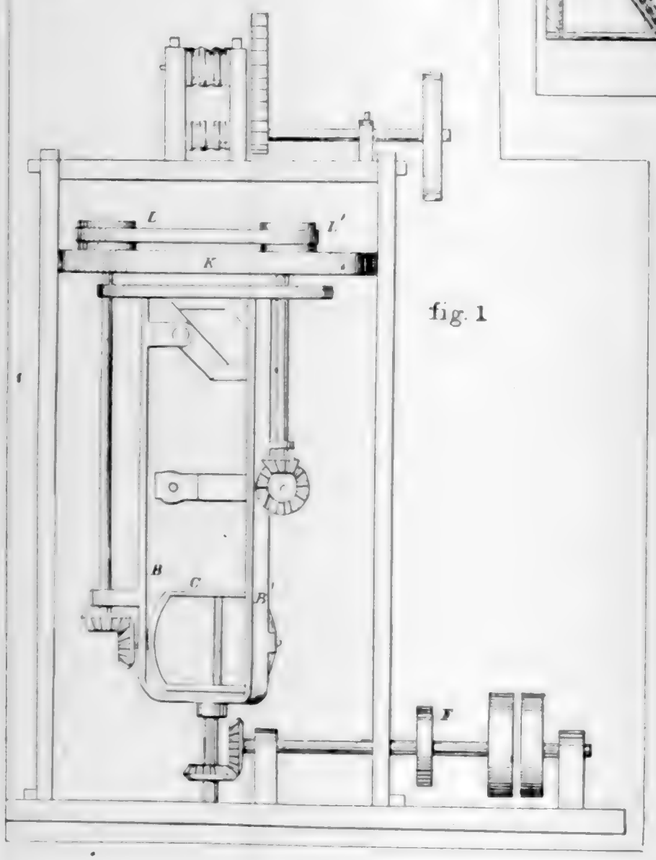


fig. 1

19059

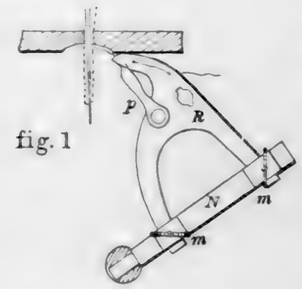


fig. 1

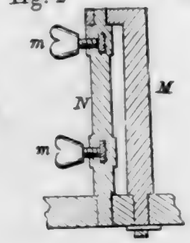


fig. 2

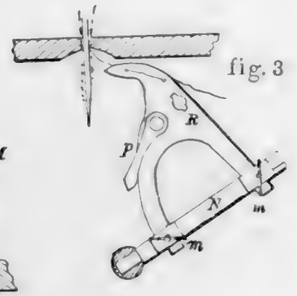
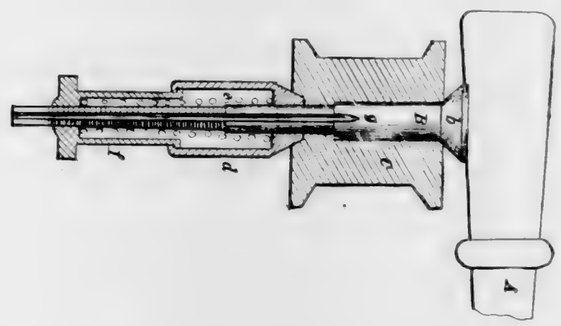


fig. 3

19080



19015

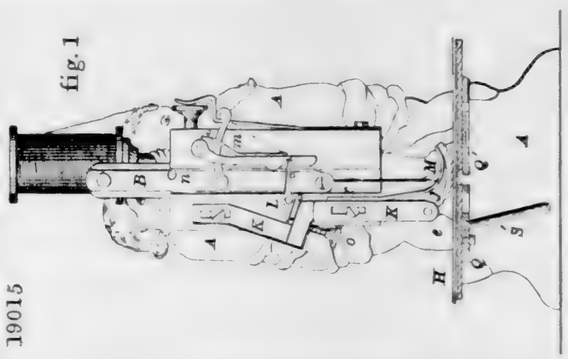


fig. 1

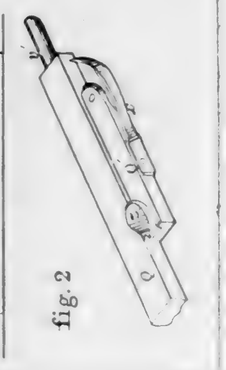


fig. 2

fig. 2

fig. 3

fig. 1

19072

19129

fig. 3

fig. 2

fig. 1

fig 1

19141

fig. 1

fig. 2

fig. 2

19171

19155

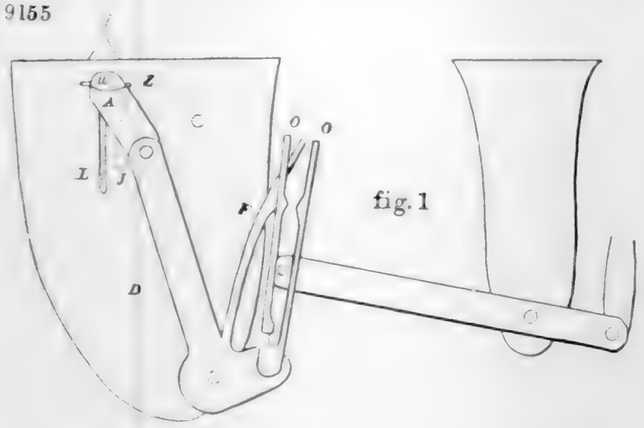


fig. 1

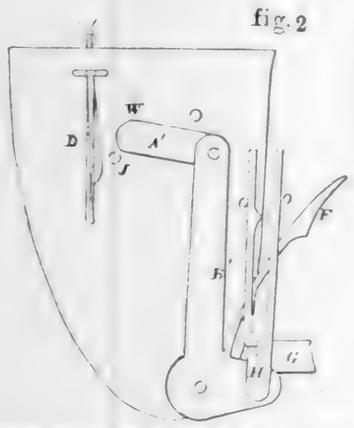


fig. 2

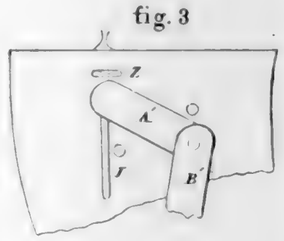
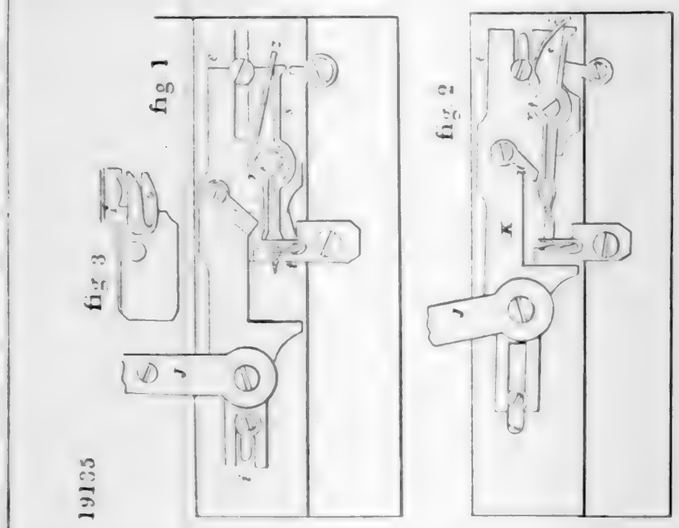


fig. 3



19135

fig 1

fig 2

fig 3

19285

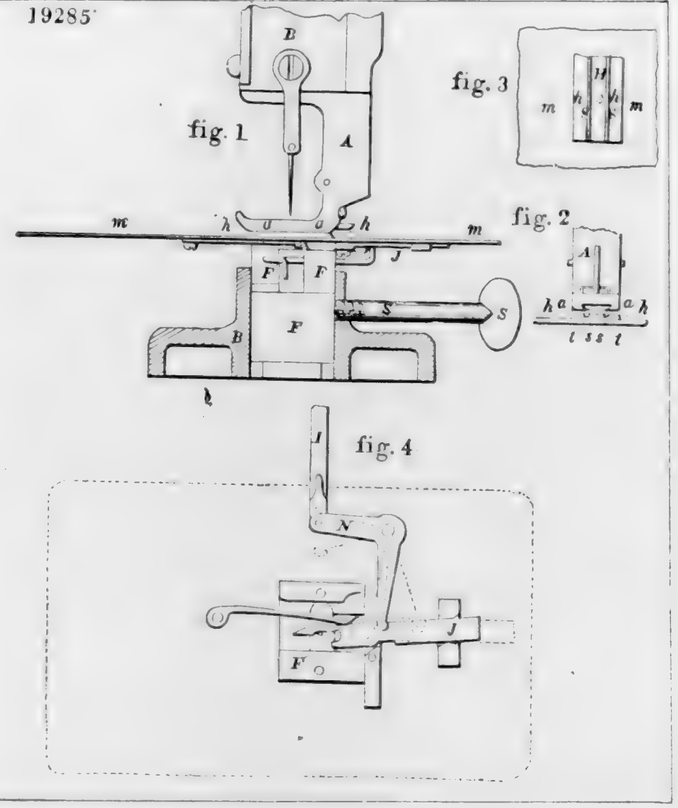


fig. 1

fig. 3

fig. 2

fig. 4

19409

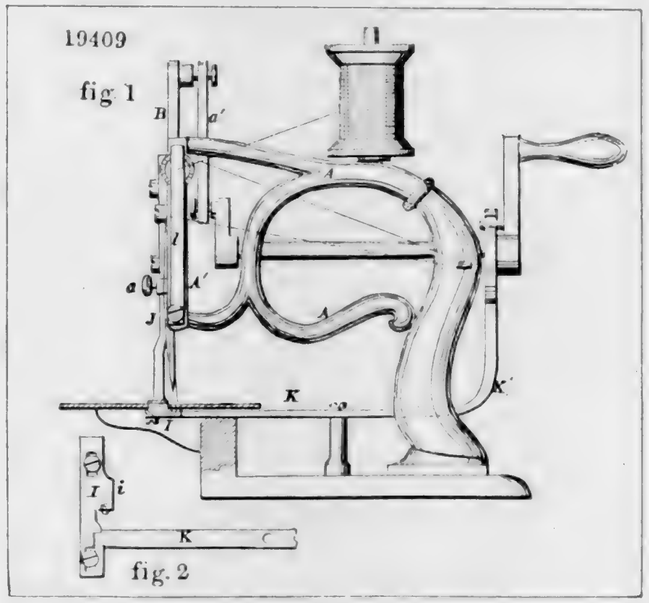
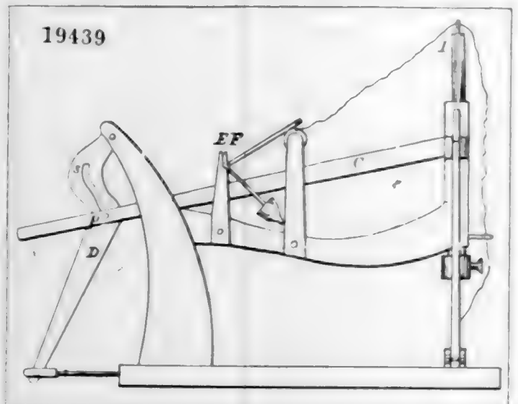


fig 1

fig. 2

19439



19535

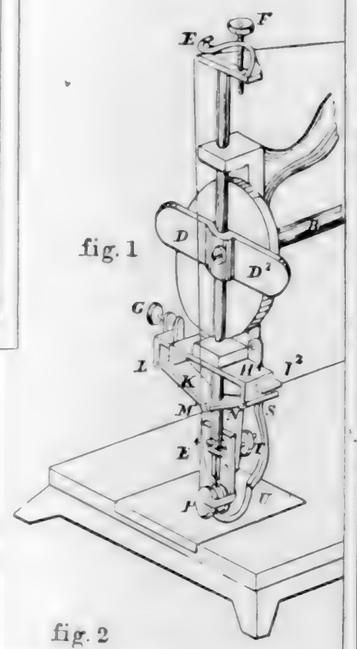


fig. 1

fig. 2

19532

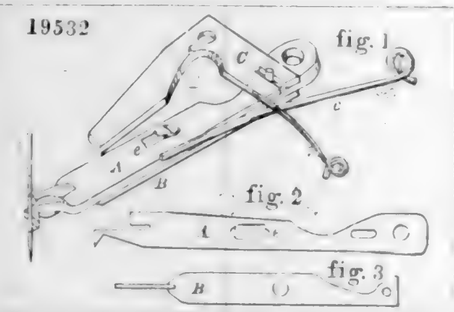
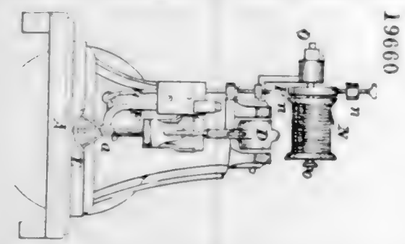


fig. 1

fig. 2

fig. 3

19660



19612

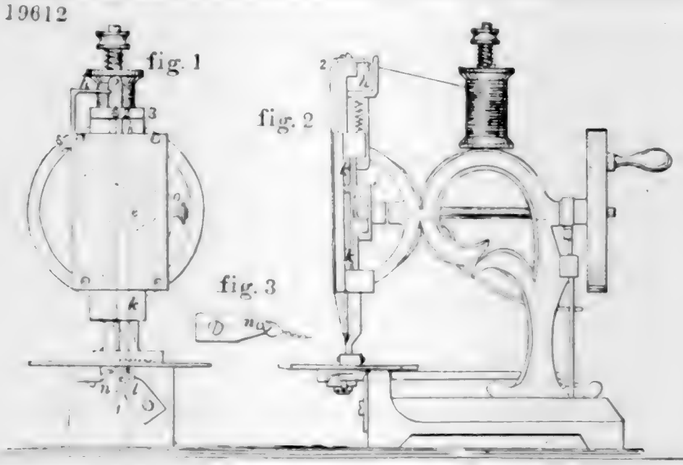


fig. 1

fig. 2

fig. 3

19665

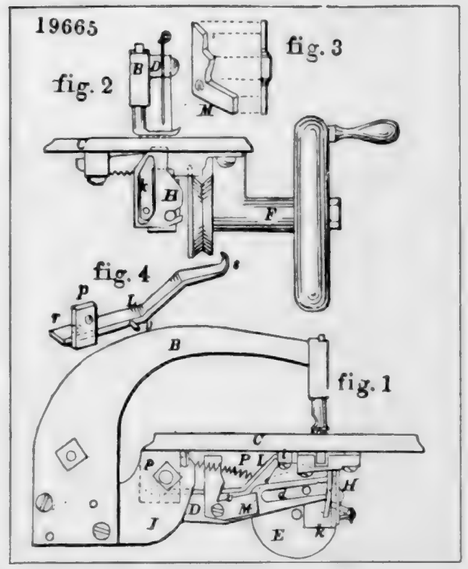


fig. 2

fig. 3

fig. 4

fig. 1

19684

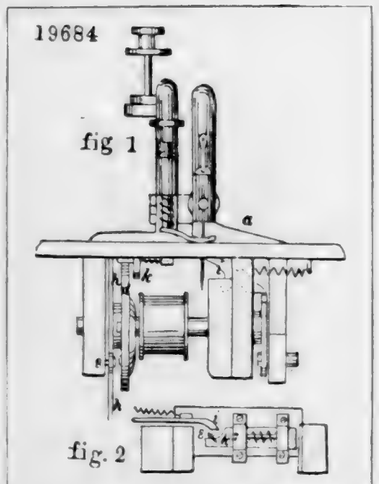


fig 1

fig. 2

19732

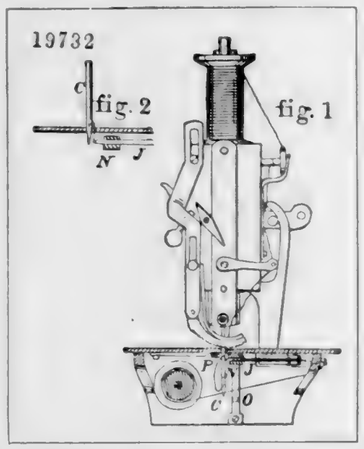


fig. 2

fig. 1

19723

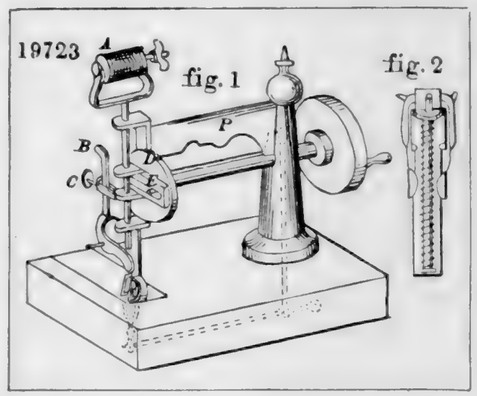


fig. 1

fig. 2

19662

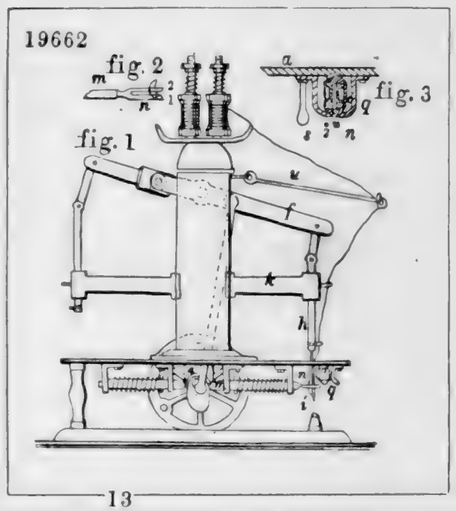


fig. 2

fig. 3

fig. 1

19793

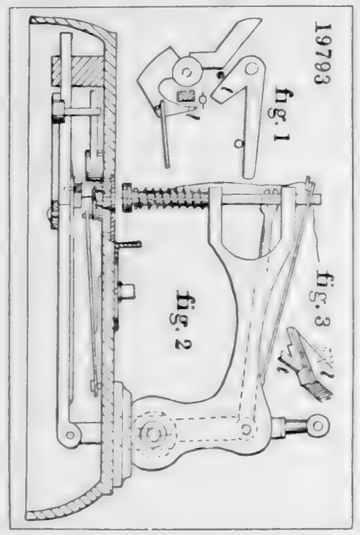


fig. 1

fig. 2

fig. 3

19876

fig. 1

fig. 2

19979

fig. 1.

fig. 2

19903

fig. 1

fig. 2

fig. 3

20175

fig. 1

fig. 2

fig. 3

19823

fig. 1

fig. 2

fig. 3

20557

fig. 1

fig. 2

20481

fig. 1

fig. 2

20471

fig. 1

fig. 2

20413

fig. 1

fig 2

20531

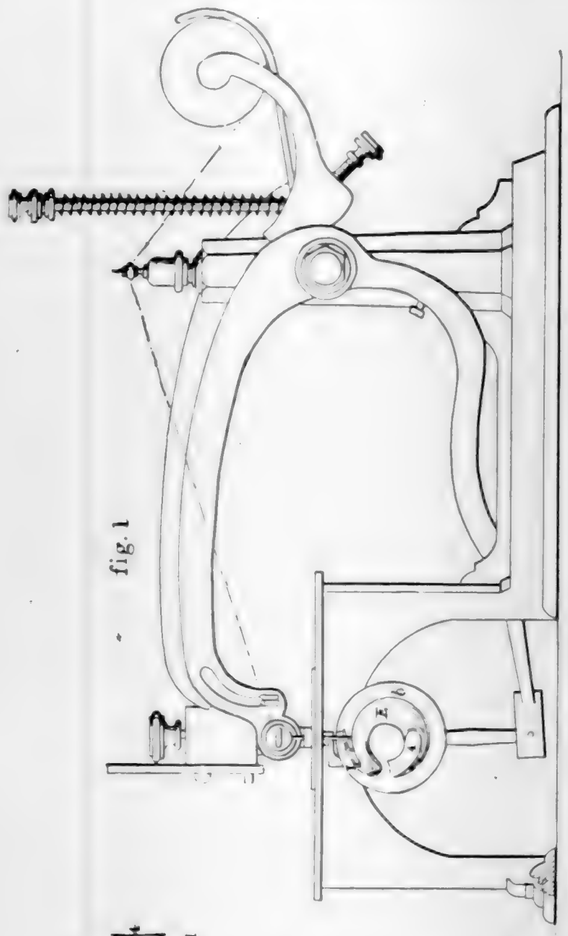
fig. 1

fig. 2

fig. 3

fig. 4

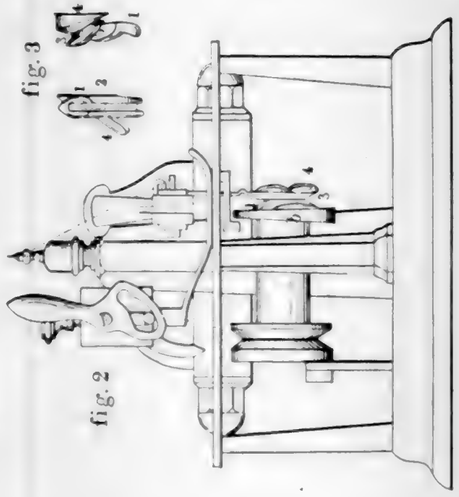
fig. 1



20686

fig. 3

fig. 2



20761

fig. 2

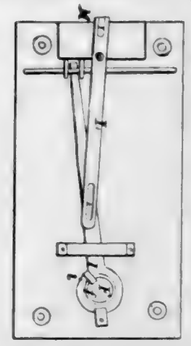
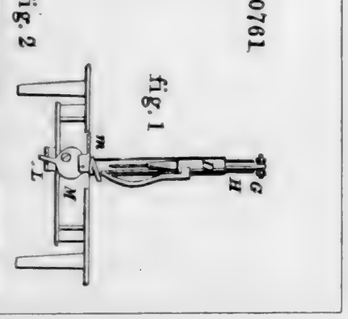


fig. 1



20684

fig. 1

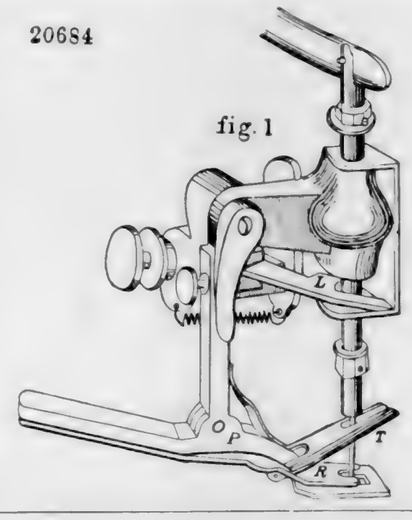
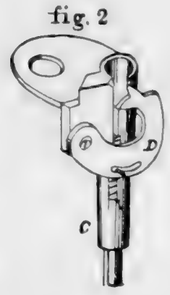


fig. 2



20688

fig. 1

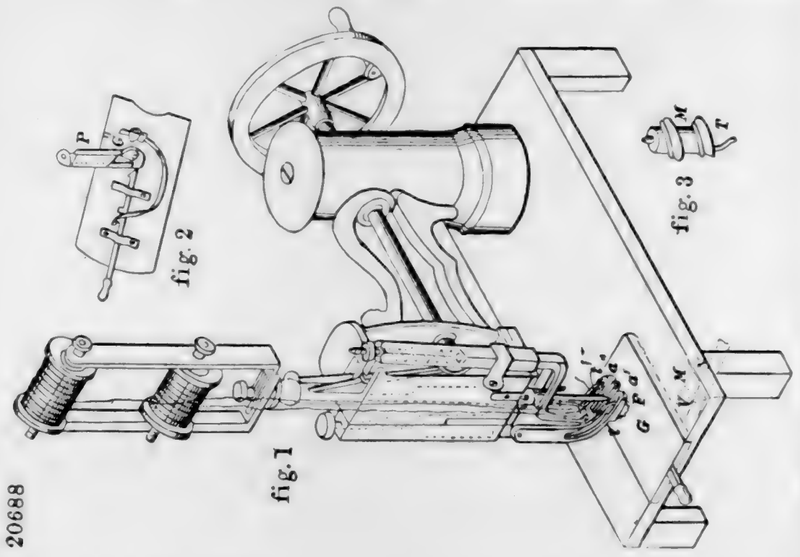


fig. 2

fig. 3

20763

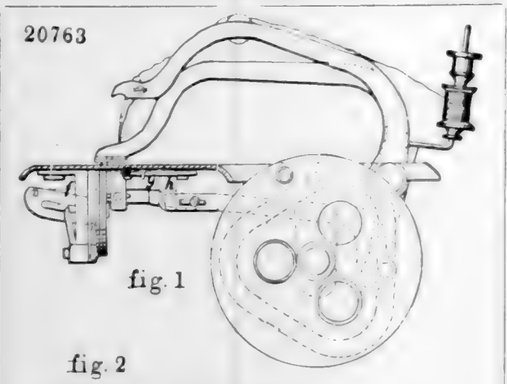
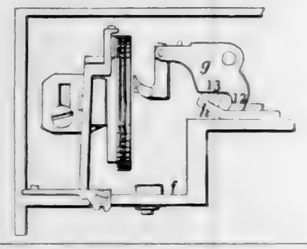


fig. 1

fig. 2



20753

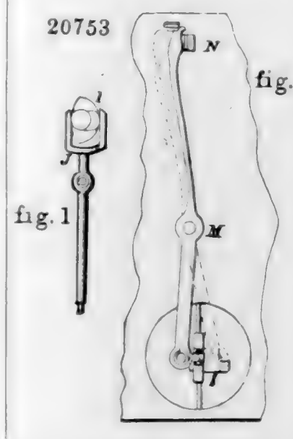


fig. 1

fig. 2

20736

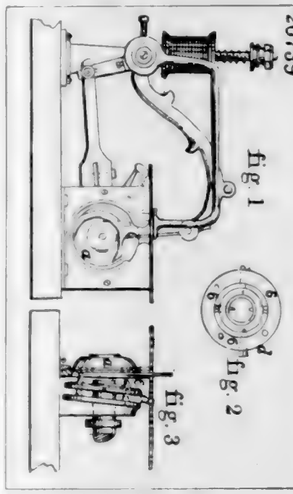
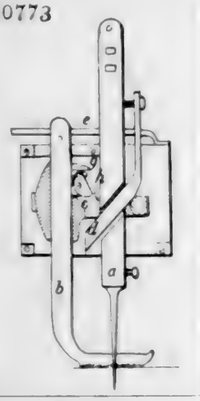


fig. 1

fig. 2

fig. 3

20773



20742

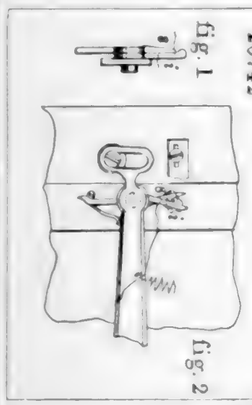
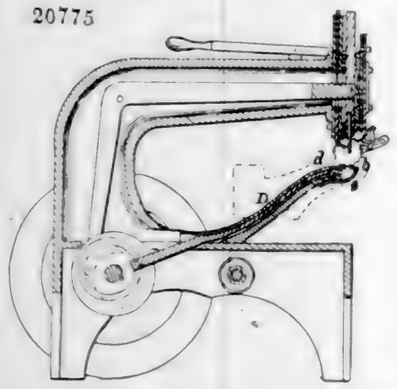


fig. 1

fig. 2

20775



20699

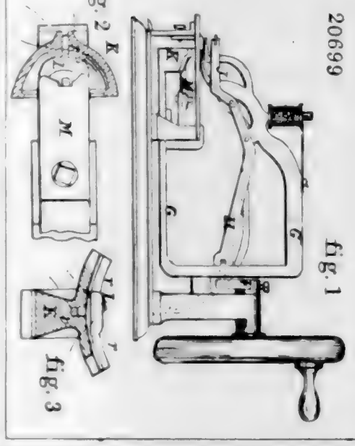


fig. 2

fig. 1

fig. 3

20990

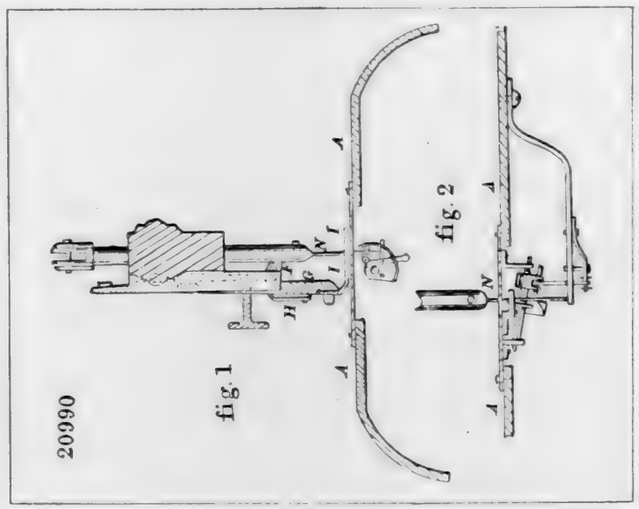


fig. 1

fig. 2

21089

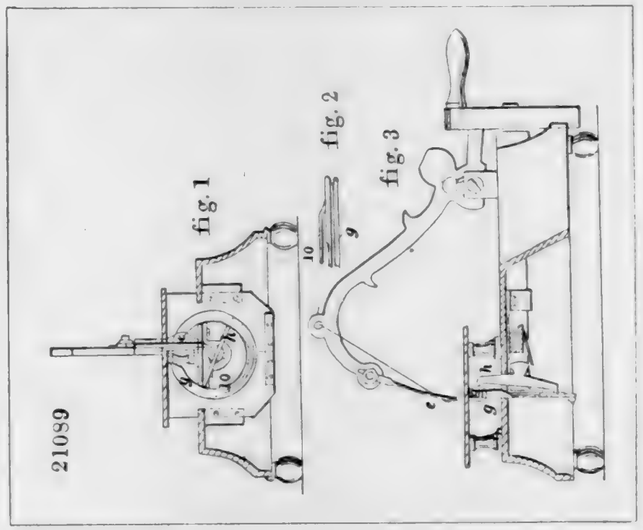
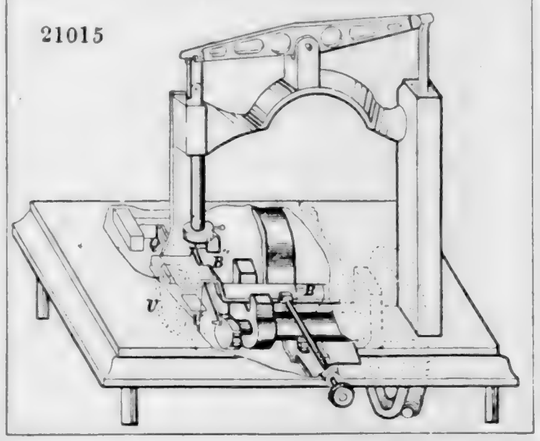


fig. 1

fig. 2

fig. 3

21015



21049

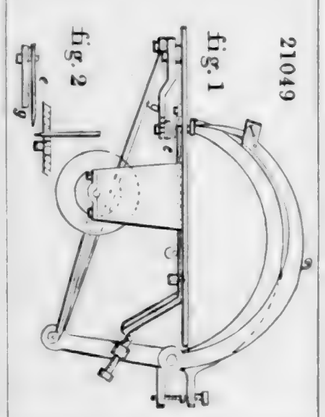


fig. 1

fig. 2

21100

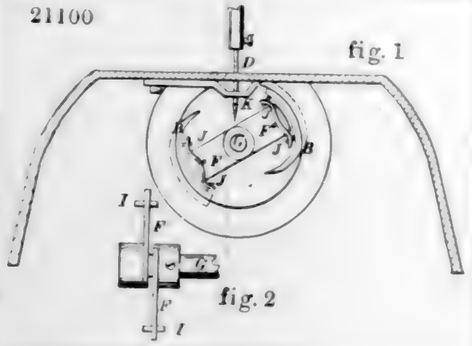


fig. 1

fig. 2

21129

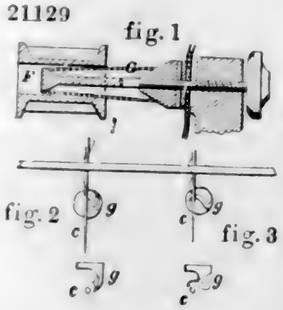


fig. 1

fig. 2

fig. 3

21230

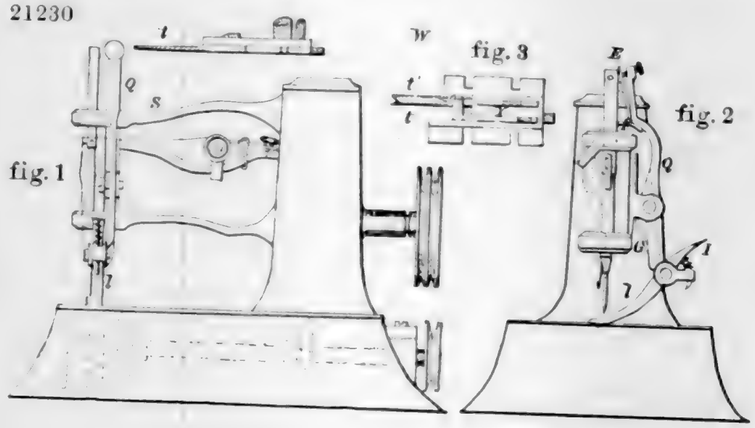


fig. 1

fig. 3

fig. 2

21224

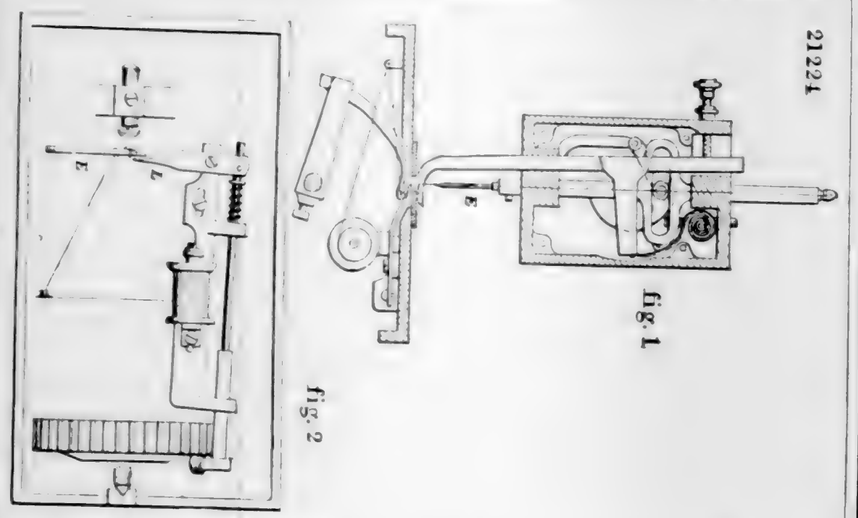


fig. 1

fig. 2

21250

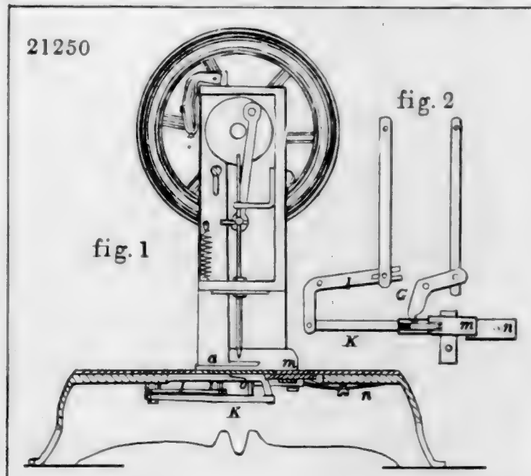


fig. 1

fig. 2

21299

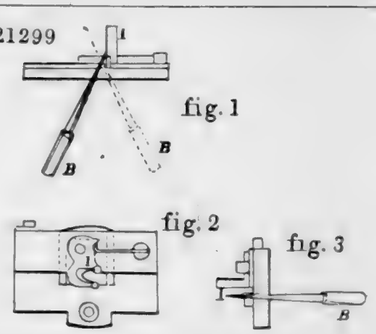
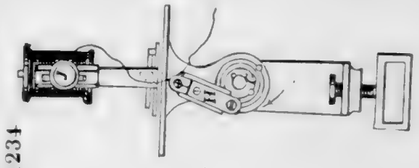


fig. 1

fig. 2

fig. 3

21234



21310

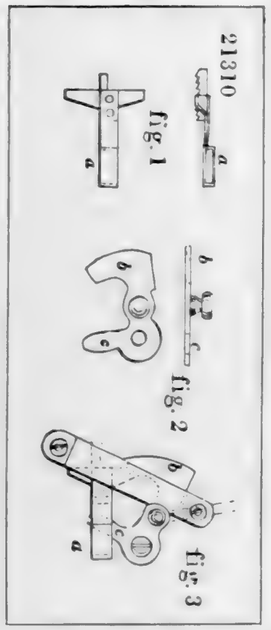


fig. 1

fig. 2

fig. 3

21258

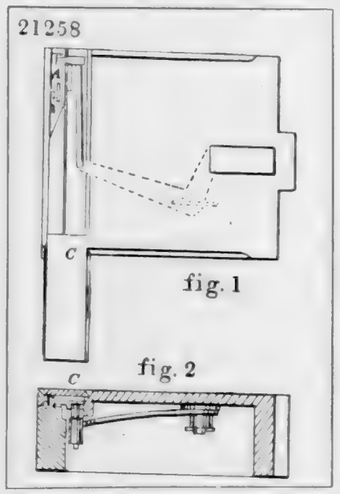


fig. 1

fig. 2

21322

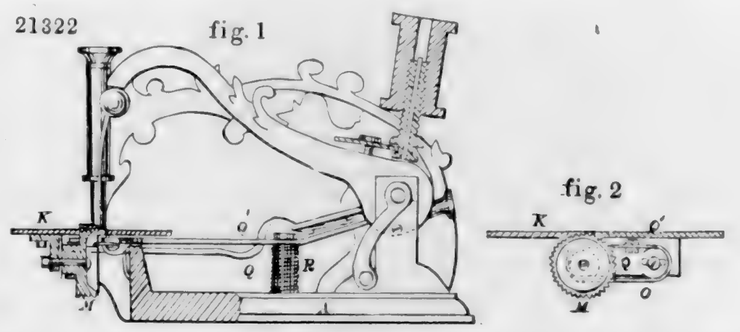


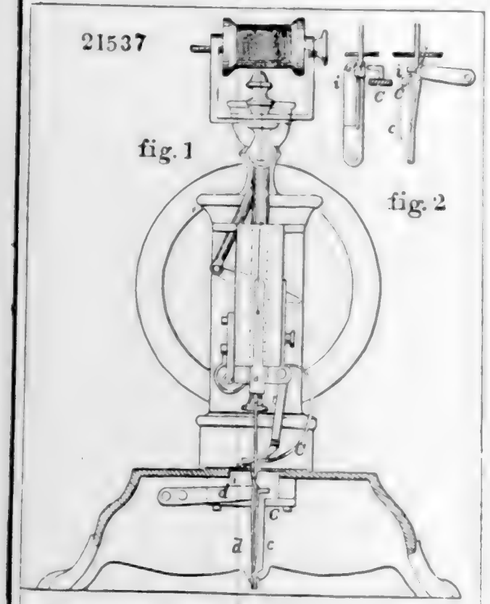
fig. 1

fig. 2

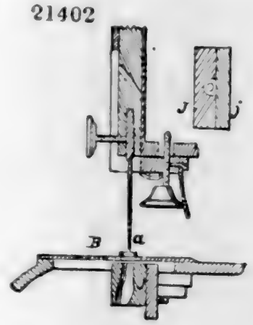
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fig. 1

fig. 2



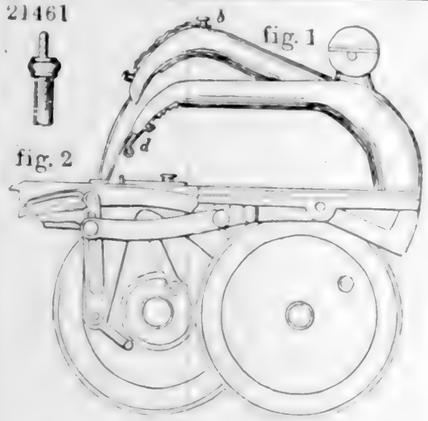
21402



21461

fig. 1

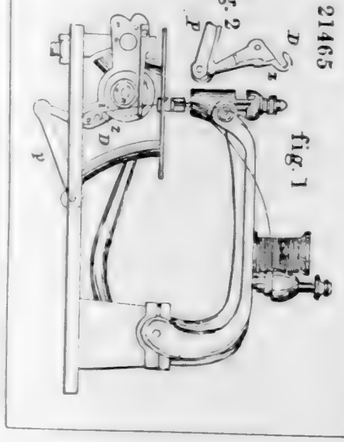
fig. 2



21465

fig. 2

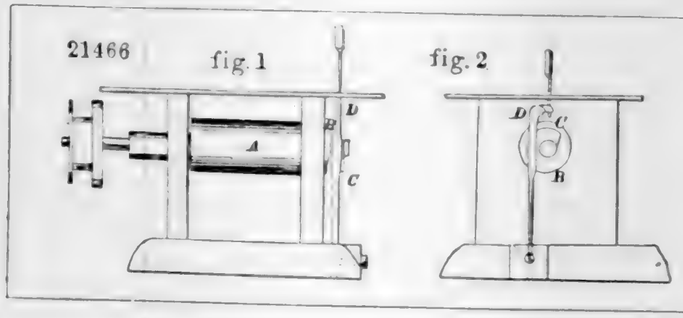
fig. 1



21466

fig. 1

fig. 2

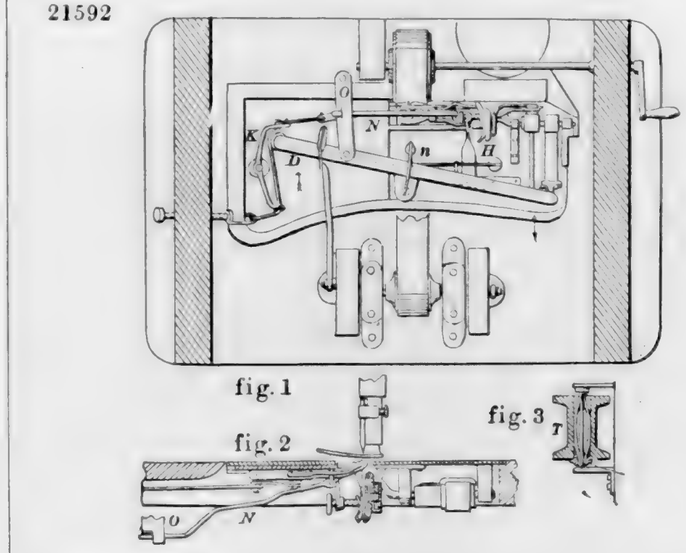


21592

fig. 1

fig. 2

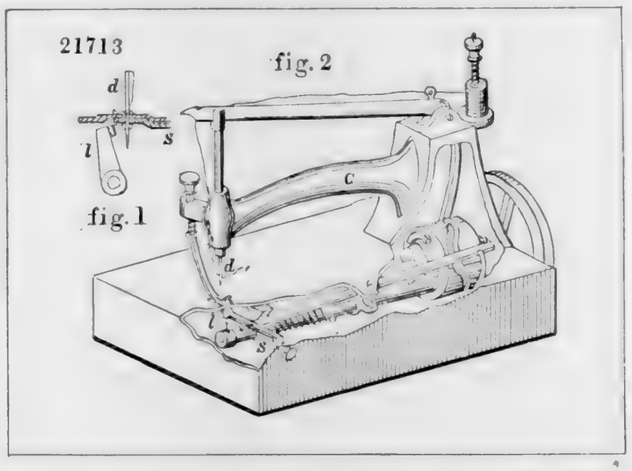
fig. 3



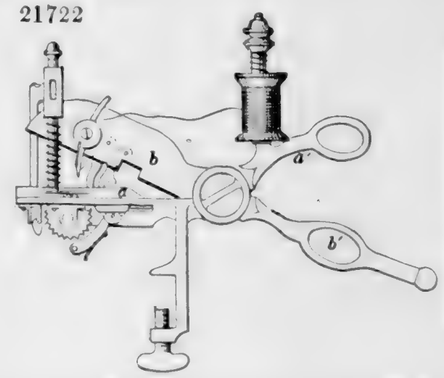
21713

fig. 2

fig. 1



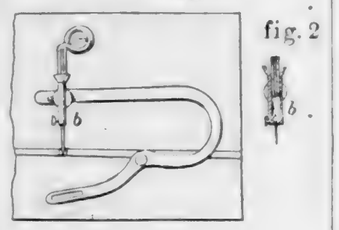
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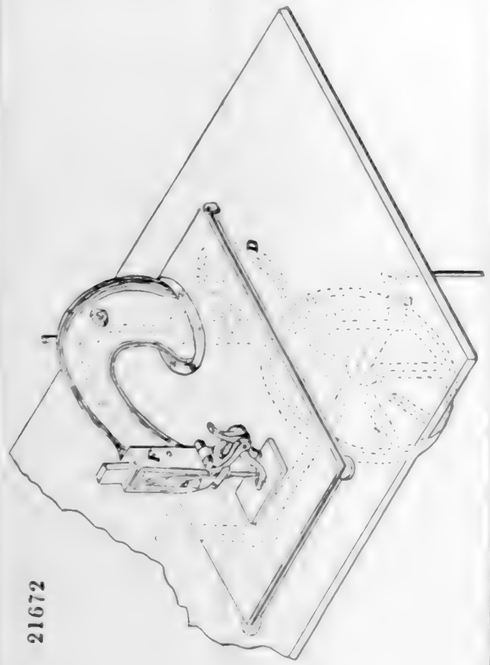
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fig. 1

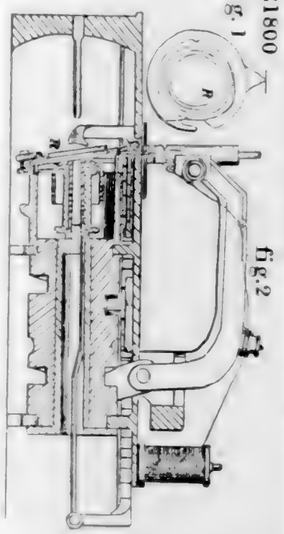
fig. 2



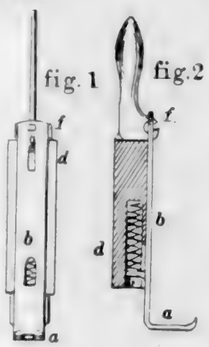
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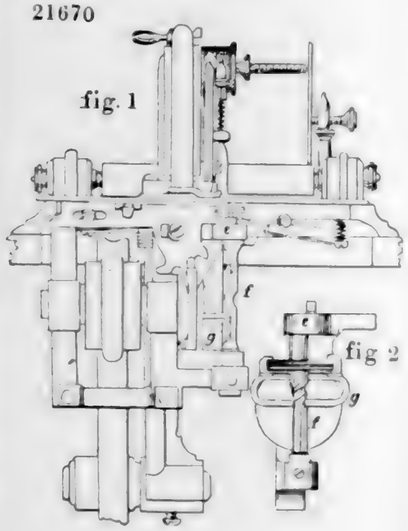
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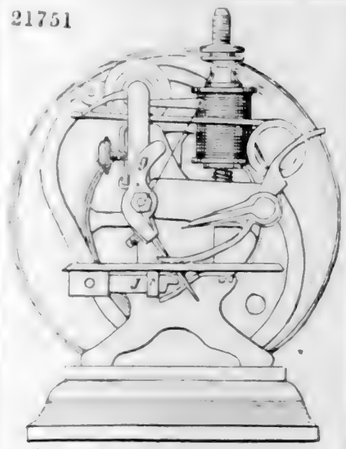
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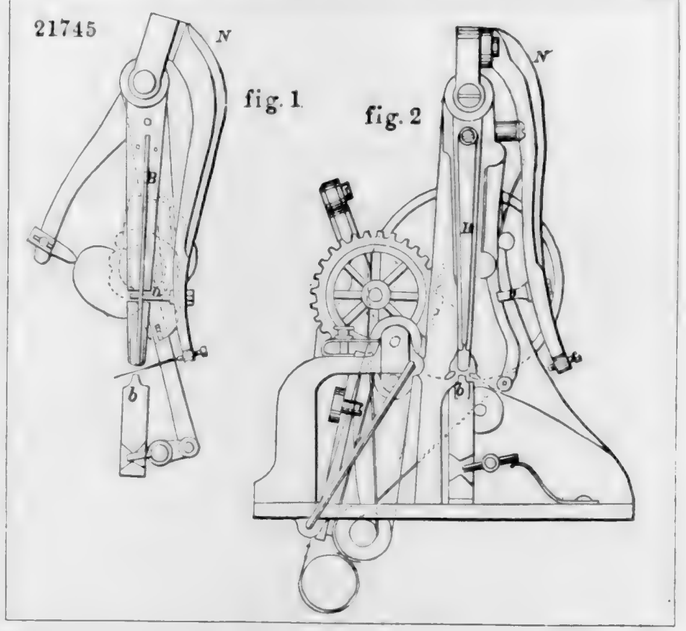
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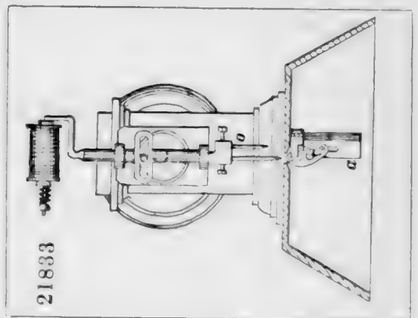
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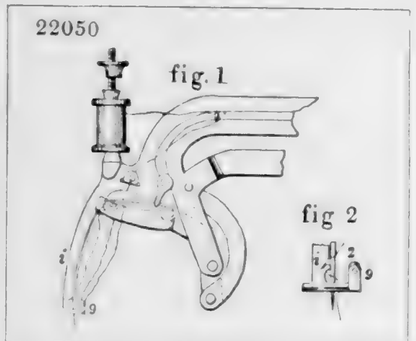
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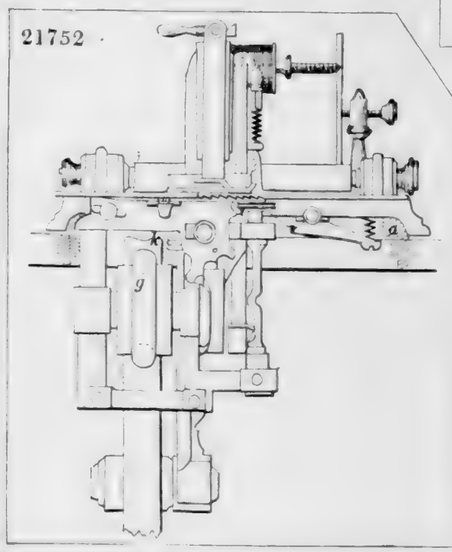
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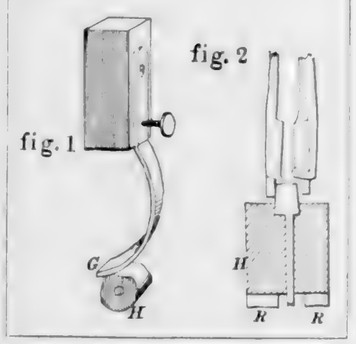
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21752



21929



22007

fig. 1

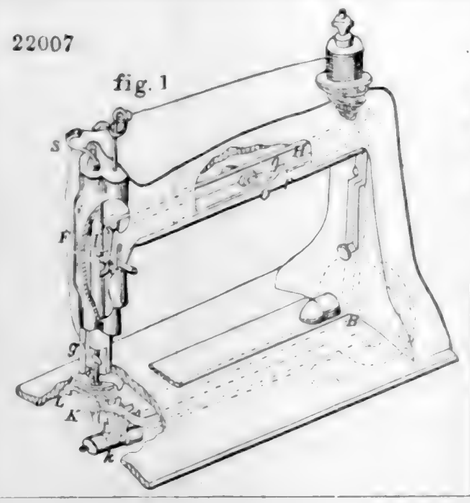
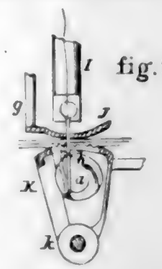


fig. 2



22148

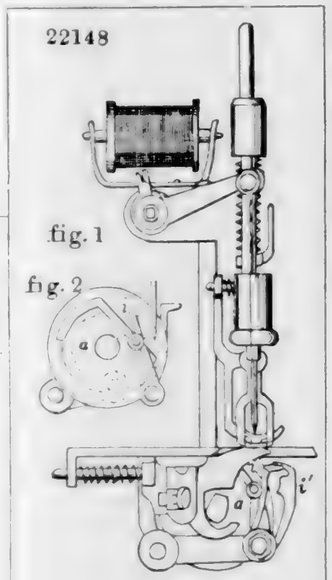


fig. 1

fig. 2

22137

fig. 1

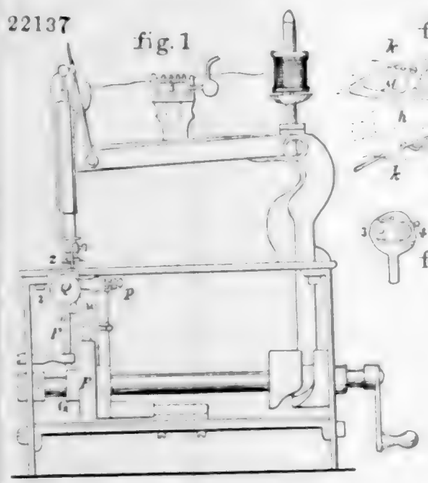


fig. 2

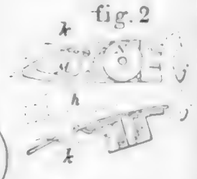


fig. 3

22045

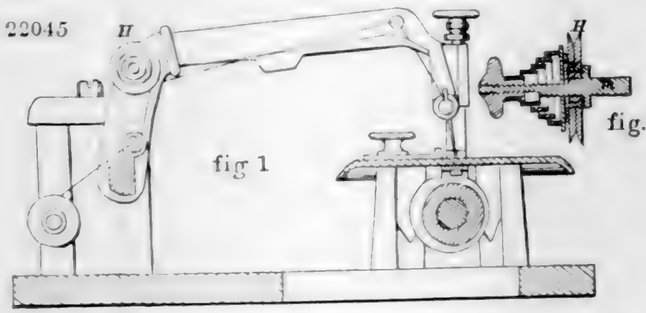


fig 1

fig. 2

22160

fig. 1

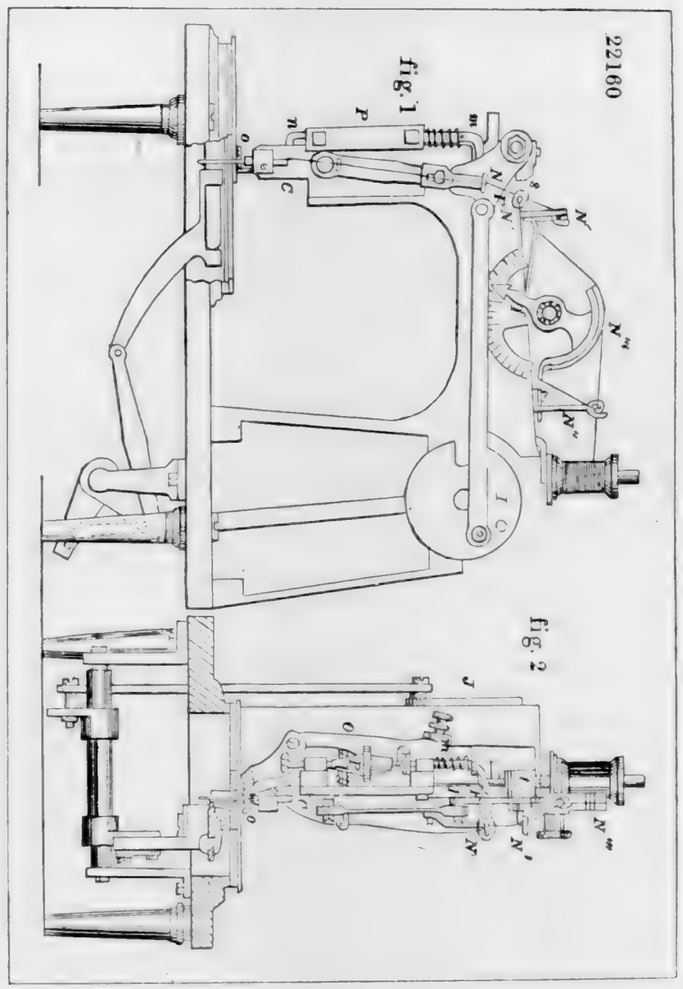
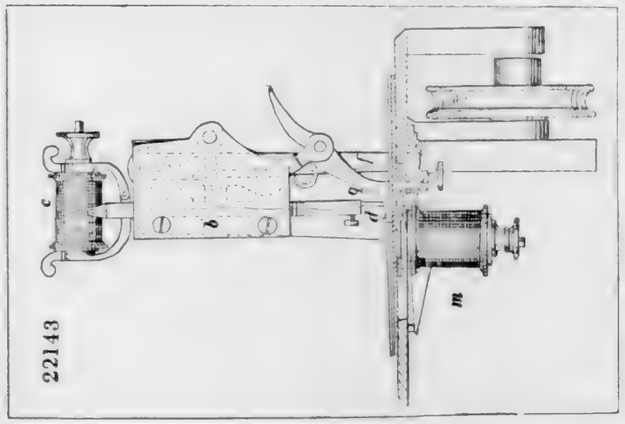
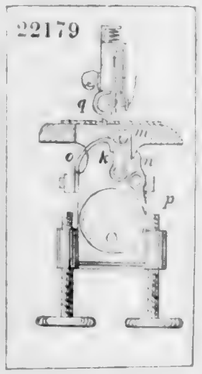


fig. 2

22143



22179



22240

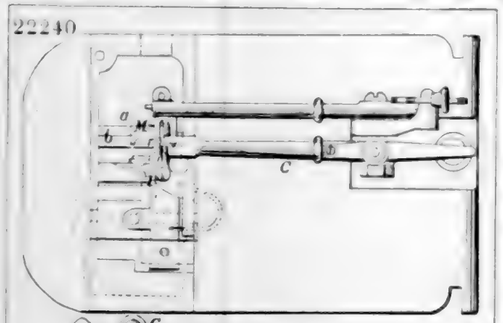


fig. 1.

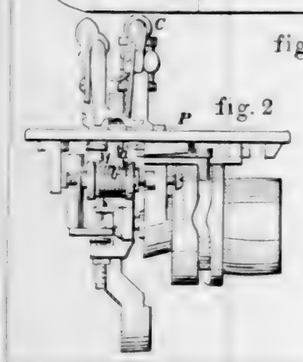


fig. 2

22255

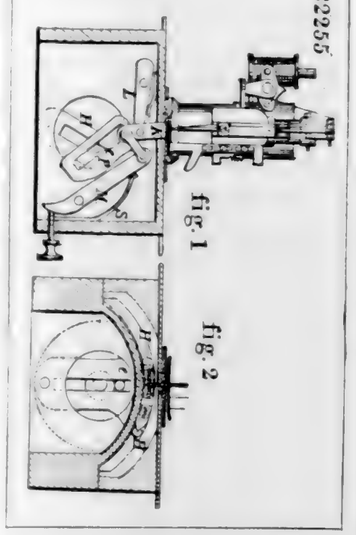
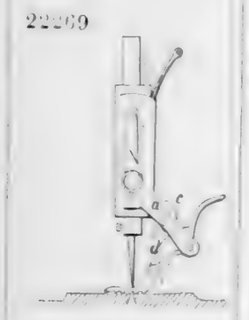


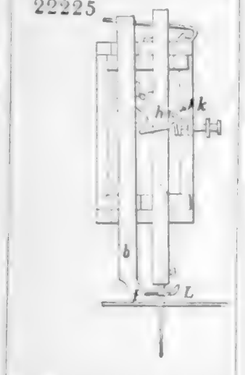
fig. 1

fig. 2

22269



22225



22264

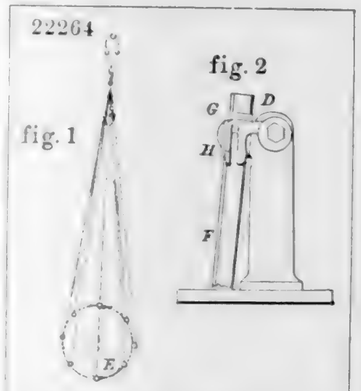


fig. 1

fig. 2

22220

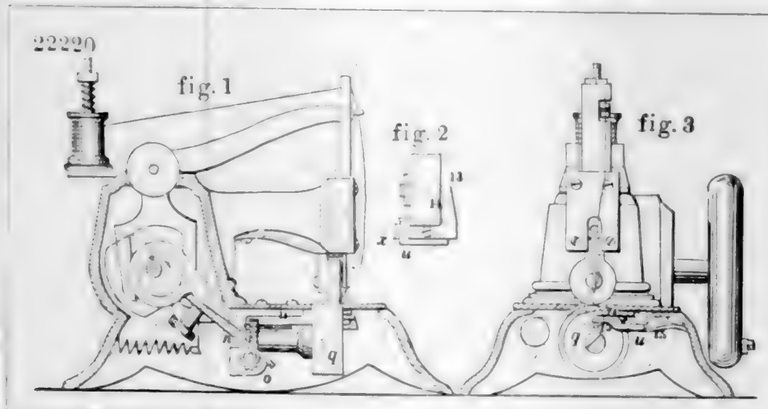
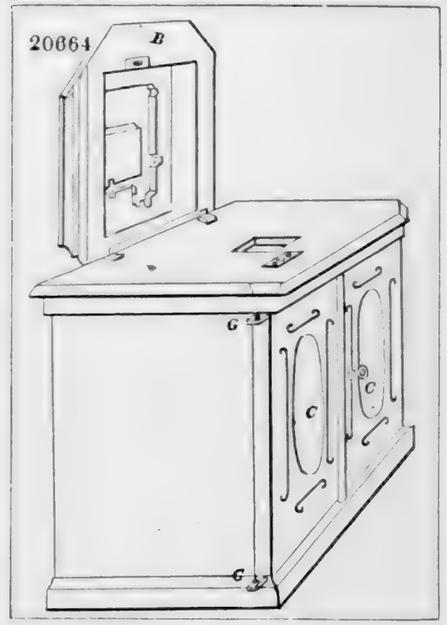


fig. 1

fig. 2

fig. 3

20664



20245

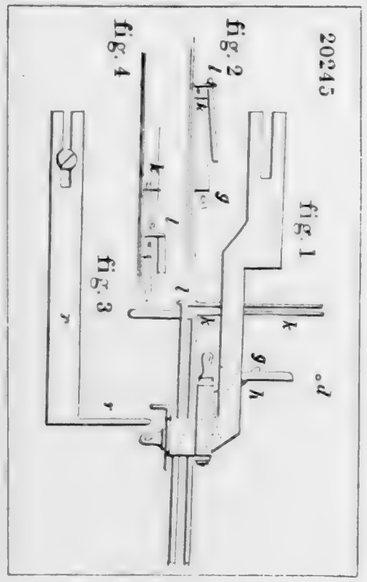


fig. 4

fig. 2

fig. 1

fig. 3

22226

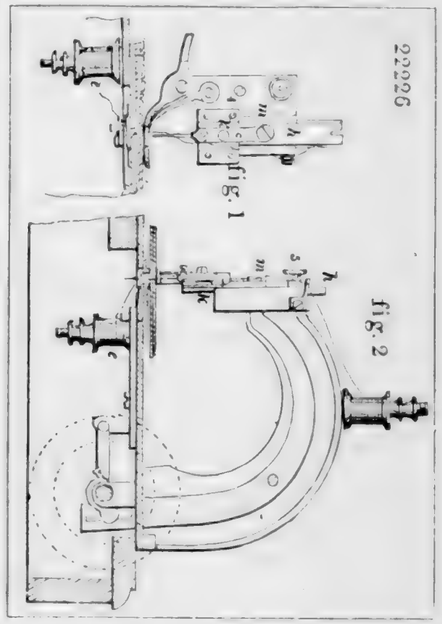


fig. 1

fig. 2

22275

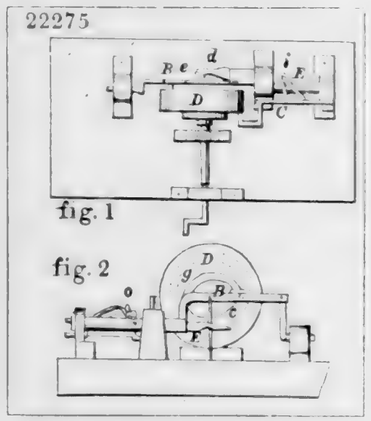
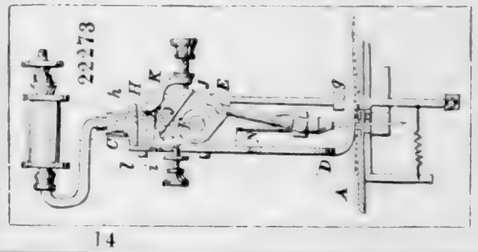


fig. 1

fig. 2

22273



21355

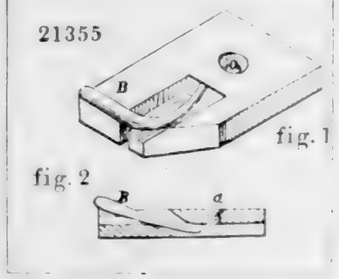
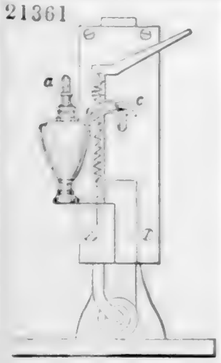


fig. 1

fig. 2

21361



20006

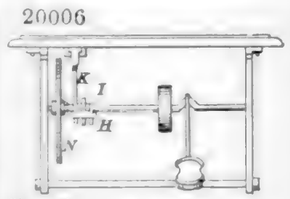


fig. 1ª

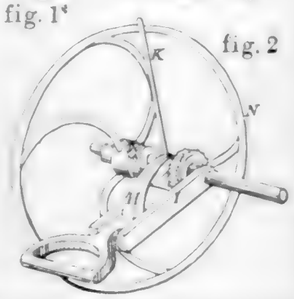
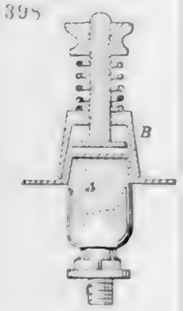


fig. 2

20409



21398



19283

fig. 1

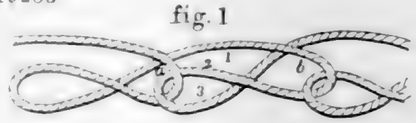


fig. 2



22221

fig. 1

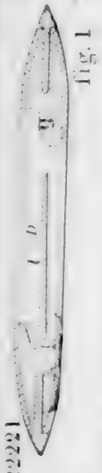


fig. 2



21556

fig. 1

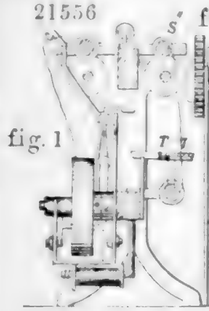


fig. 2

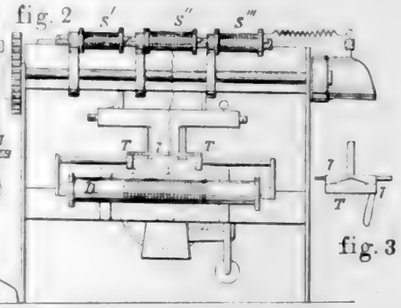
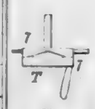


fig. 3

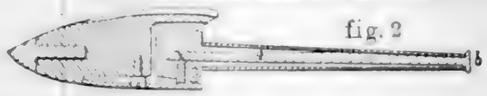


21068

fig. 1



fig. 2



19161

fig. 1

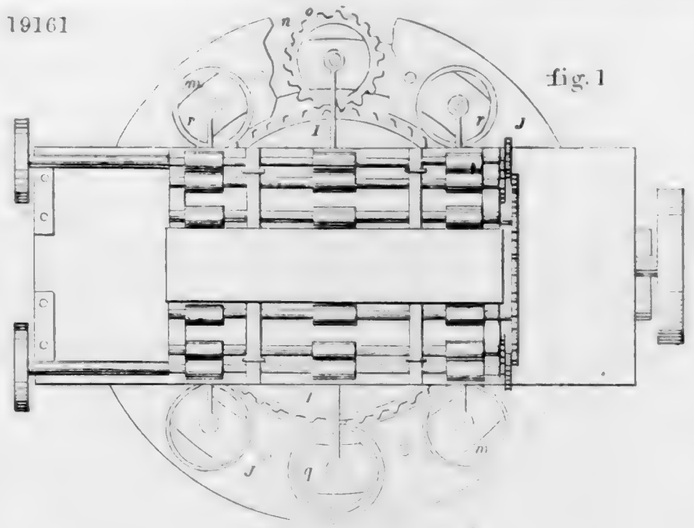
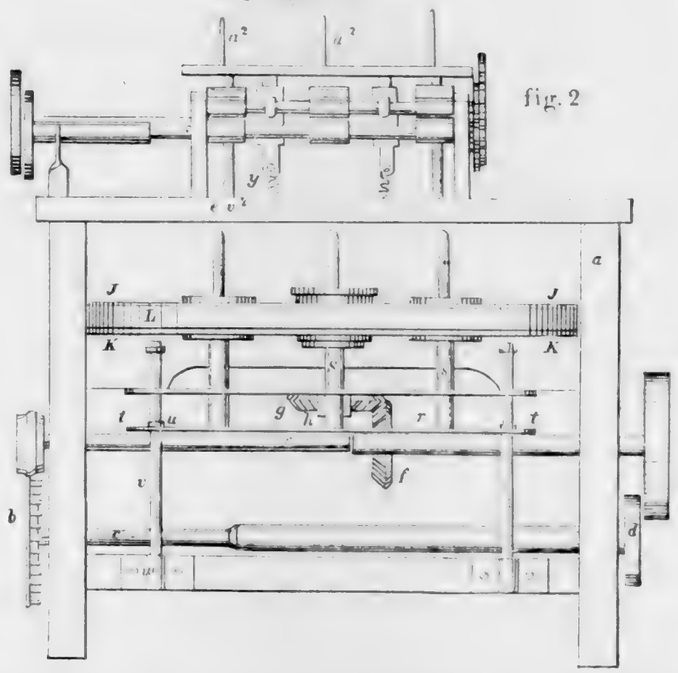
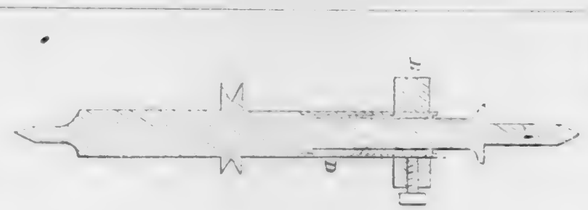


fig. 2



20020



19531

fig. 1

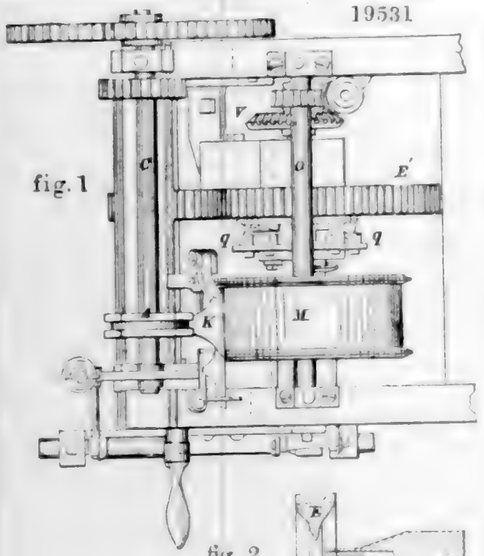
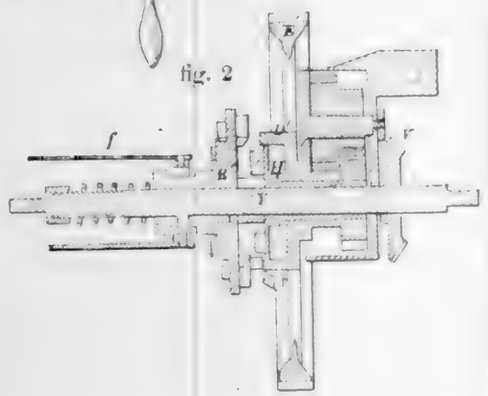


fig. 2



21481

fig. 1

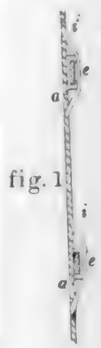
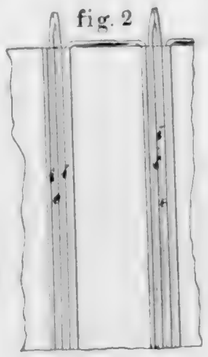


fig. 2

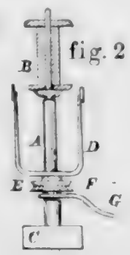


22262

fig. 1



fig. 2

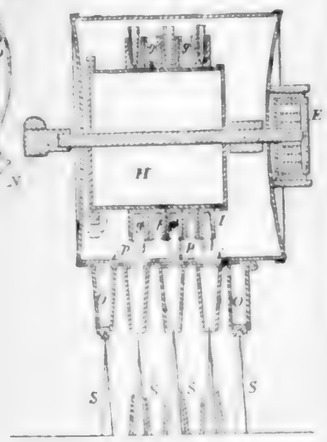


20285

fig. 1



fig. 2

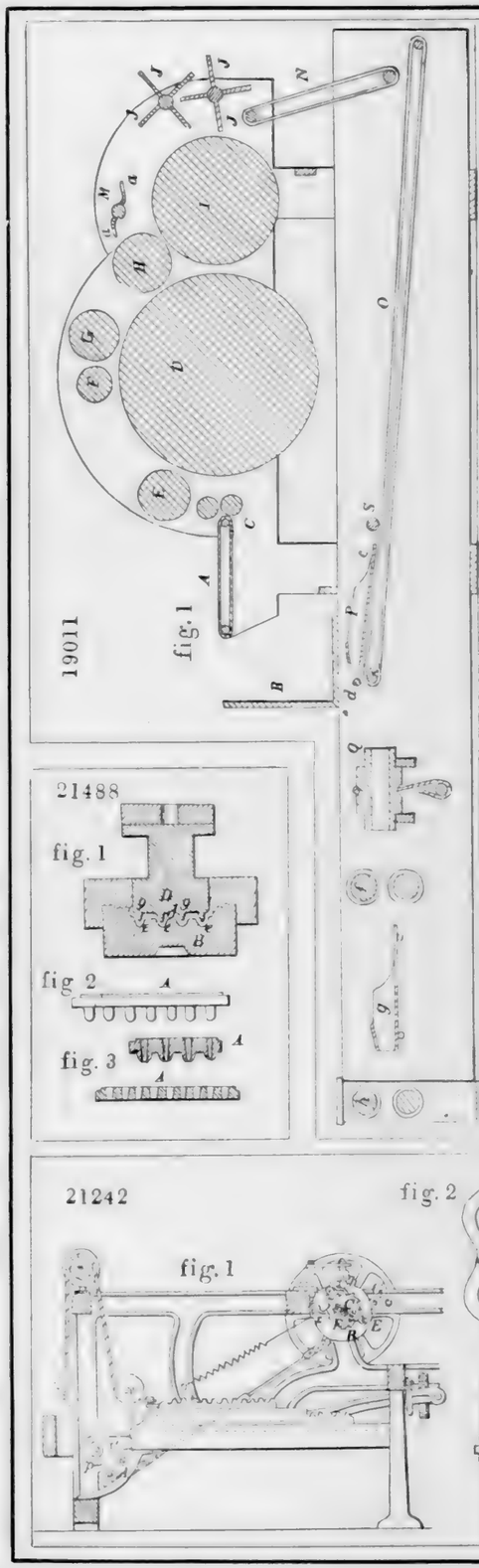


21333



19011

fig. 1



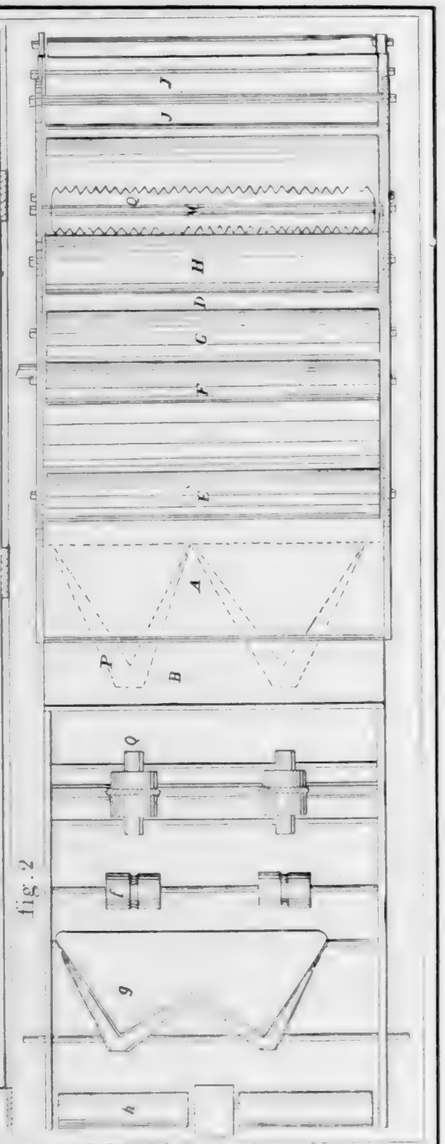
21488

fig. 1

fig. 2

fig. 3

fig. 2



21242

fig. 1

fig. 2

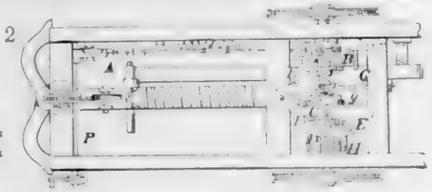
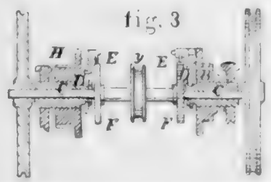


fig. 3



21116

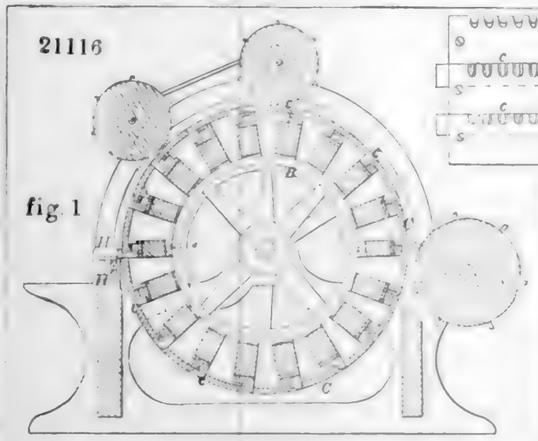


fig. 1

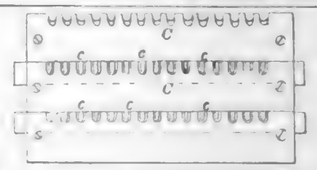


fig. 2

21538

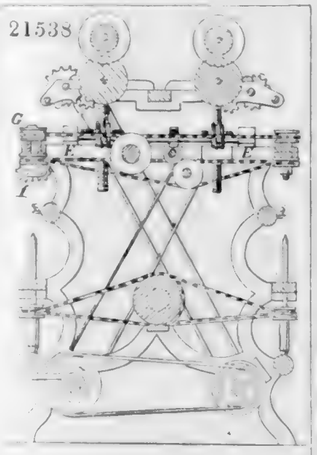
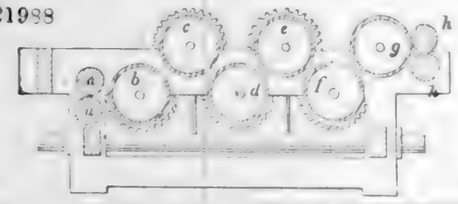


fig. 2

21988



21187

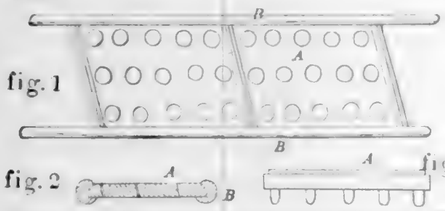
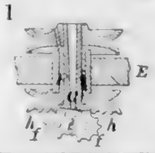


fig. 1

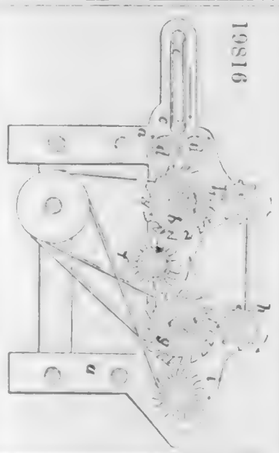
fig. 2

fig. 3

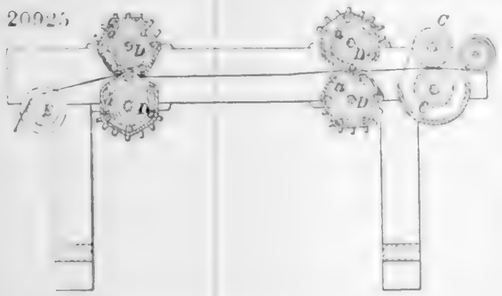
fig. 1



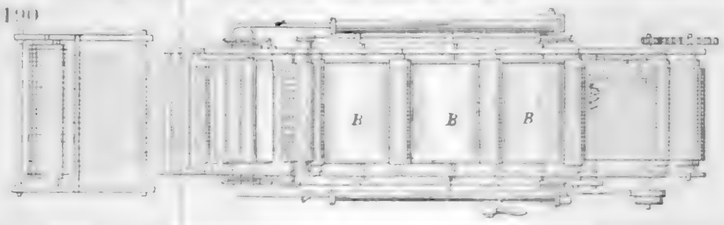
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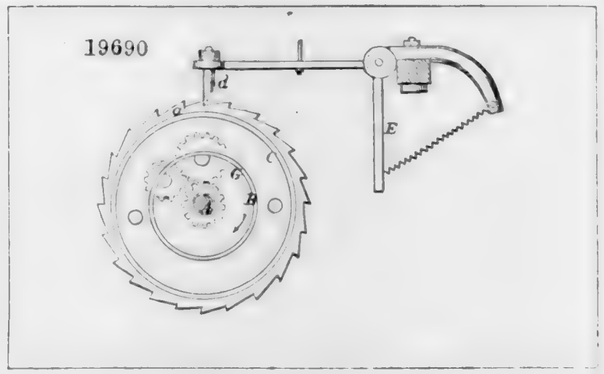
20923



20190



19690



IV.—CHEMICAL PROCESSES.

21882

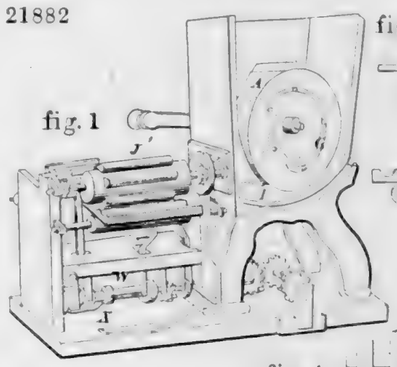


fig. 1

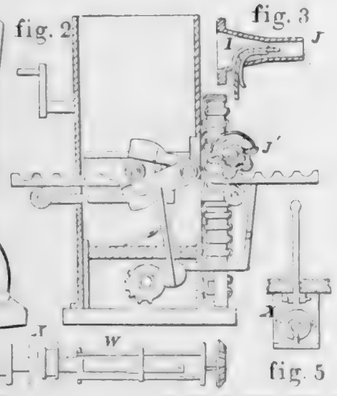


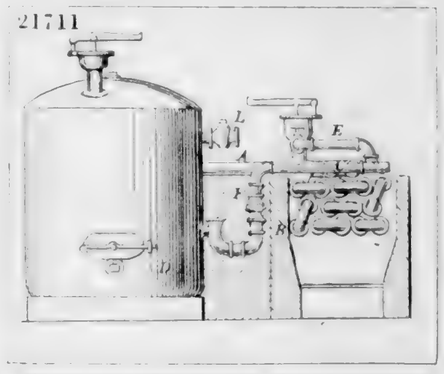
fig. 2

fig. 3

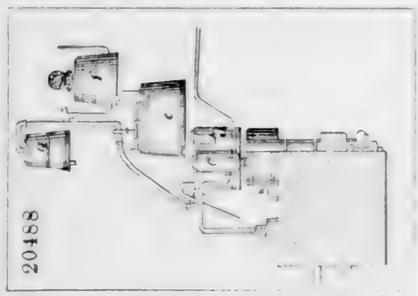
fig. 4

fig. 5

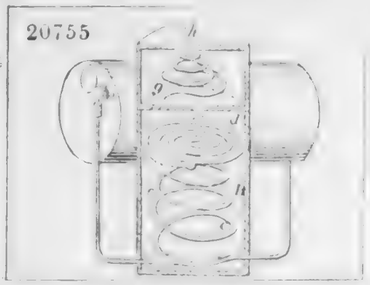
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20488



20755



21706

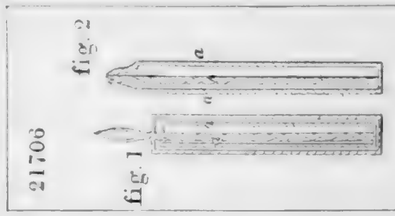
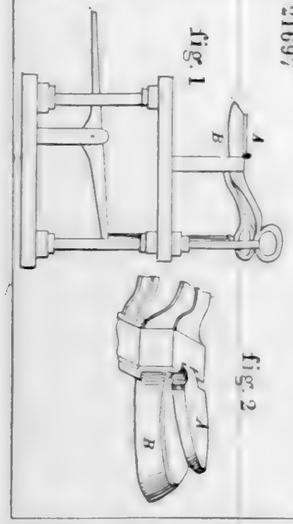


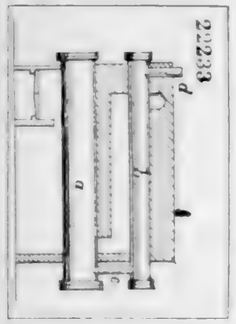
fig. 2

fig. 1

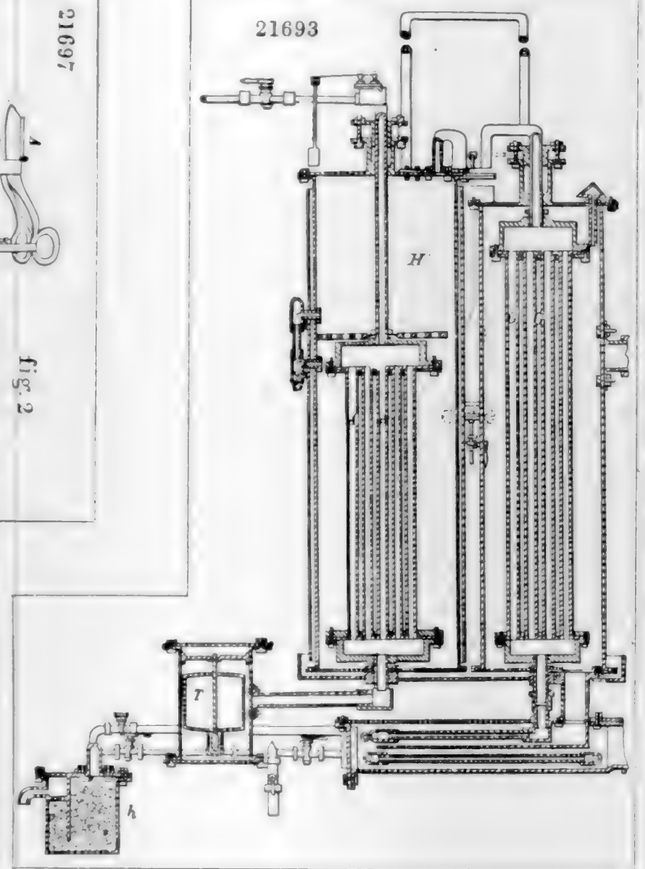
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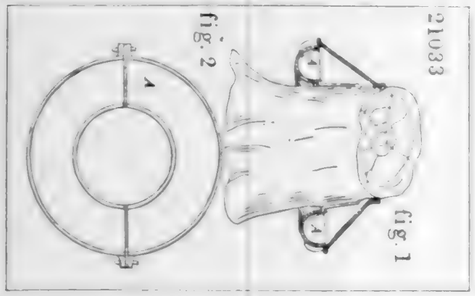
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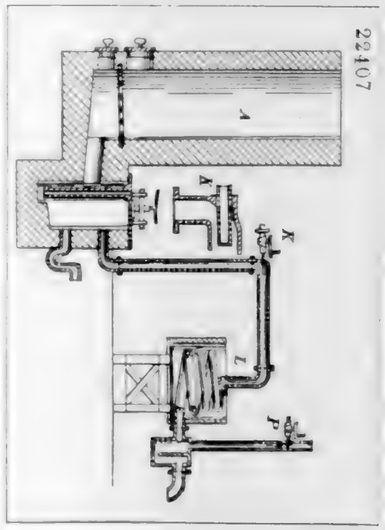
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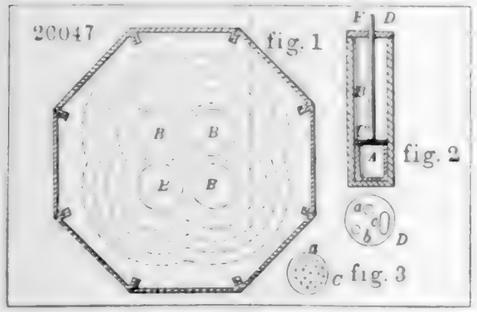
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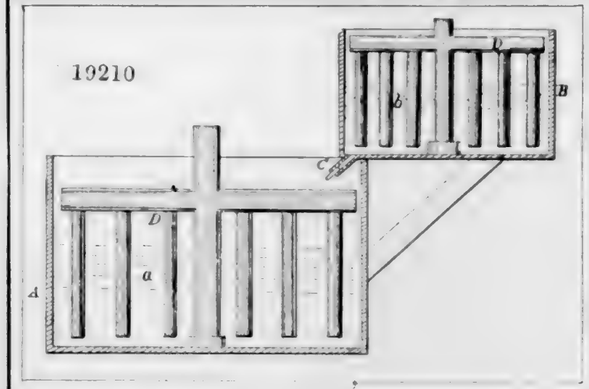
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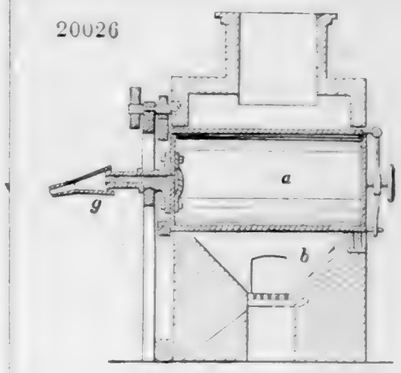
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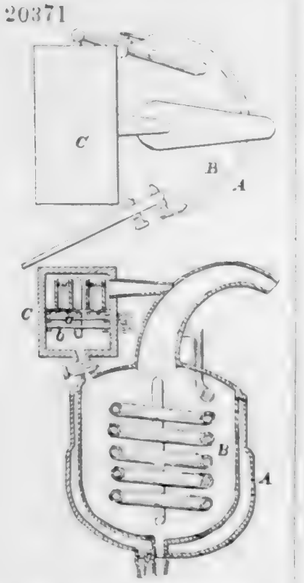
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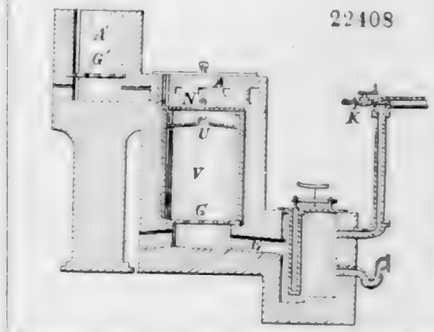
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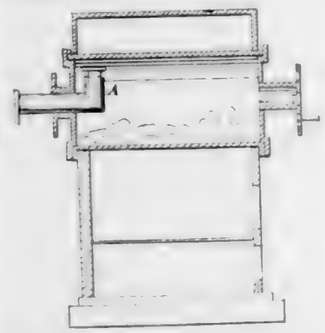
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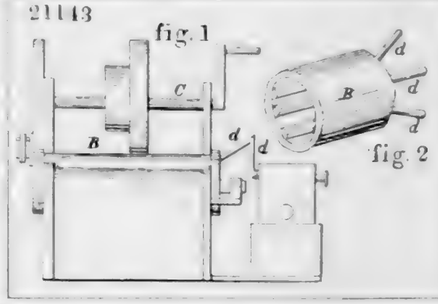
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20587



21143



19184

fig. 1

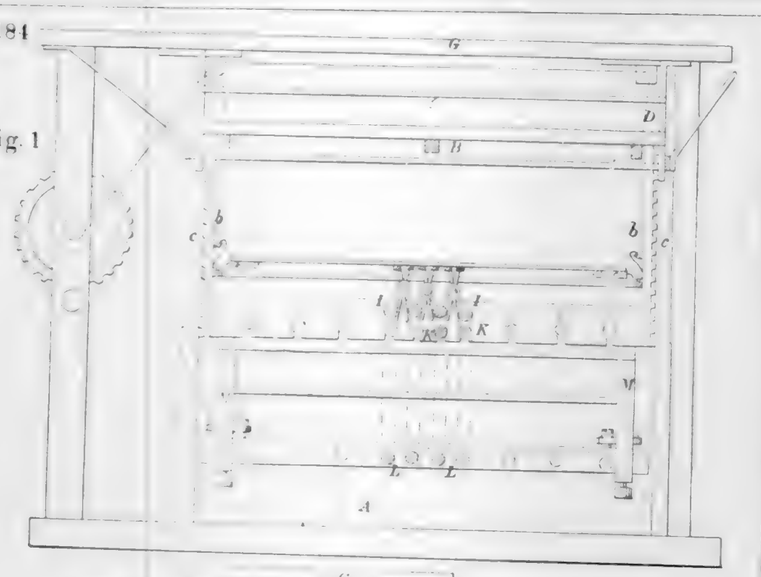
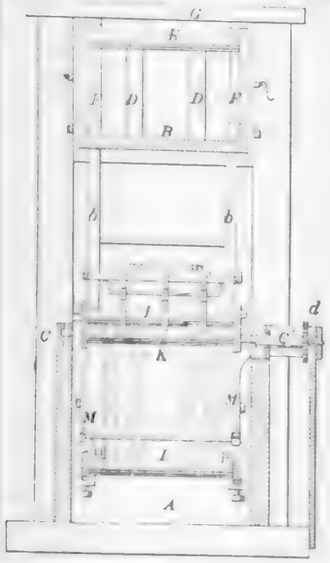
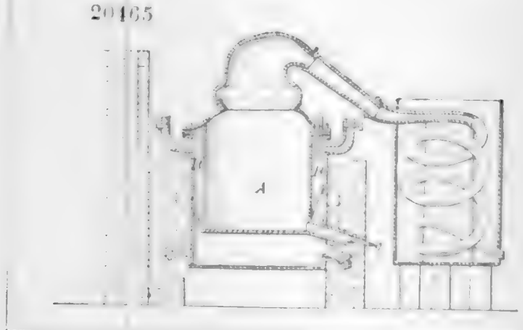


fig. 2



20465



20631 fig. 1

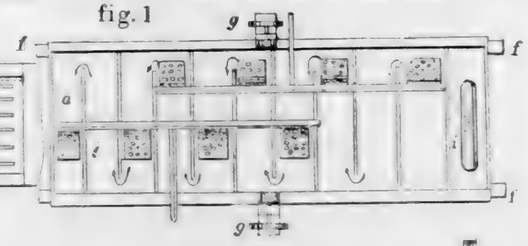
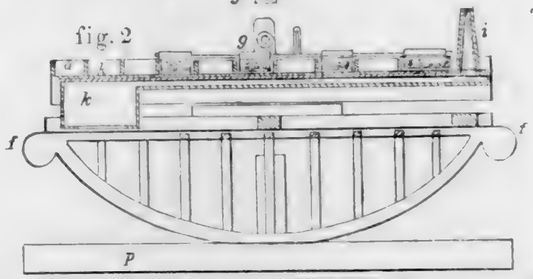


fig. 3

fig. 2



19701 fig. 1

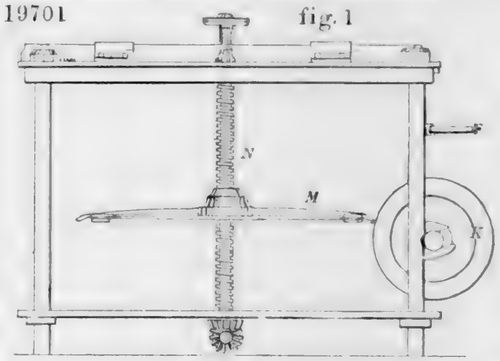
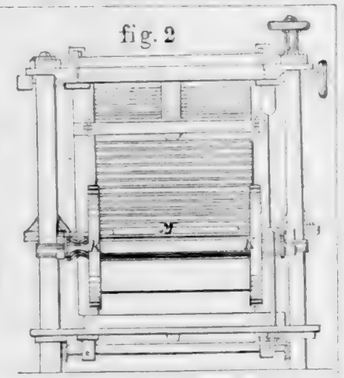


fig. 2

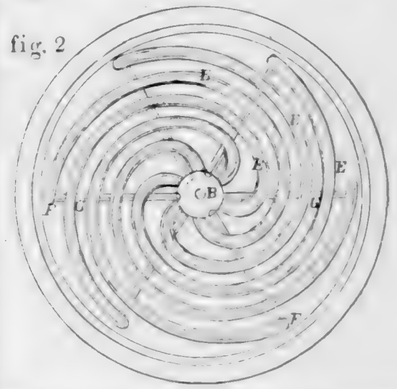


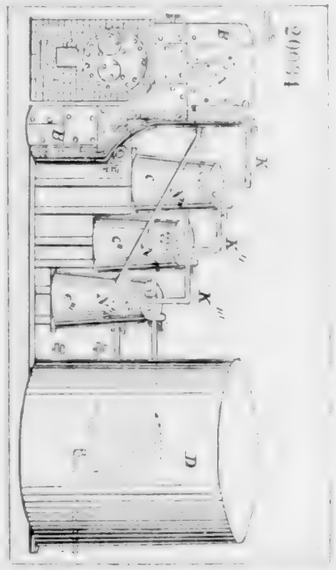
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fig. 1

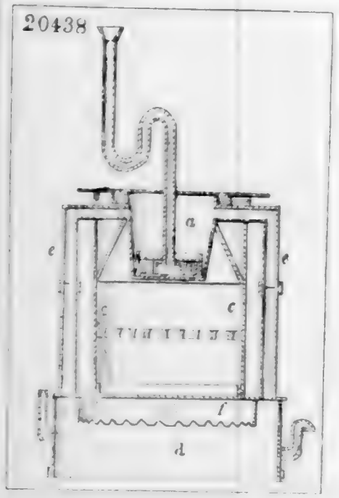


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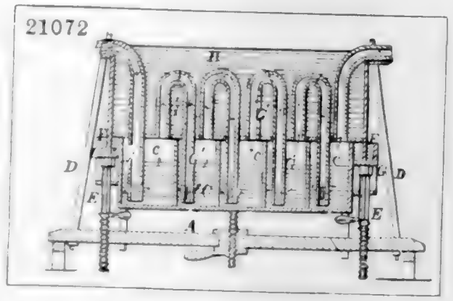




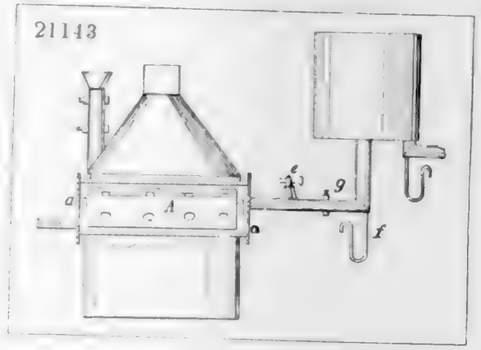
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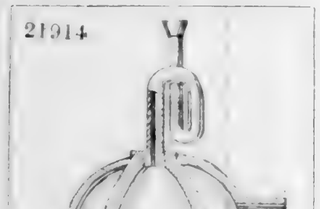
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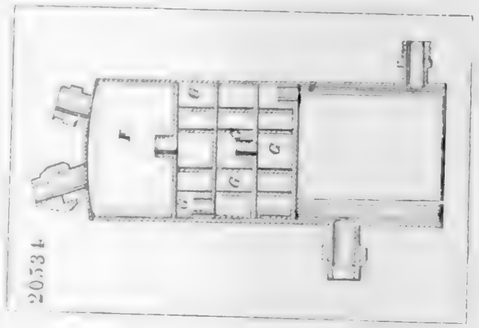
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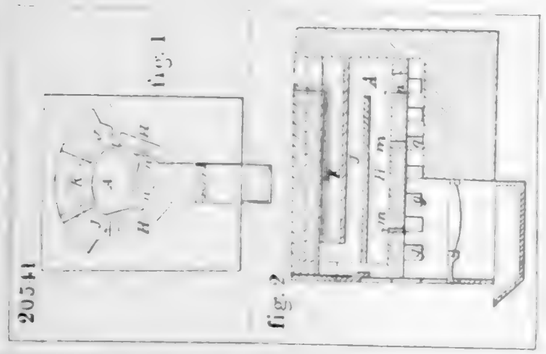
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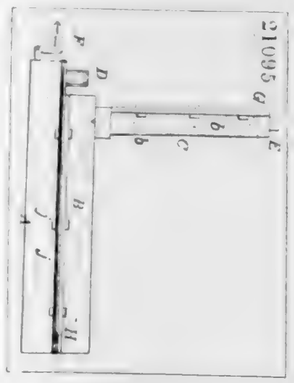
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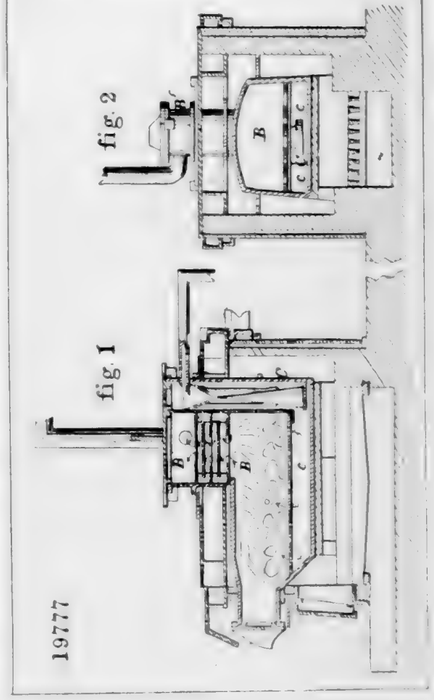
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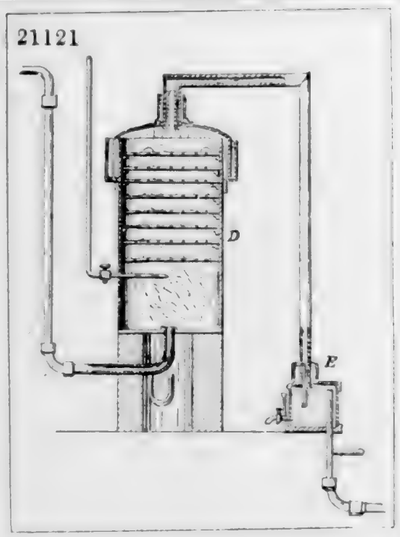
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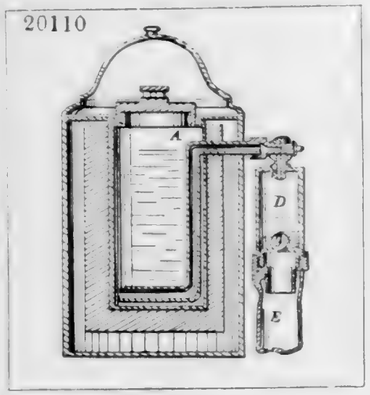
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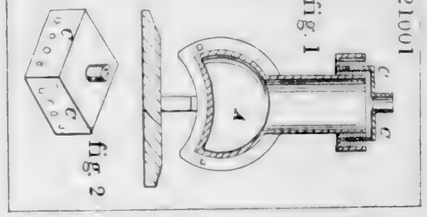
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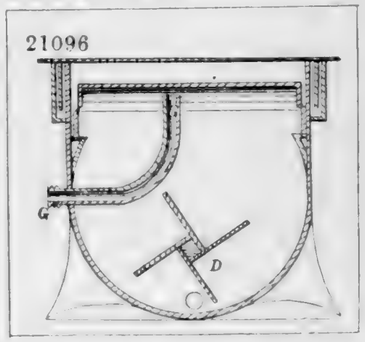
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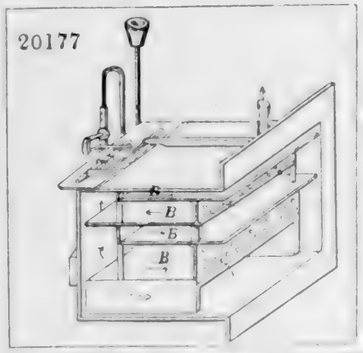
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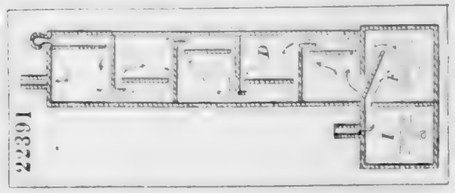
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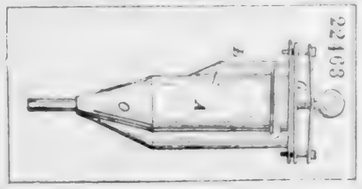
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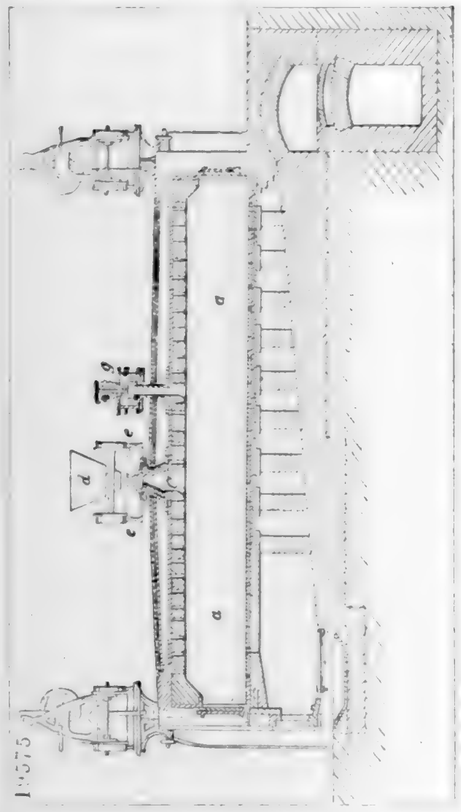
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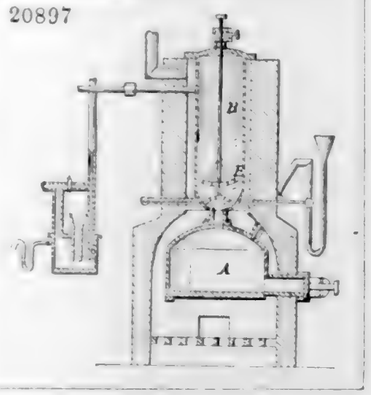
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19575



20897



20130 fig. 1

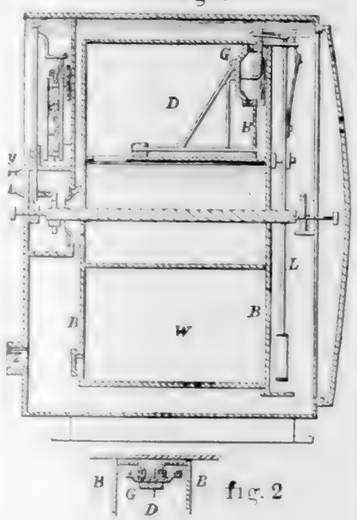
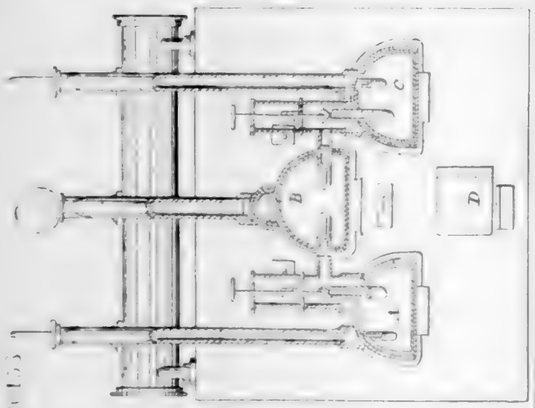


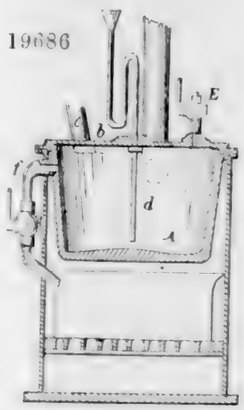
fig. 2

21027





19686



20680

fig. 2

fig. 1

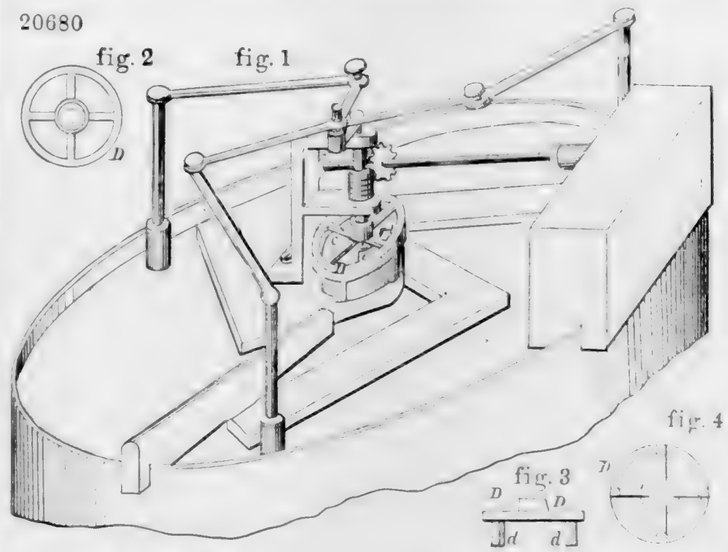


fig. 4

fig. 3

fig. 5

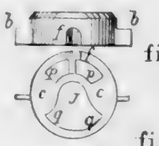
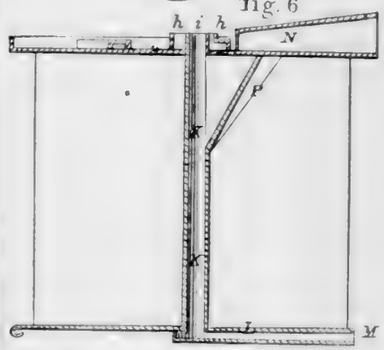


fig. 6



22267

fig. 1

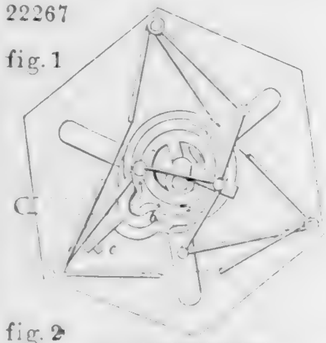
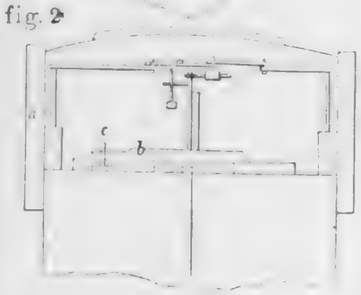


fig. 2



21663

fig. 2

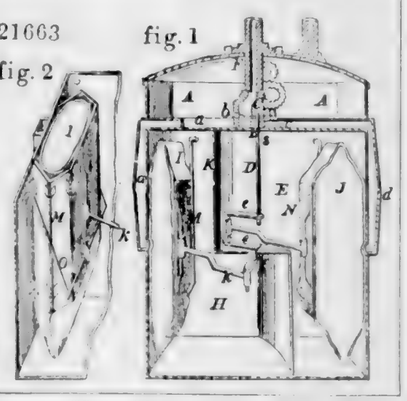


fig. 1

20625

fig. 1

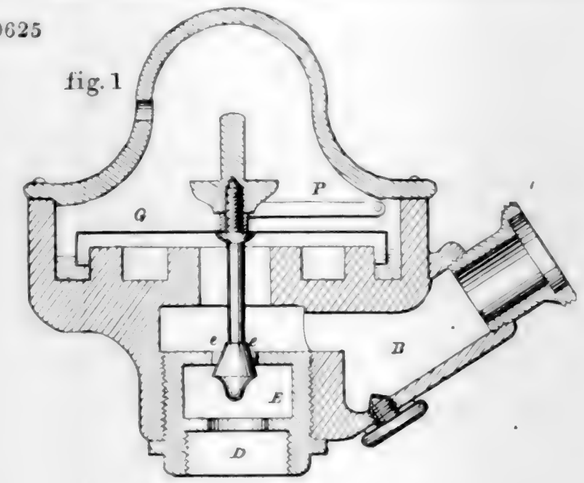
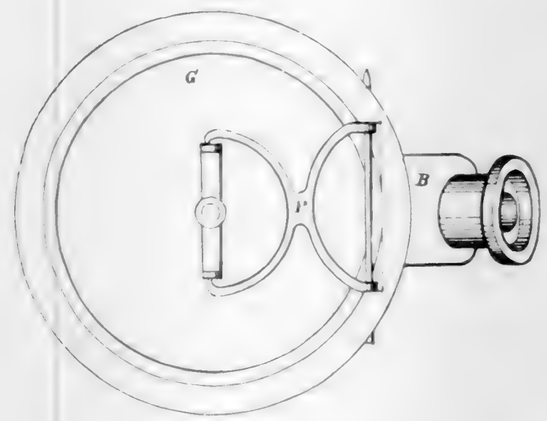
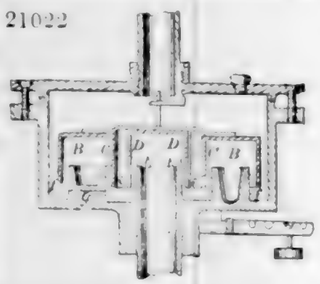


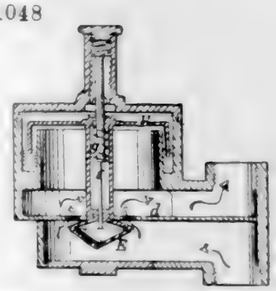
fig. 2



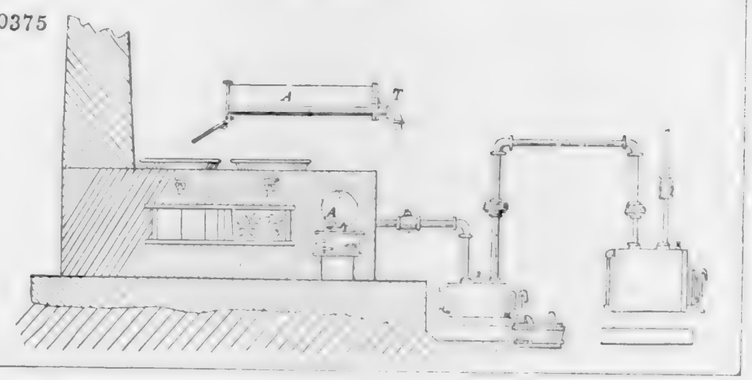
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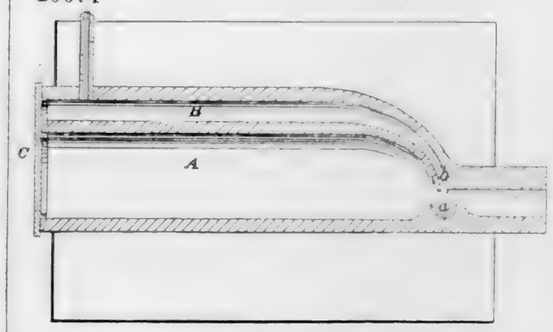
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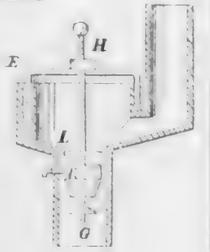
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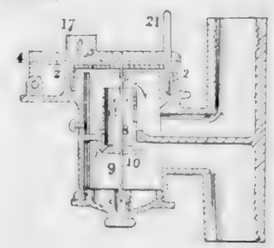
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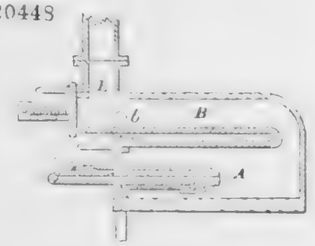
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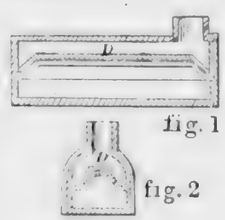
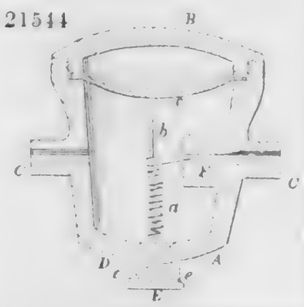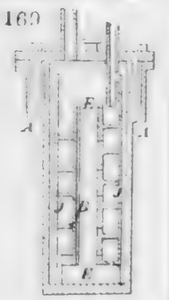


fig. 1

fig. 2

21544



21162



19655

fig. 1

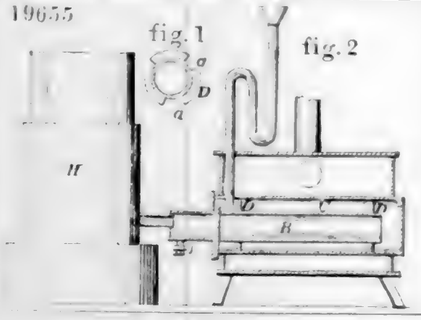
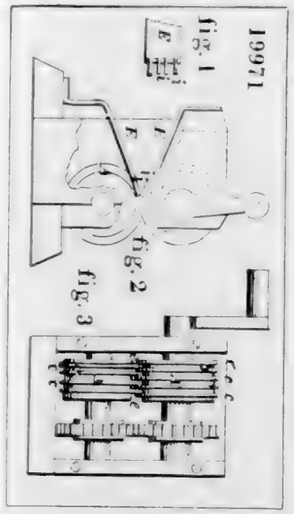


fig. 2

19971



20567

fig. 1

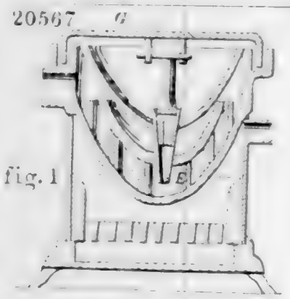
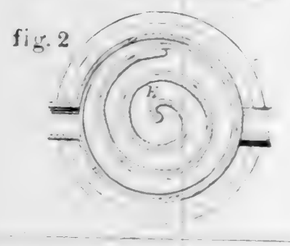
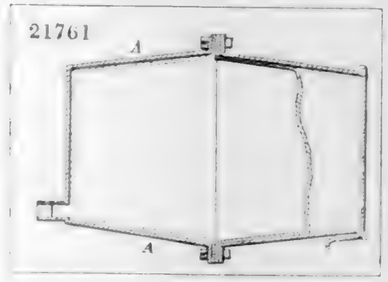


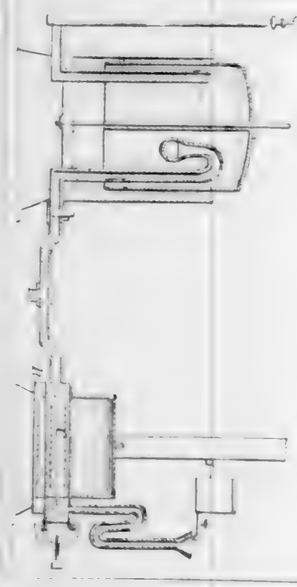
fig. 2



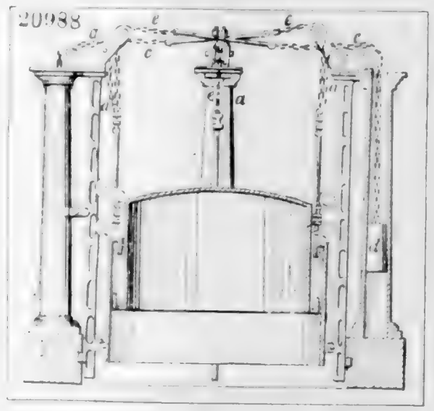
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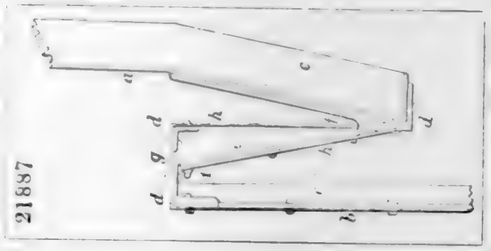
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20988



21887



22152

fig. 1

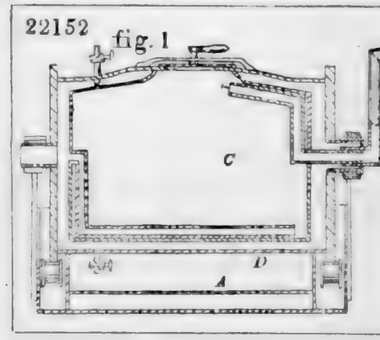
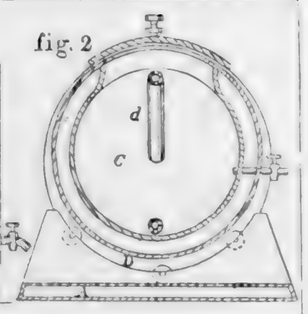
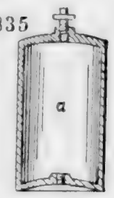


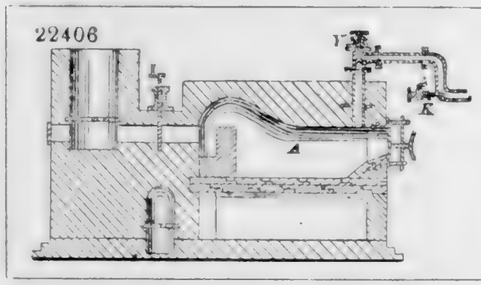
fig. 2



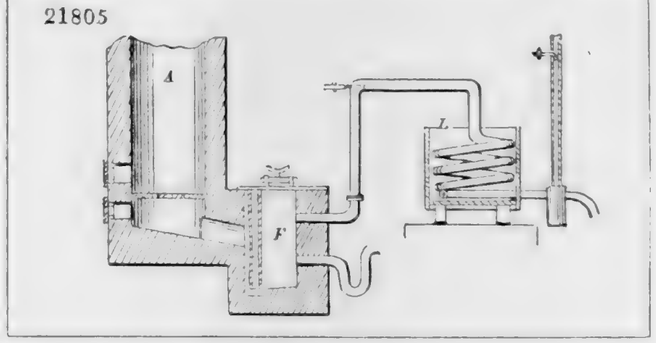
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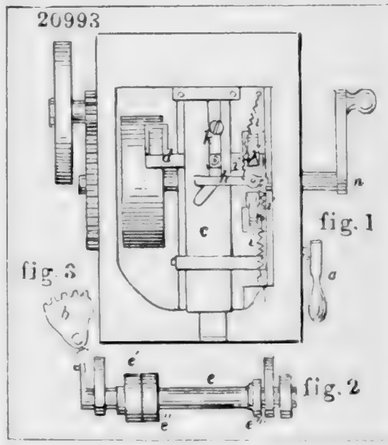
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21805



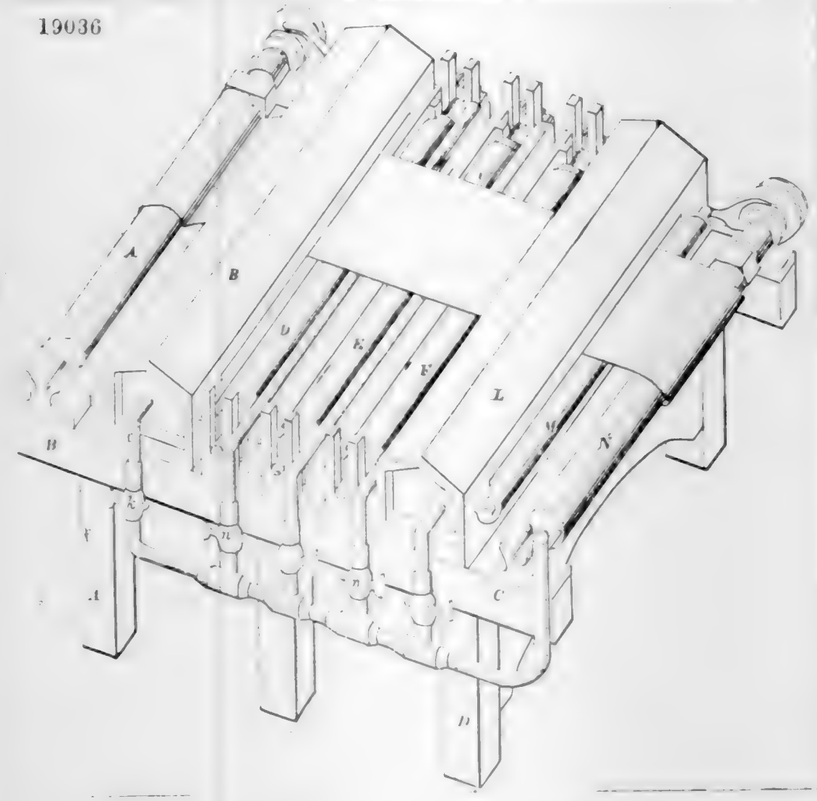
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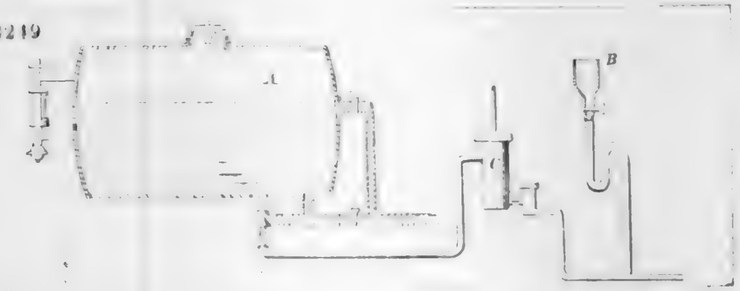
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19036



22219



20048 fig. 1

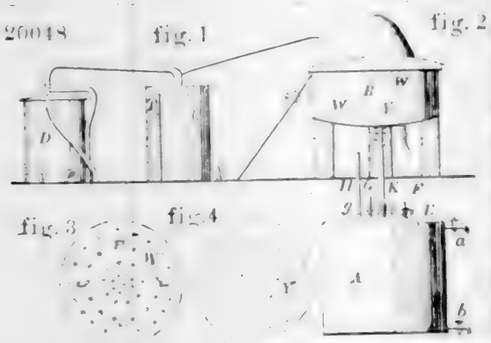


fig. 2

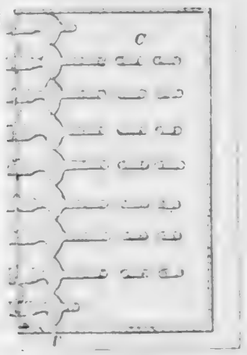
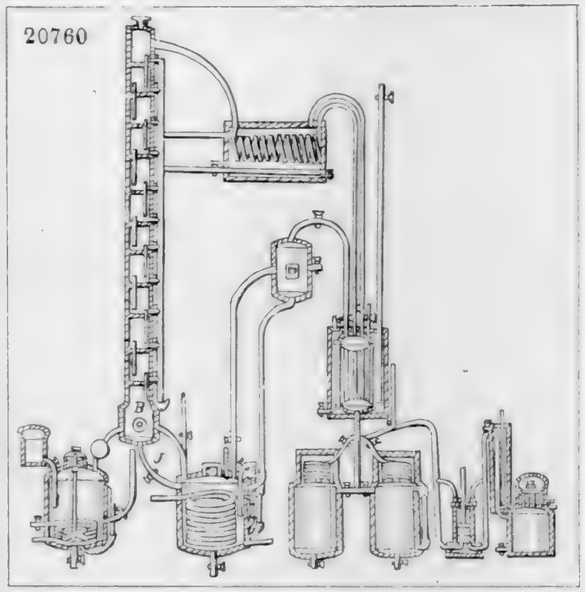


fig. 3

fig. 4

20760



19754

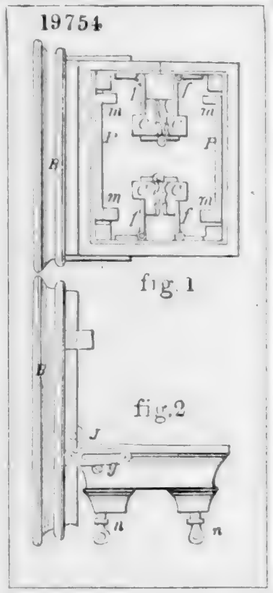
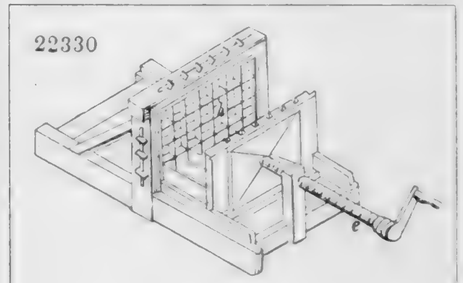


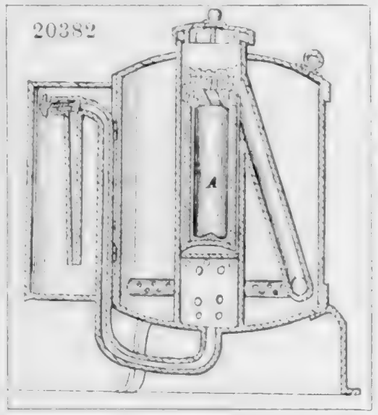
fig. 1

fig. 2

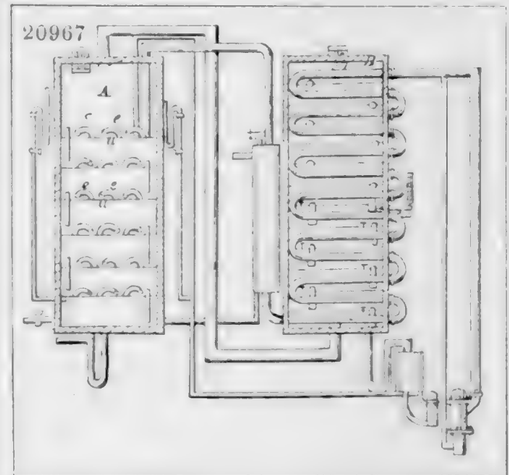
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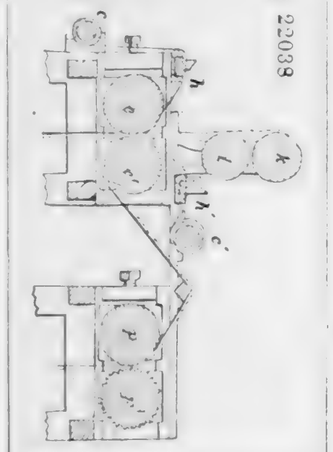
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20967



22038



19960

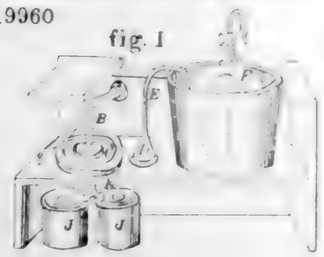


fig. 1

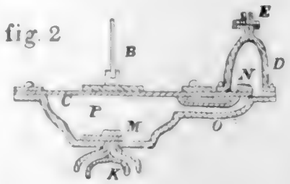
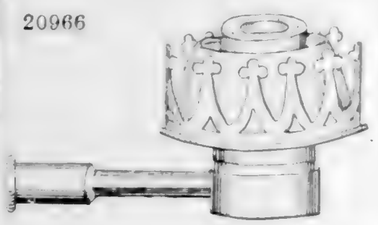
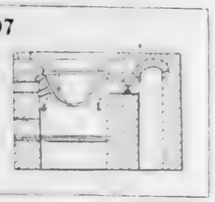


fig. 2

20966



22307



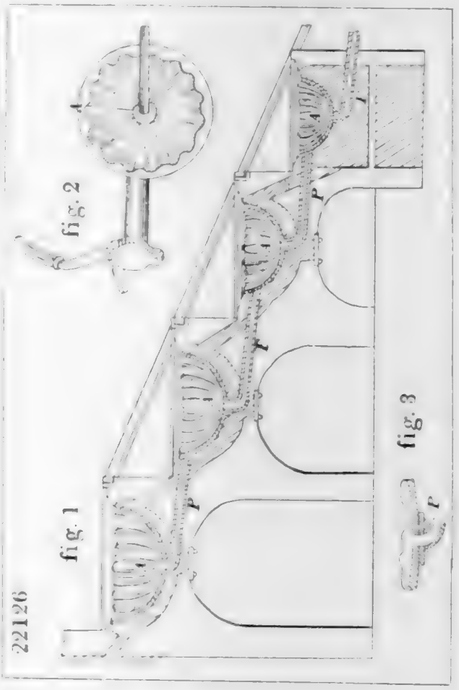


fig. 2

fig. 1

fig. 3

22126

19515

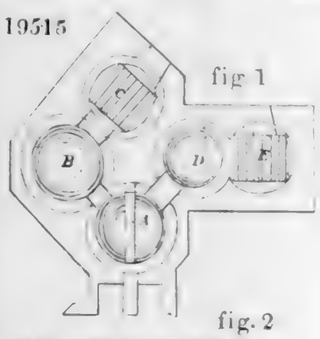
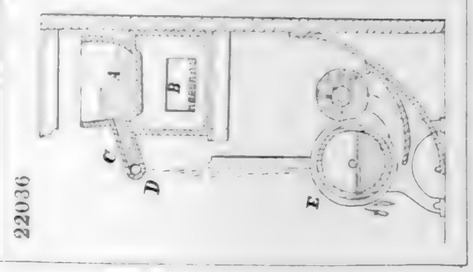


fig. 1

fig. 2

22036



19771

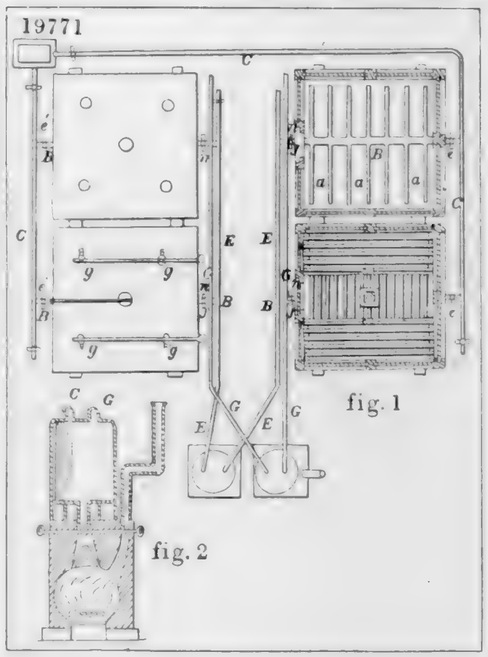
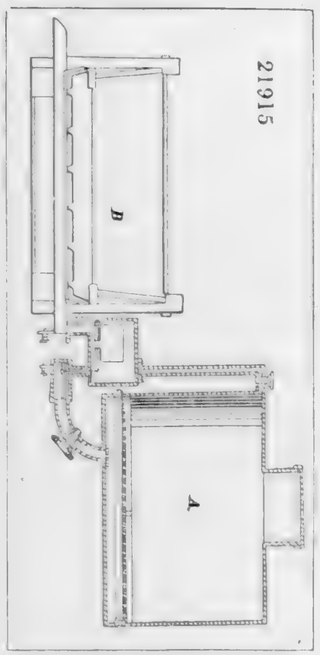
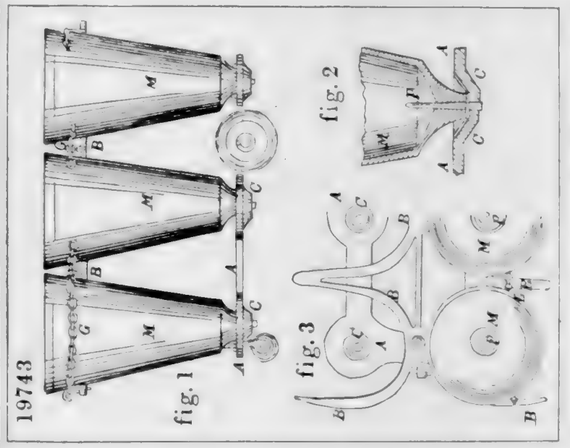


fig. 1

fig. 2

21915





19743

fig. 1

fig. 2

fig. 3

20731

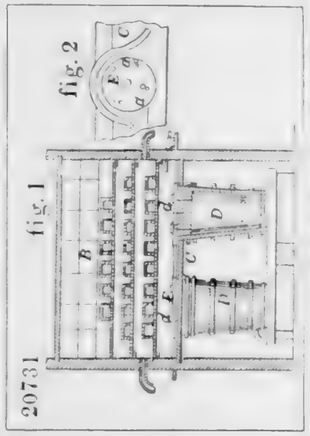


fig. 1

fig. 2

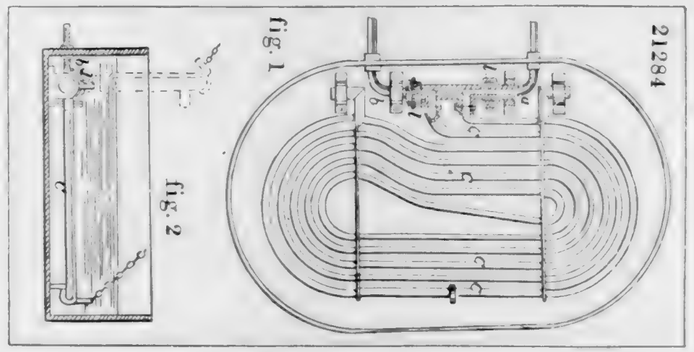
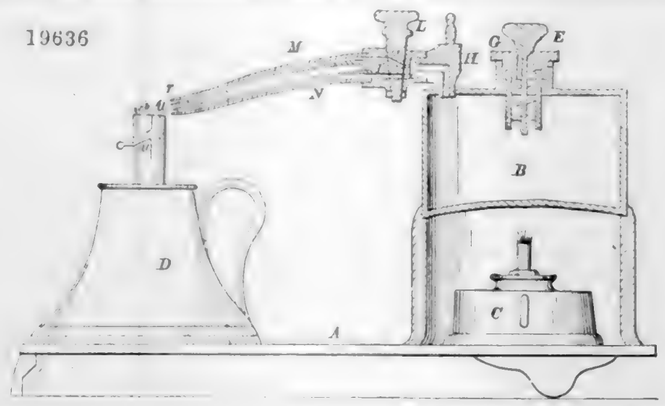


fig. 1

fig. 2

21284

19636



21085

fig. 1

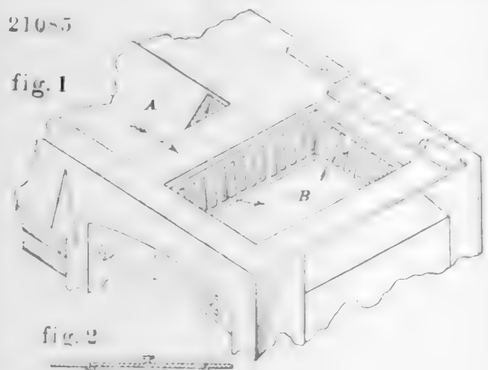
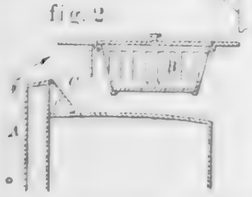
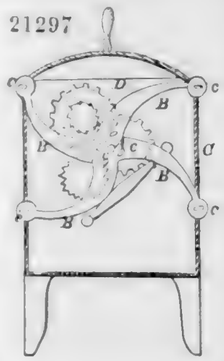


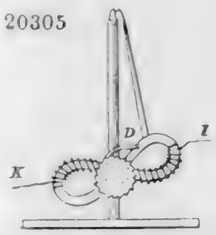
fig. 2



21297



20305



20304

fig. 1

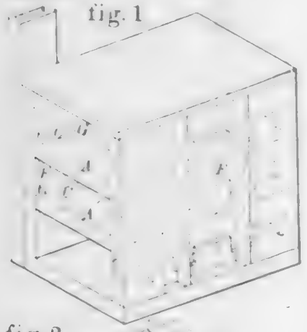
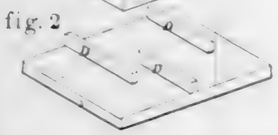
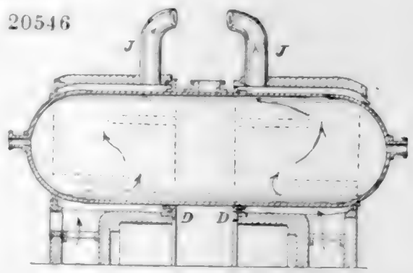


fig. 2



20546



19481

fig. 1

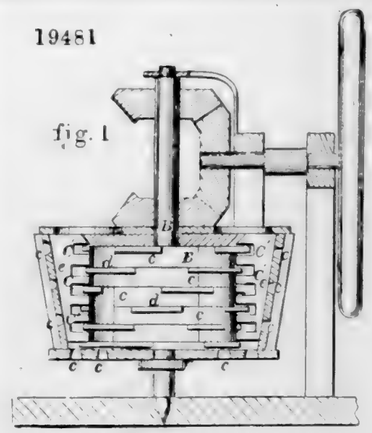
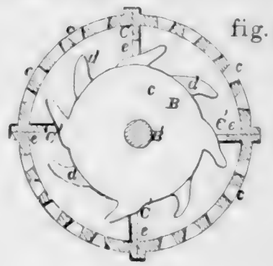
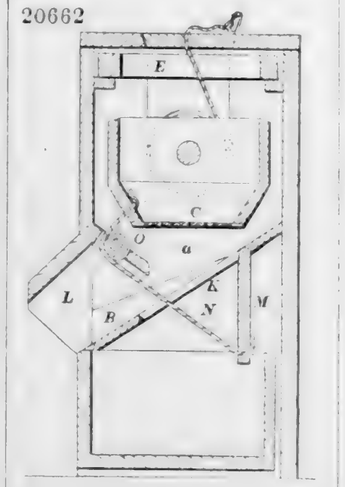


fig. 2



20662



21115

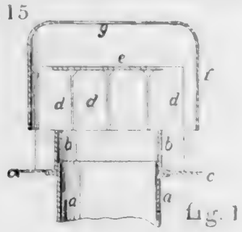
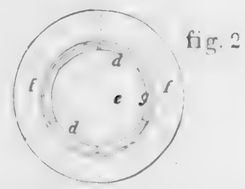


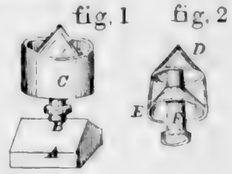
fig. 1

fig. 2

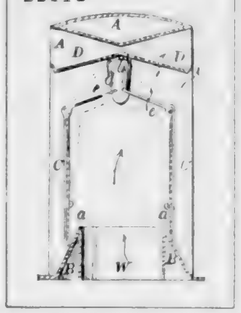


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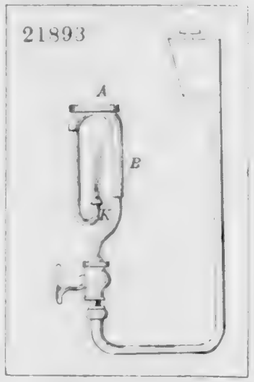
fig. 1 fig. 2



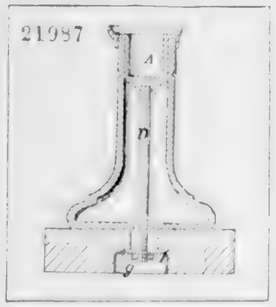
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21893

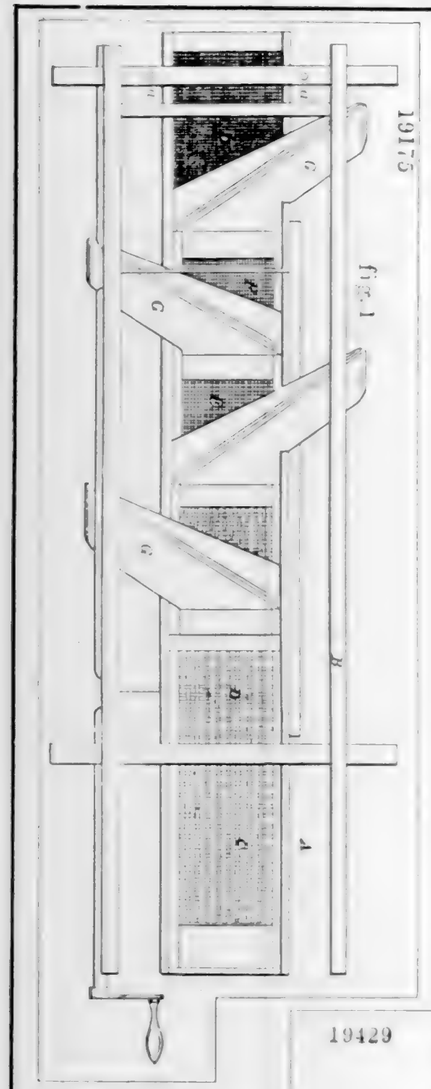


21987



19175

fig. 1



19768

fig. 1

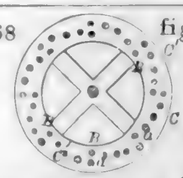


fig. 2

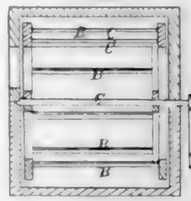
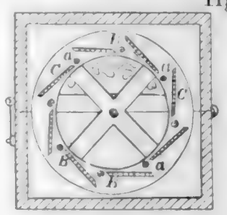


fig. 3

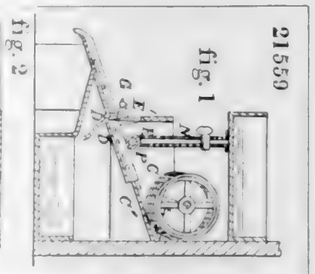


21559

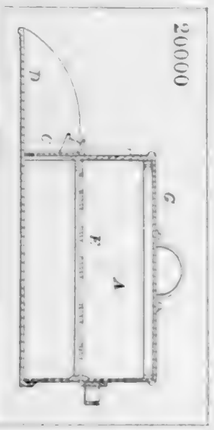
fig. 2



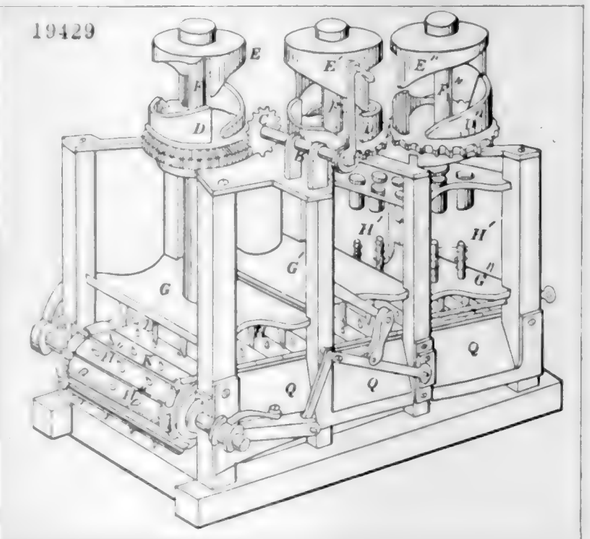
fig. 1



20000



19429



19249

fig. 1

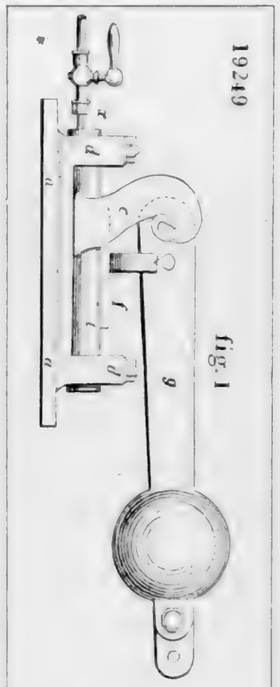
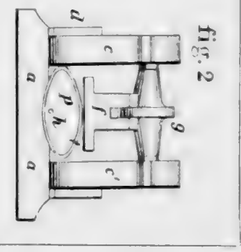


fig. 2



22144

fig. 1

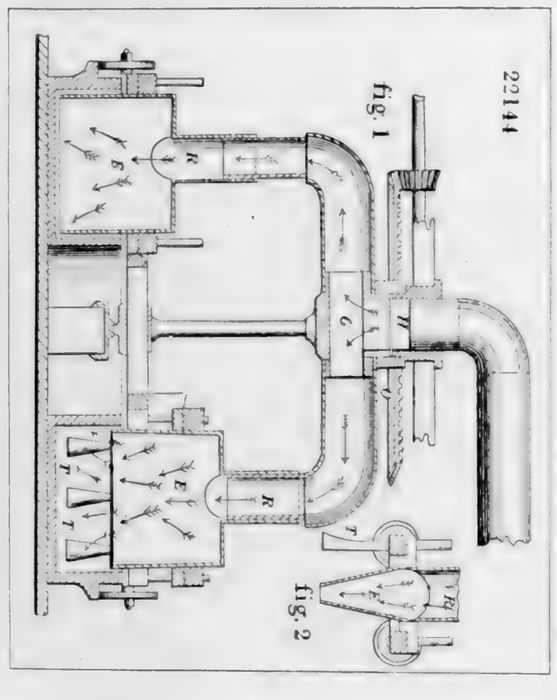
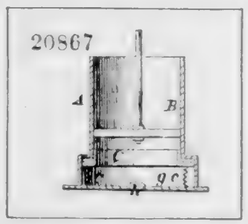
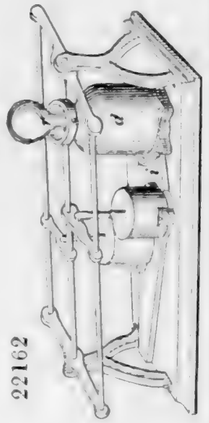


fig. 2

20867



22162



19358

fig. 1

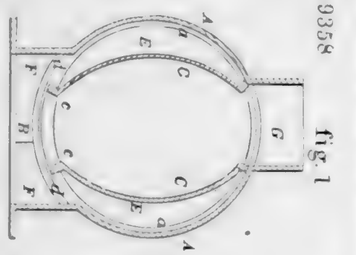
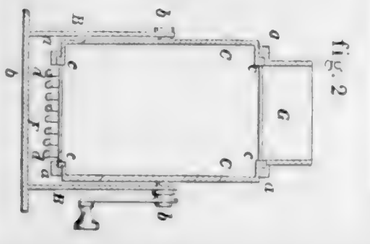
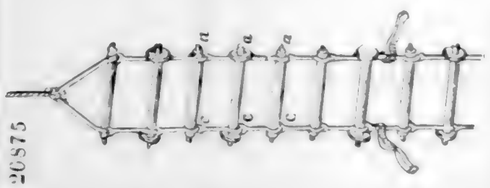


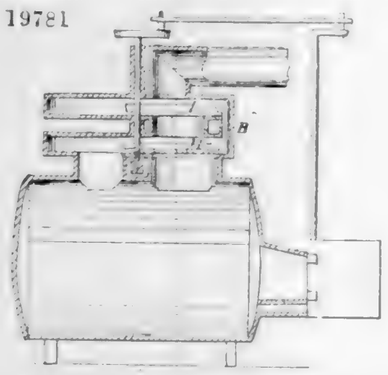
fig. 2



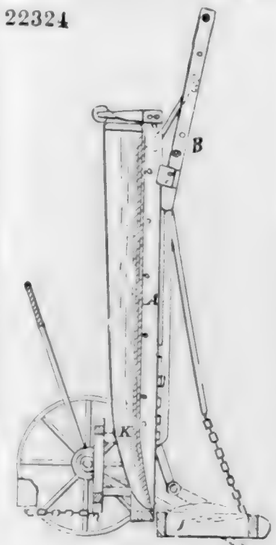
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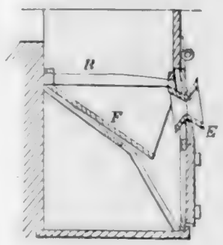
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22324



20836



21094 fig. 1

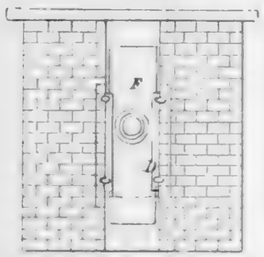
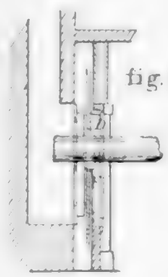


fig. 2



22353 fig. 1

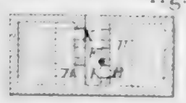
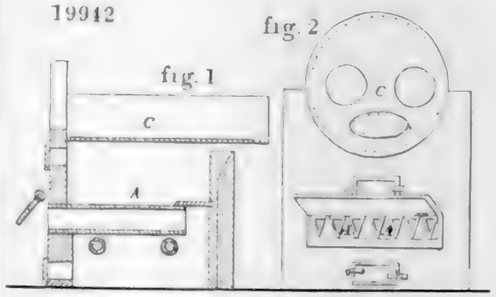


fig. 2



19942 fig. 2

fig. 1



20640

fig. 1

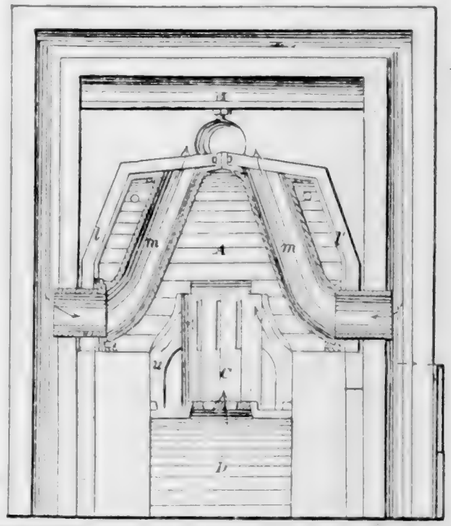
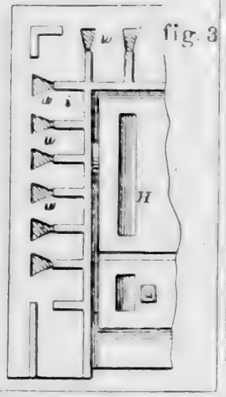


fig. 2



fig. 3



22382 fig. 1

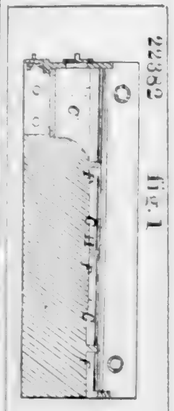
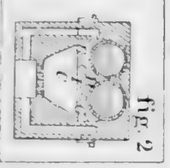


fig. 2



20591

fig. 1

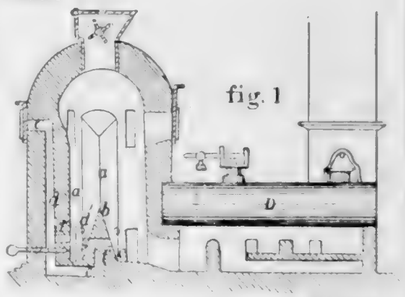
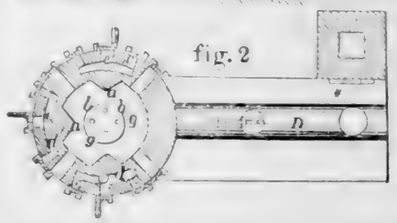


fig. 2



22067

fig. 1

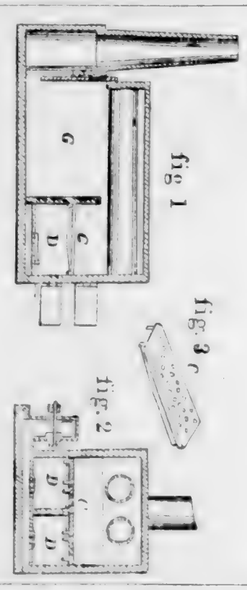


fig. 3

fig. 2

22424

fig. 1

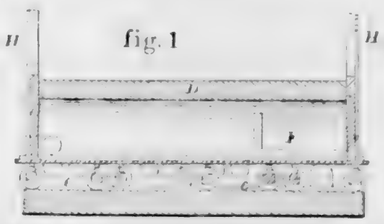
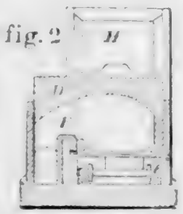
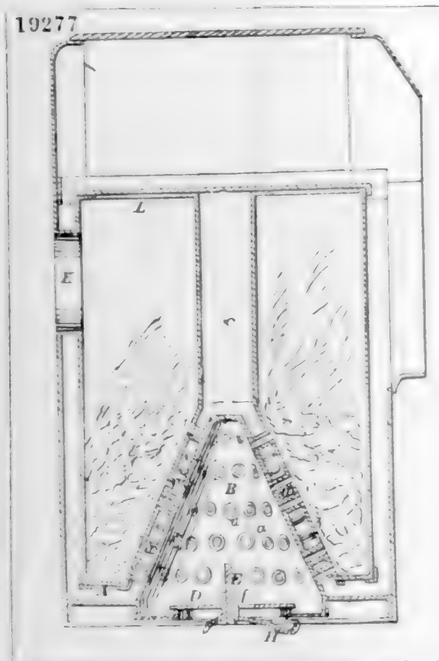


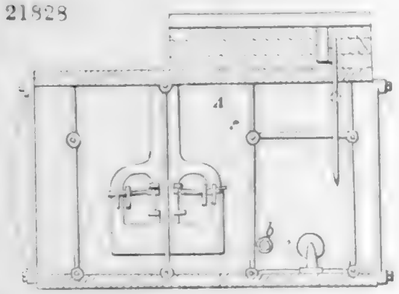
fig. 2



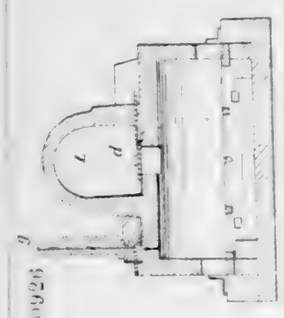
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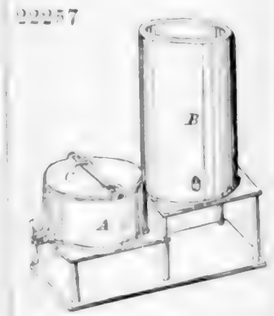
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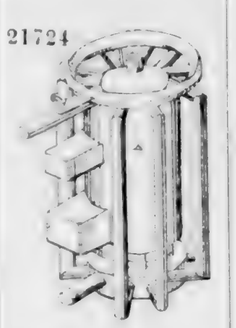
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22257



21724



20916

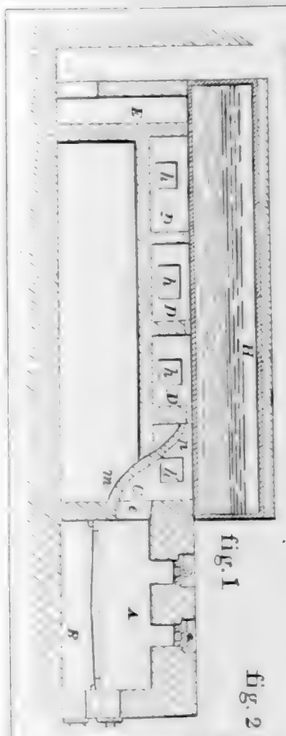
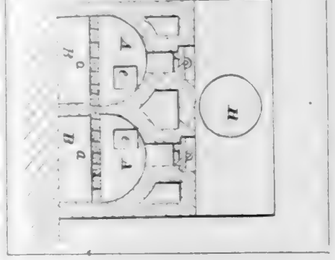


fig. 1

fig. 2



19239

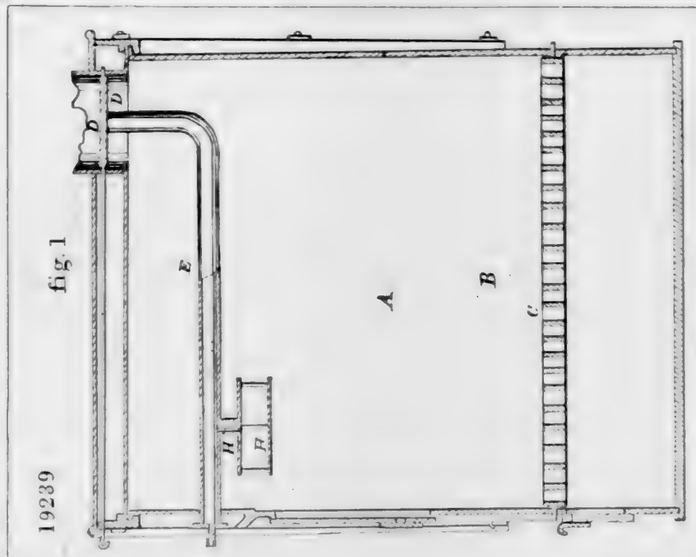


fig. 1



fig. 2

19683 fig. 1

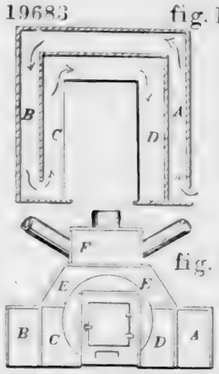
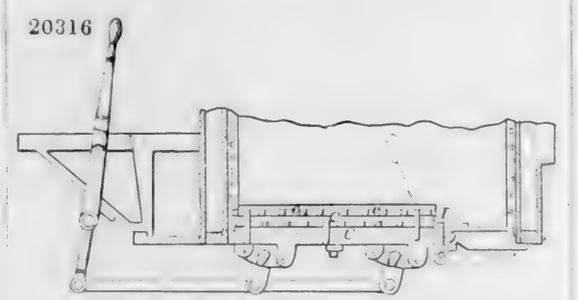


fig. 2

20316



22041 fig. 1

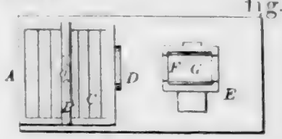
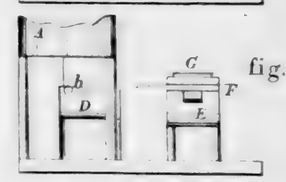


fig. 2



20454 fig. 1

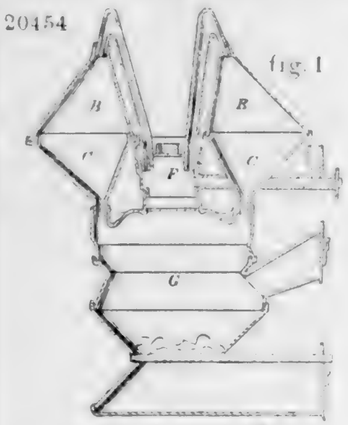


fig. 2



22173

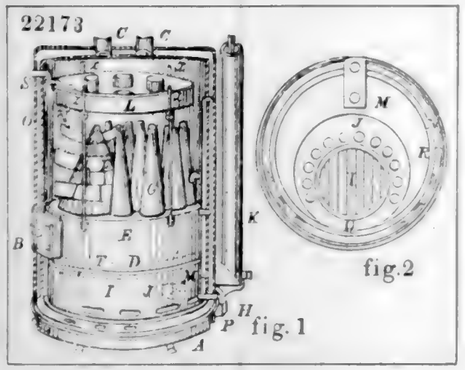
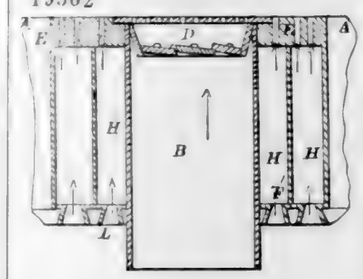


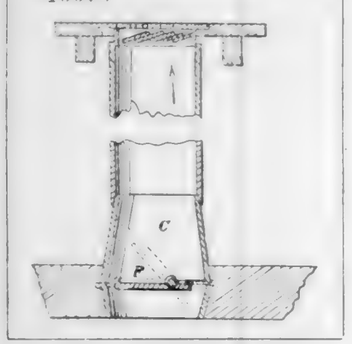
fig. 1

fig.2

19502



19678



21644

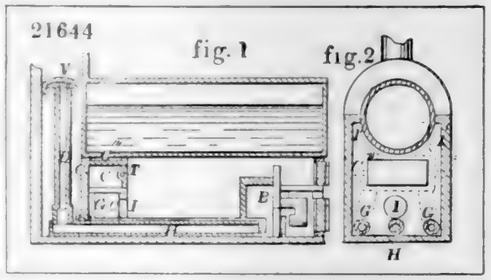
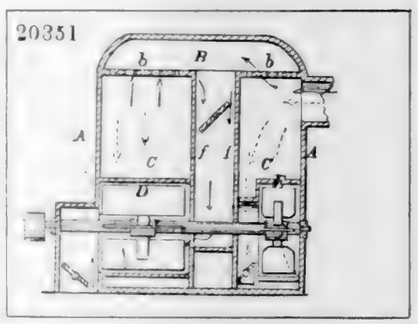
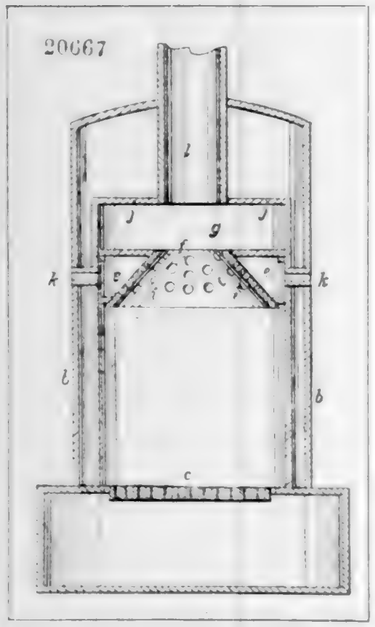


fig. 1 fig.2

20351



20067



19720

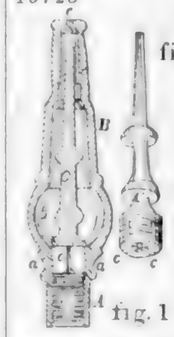
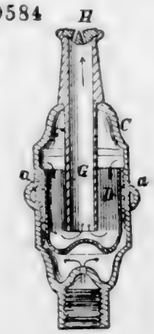


fig.2 fig. 1

19959



20584



20626

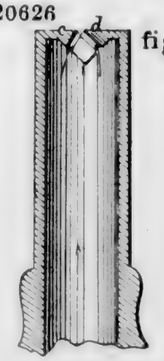


fig. 1

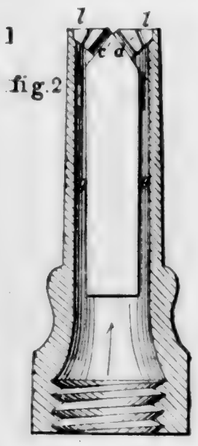


fig.2

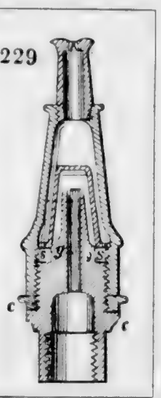
fig.3



fig.4



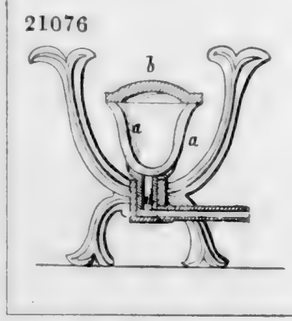
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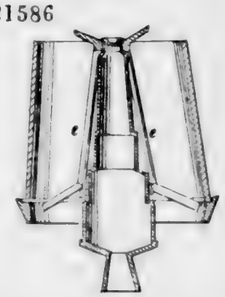
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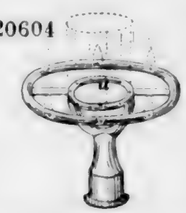


21728



fig. 1 fig.2

20604



21090

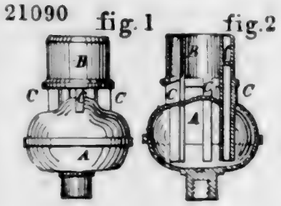
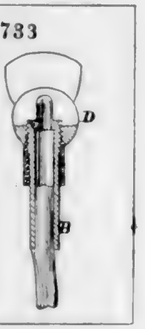
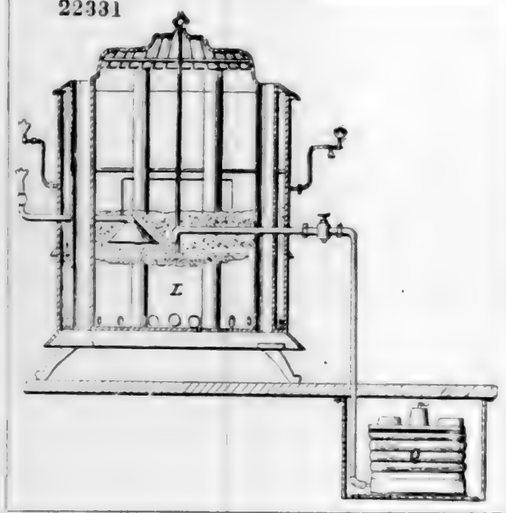


fig. 1 fig.2

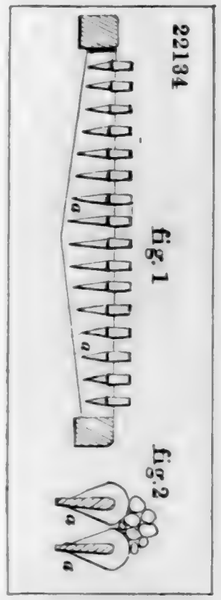
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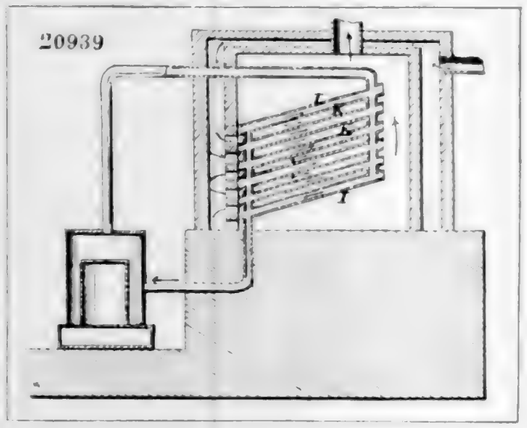
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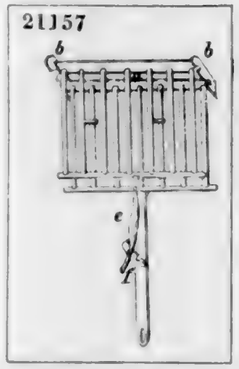
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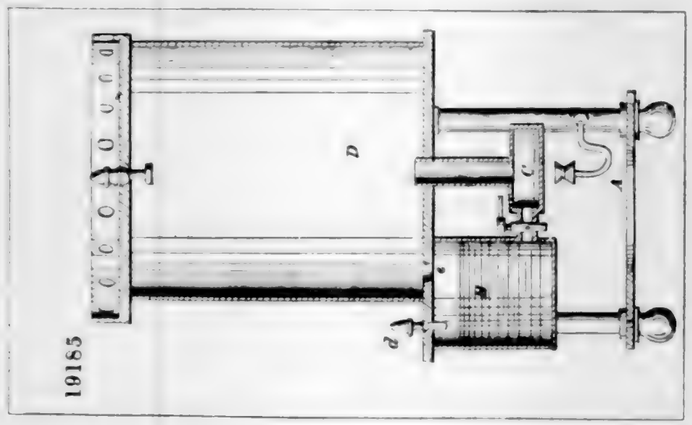
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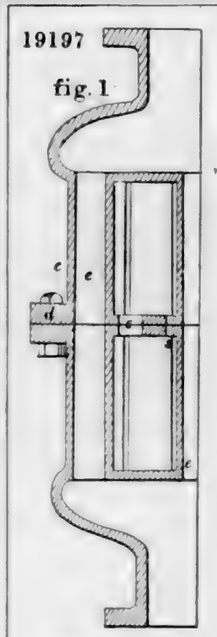
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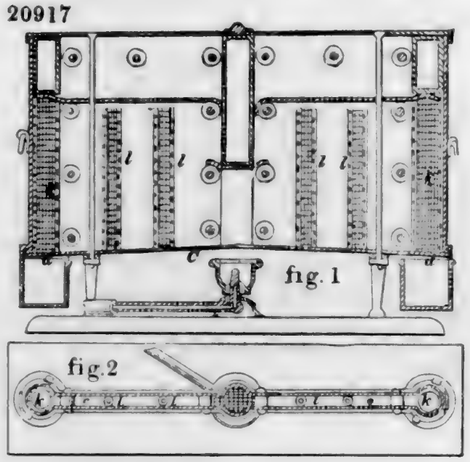
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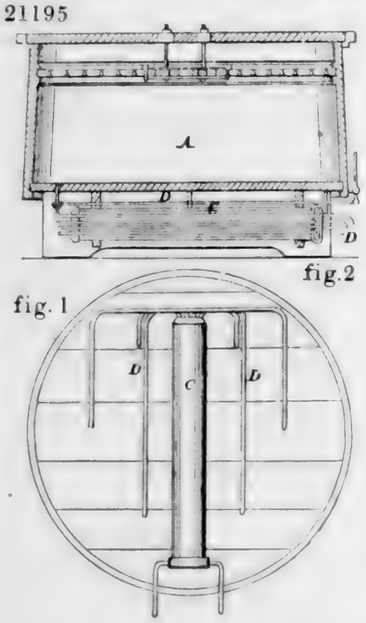
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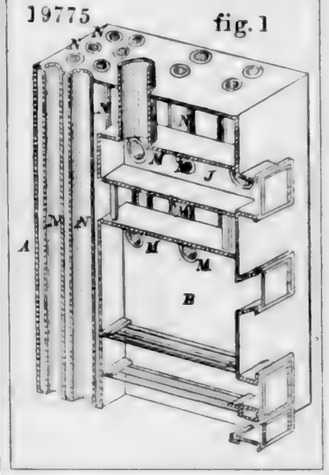
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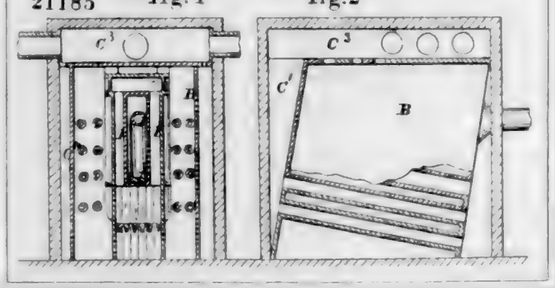
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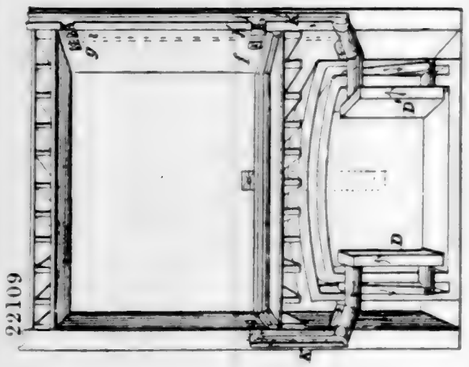
19775



21185



22109



20767 fig. 1

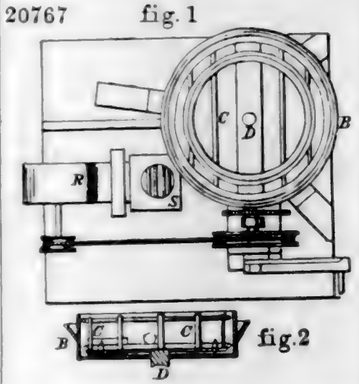


fig. 2



19266

fig. 1

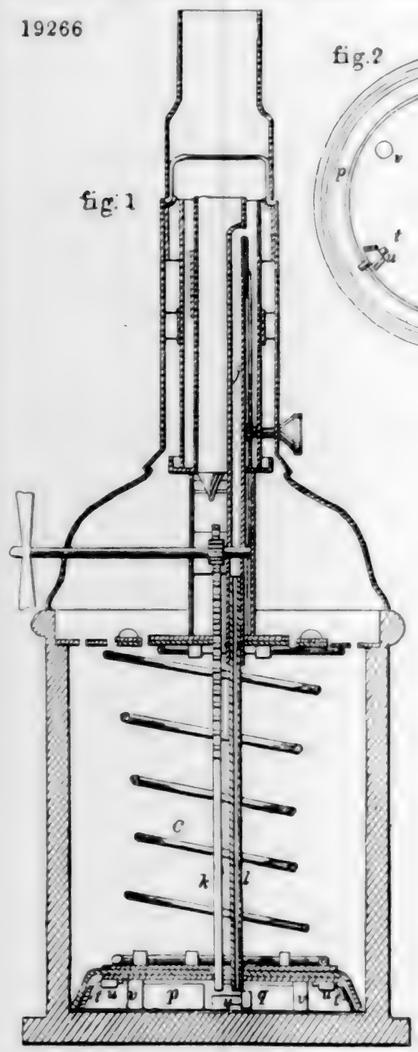
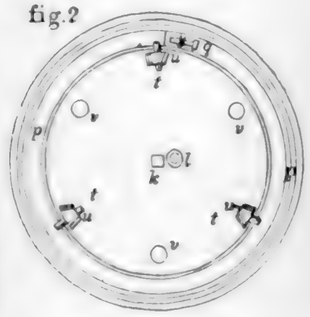
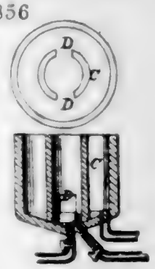


fig. 2



20856

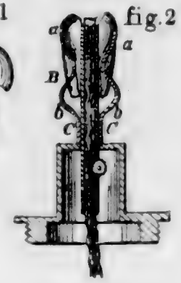


19896

fig. 1



fig. 2



19898

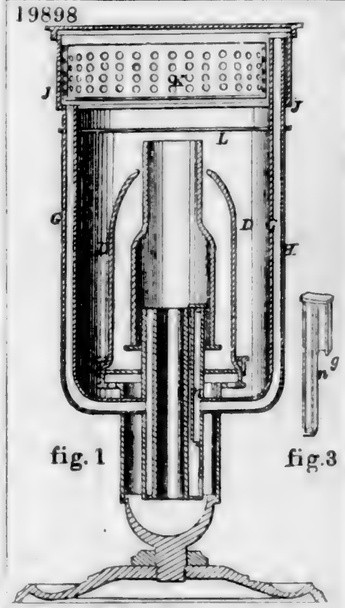


fig. 1

fig. 3

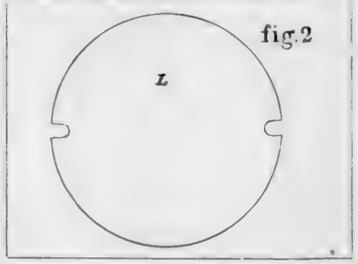


fig. 2

20159

fig. 1

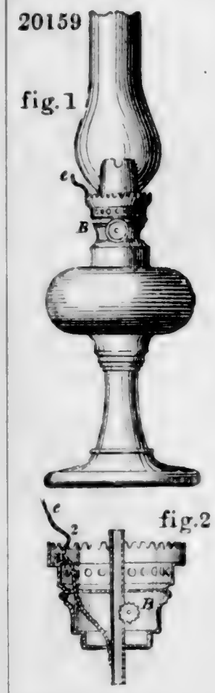
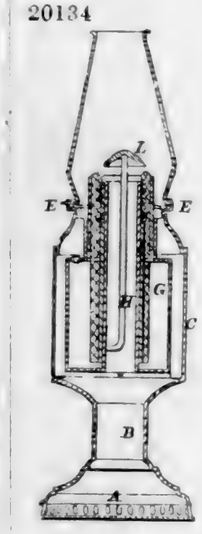
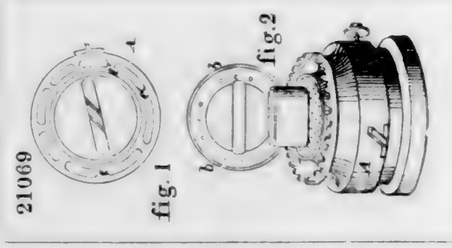


fig. 2

20134





21069

fig. 1

fig. 2

21344

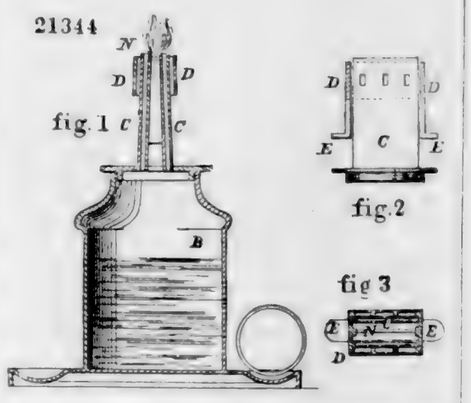
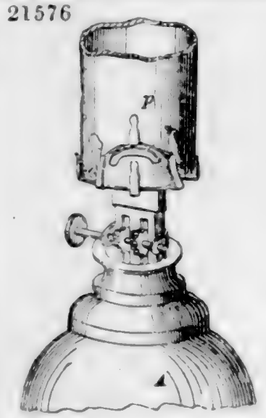


fig. 1

fig. 2

fig 3

21576



22237

fig. 1

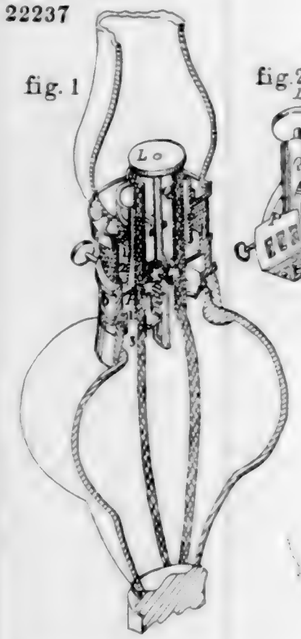
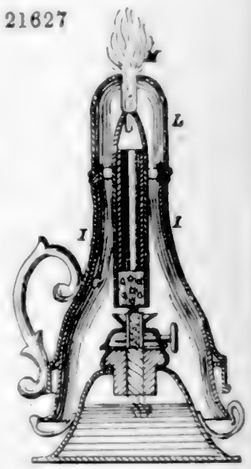


fig. 2



21627



20977

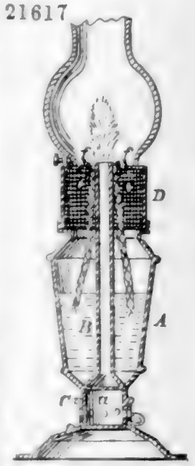


fig. 1

fig. 2



21617

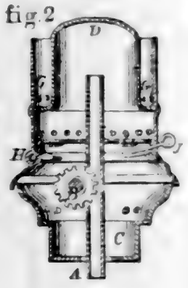


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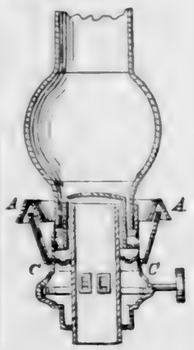
fig. 1



fig. 2



20178

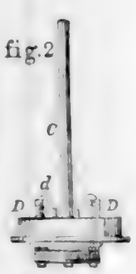


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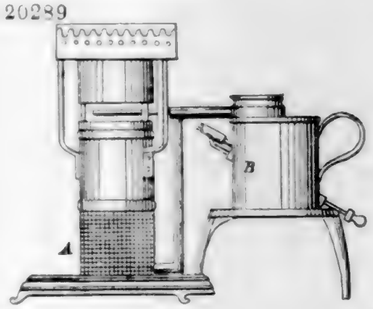
fig. 1



fig. 2



20289



22253

fig. 1

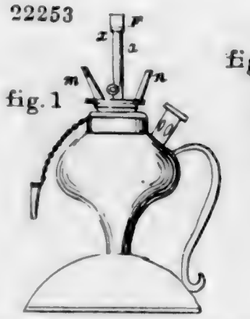
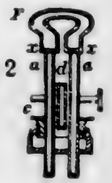


fig 2



20296

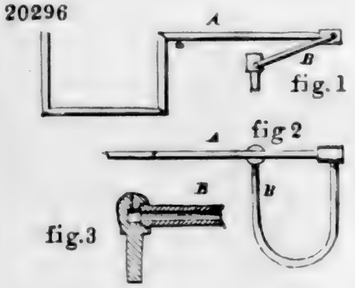
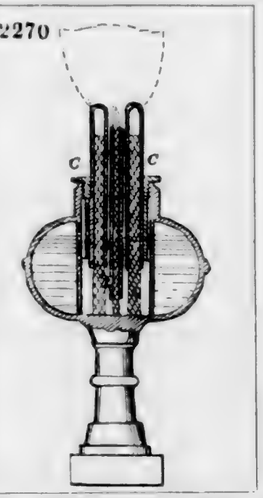


fig. 1

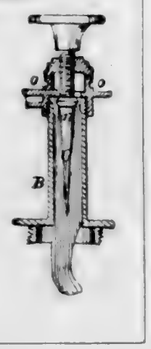
fig 2

fig. 3

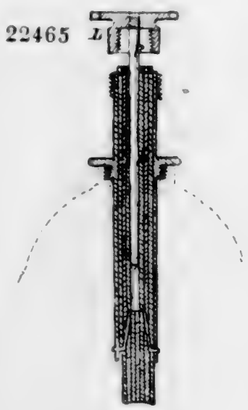
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22230



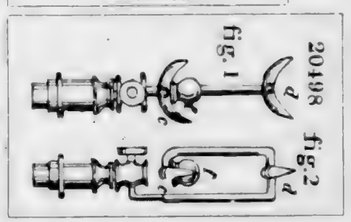
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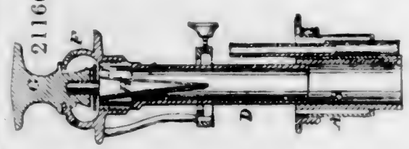
20498

fig. 1

fig. 2



21166



20232

fig. 1

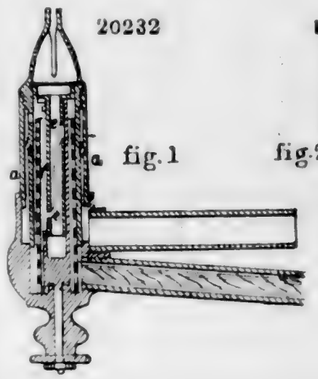
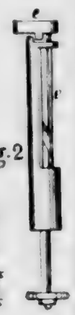


fig. 2



21053

fig. 1



fig 2

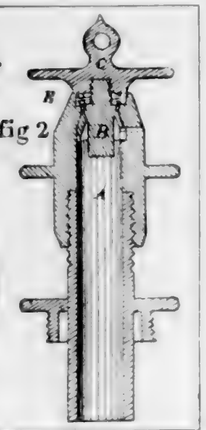
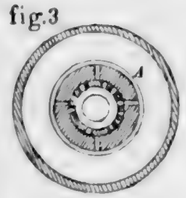


fig. 3



20153

fig. 1

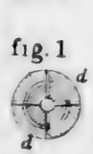
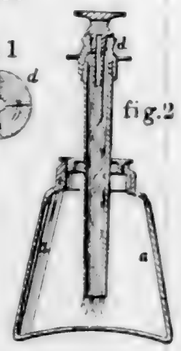
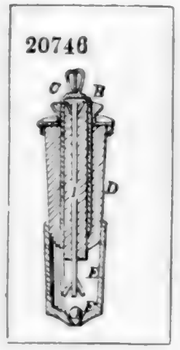


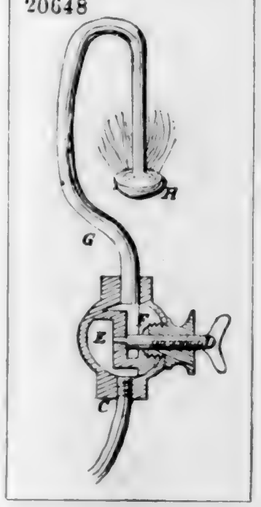
fig.2



20746



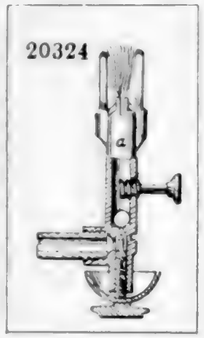
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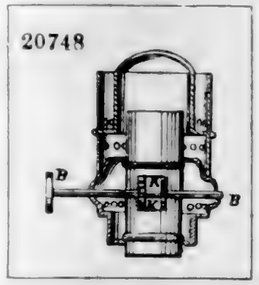
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20324



20748



20641

fig. 1

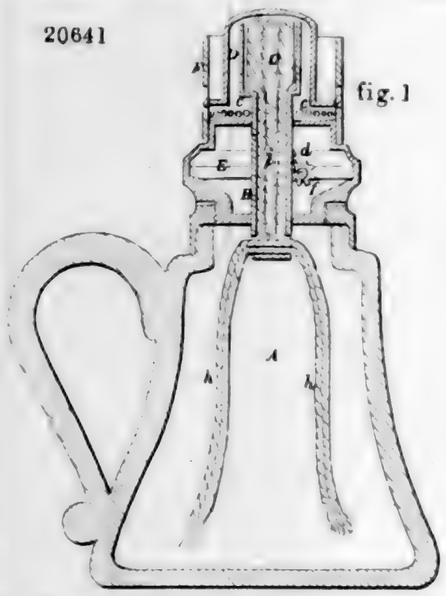
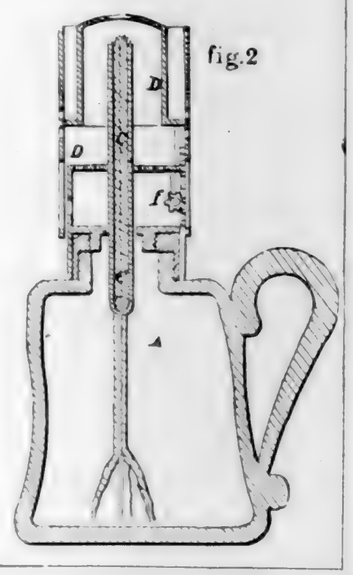
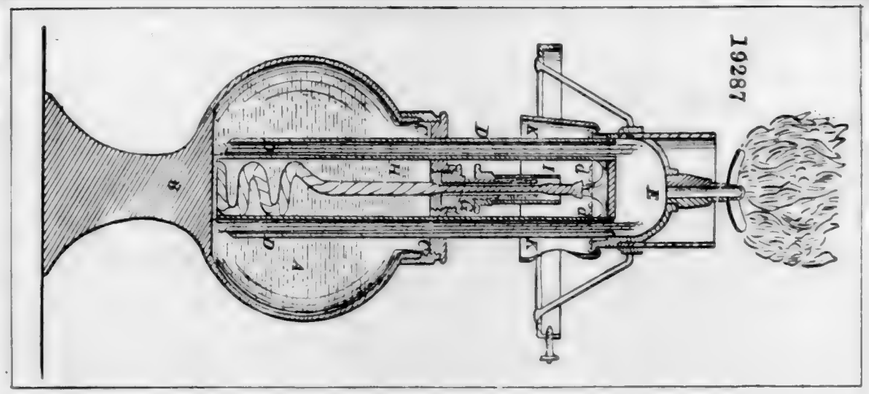


fig.2



19287



22099

fig. 1

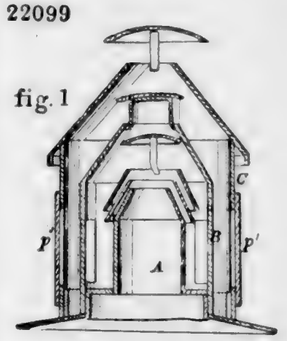
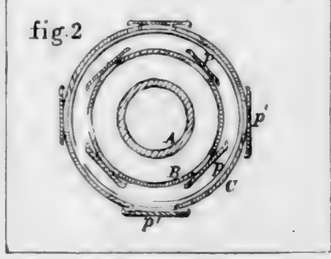


fig.2



20573

fig. 1

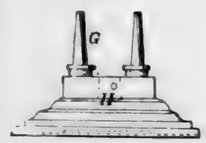
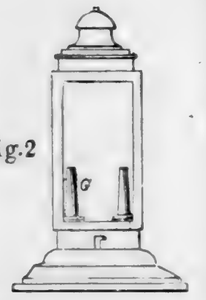


fig.2



20373

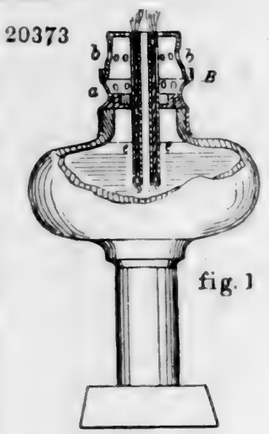
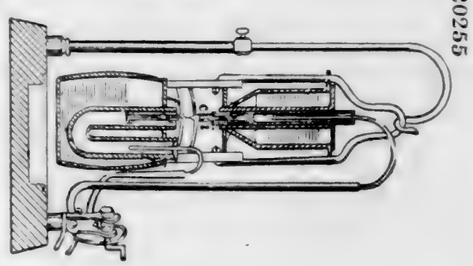


fig. 1

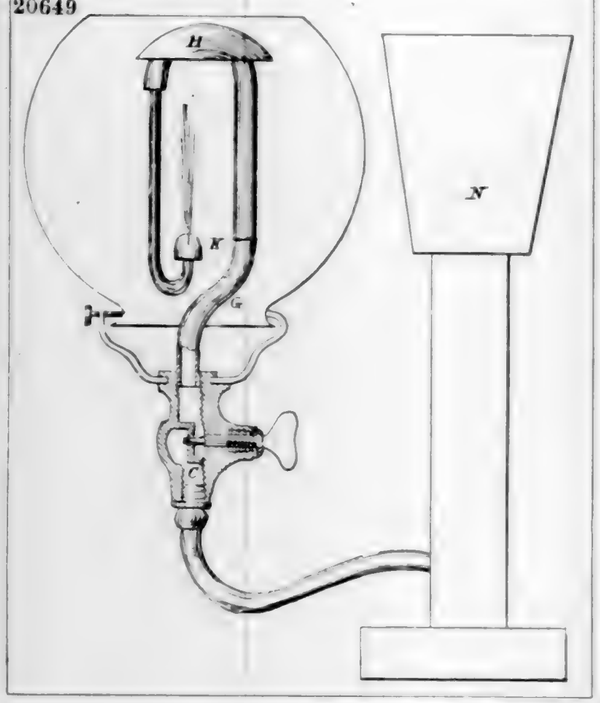


fig.2

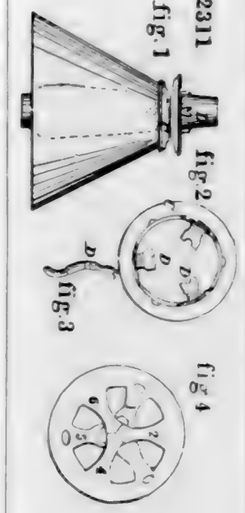
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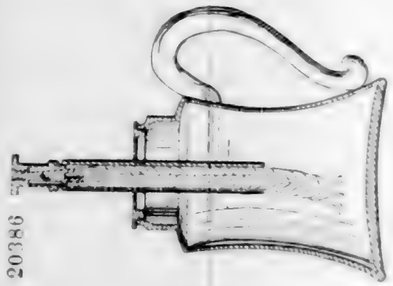
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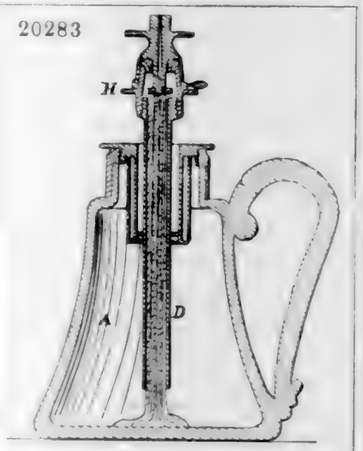
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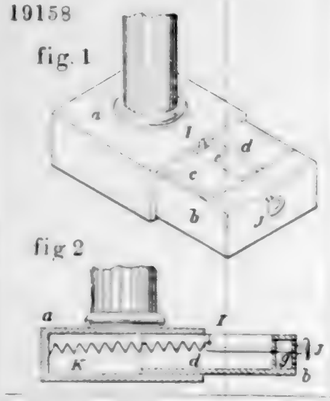
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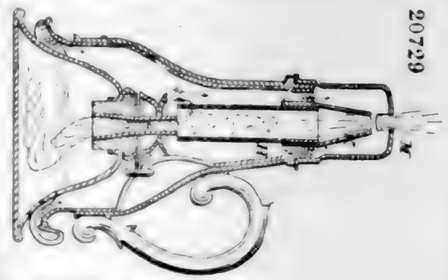
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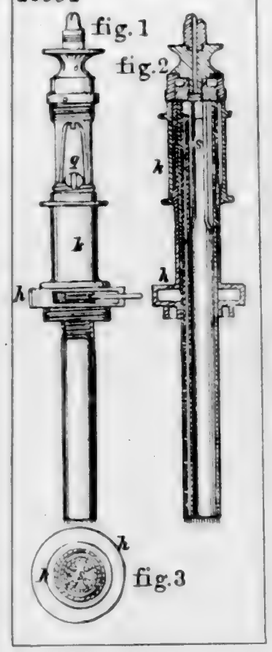
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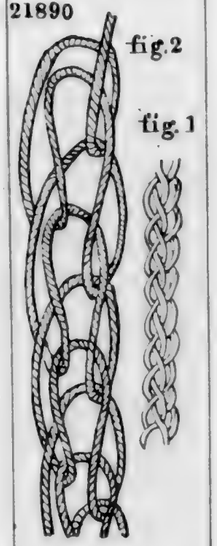
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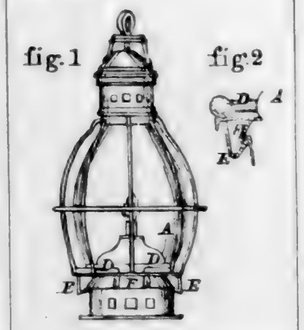
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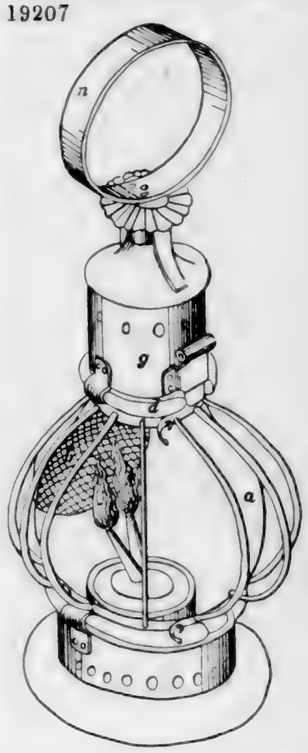
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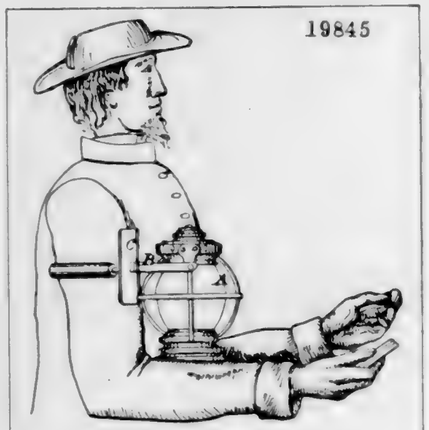
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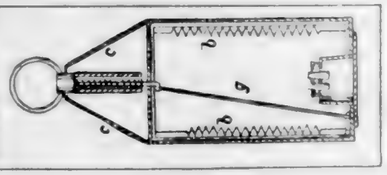
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19845



21521



19044

fig. 1

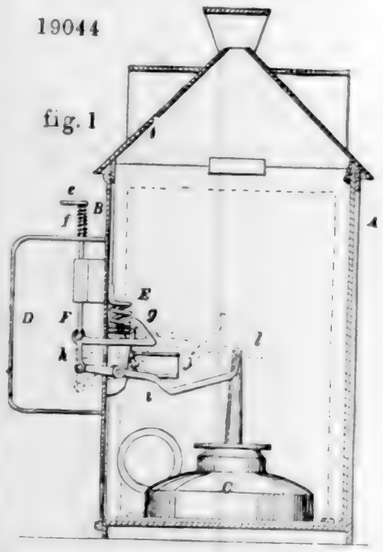
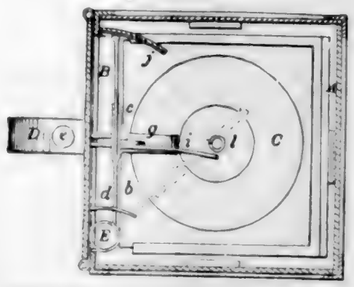
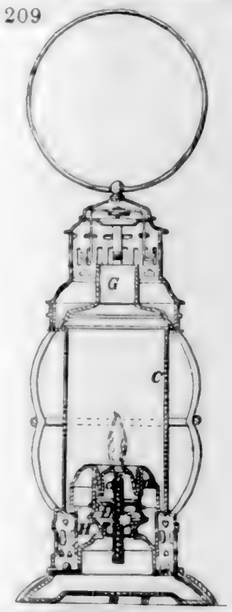


fig. 2



21209



20404

fig. 1

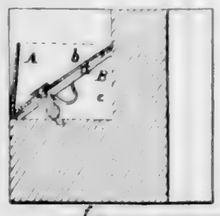
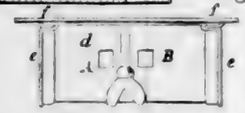


fig. 2



20302

fig. 1

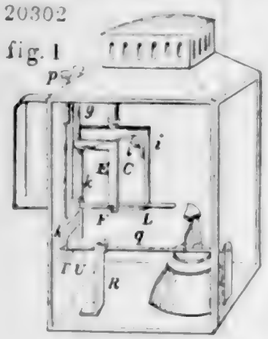
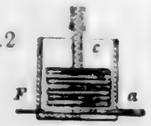
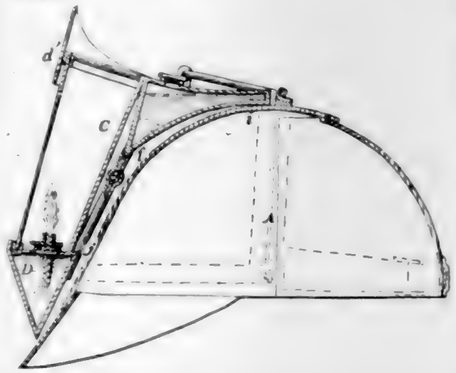


fig. 2



21485



21271

fig. 1

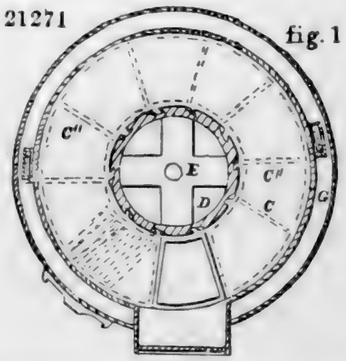
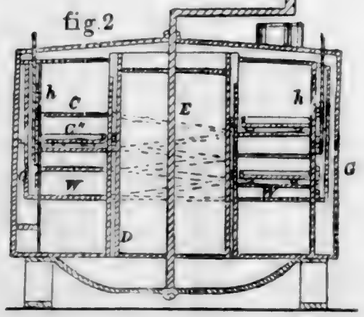


fig. 2



21147

fig. 1

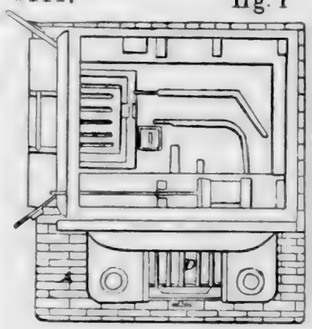
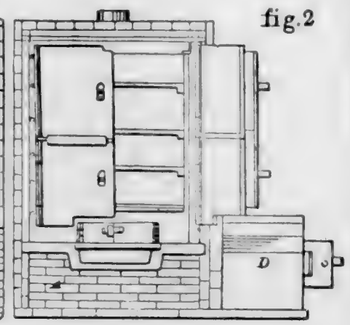
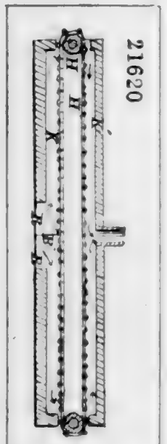


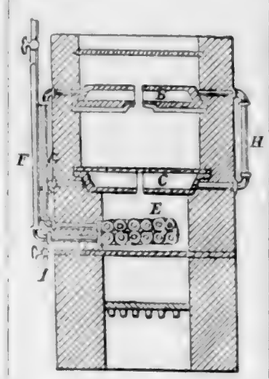
fig. 2



21620



21610



19591

fig. 1

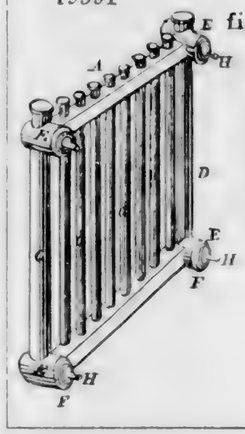
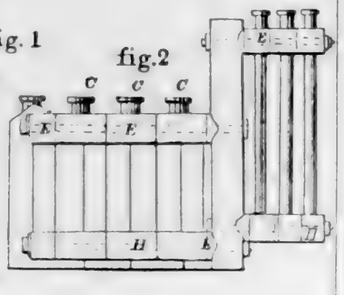


fig. 2



22289

fig 1

fig.2

fig.3

20084

fig 1

fig.2

22120 fig. 1

fig.2

21608

20132

fig. 1

fig.2

21702

fig. 1

fig. 2

19368

fig.2

fig. 1

21845

21387

20589

20106 fig. 1

fig.2

fig.3

21416

fig.1

fig 2

19923

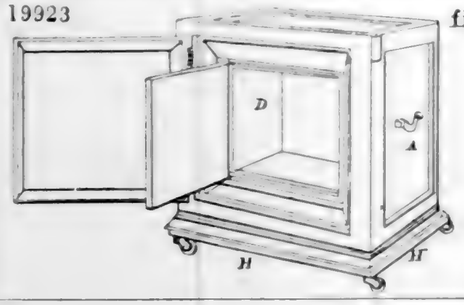


fig. 1

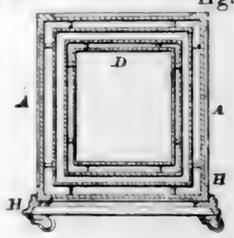
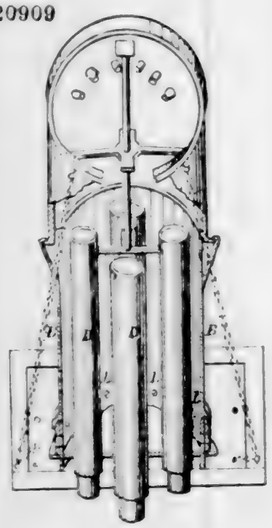


fig.2

20909



20939

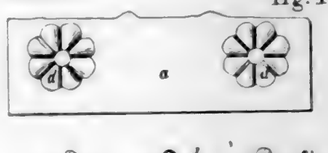
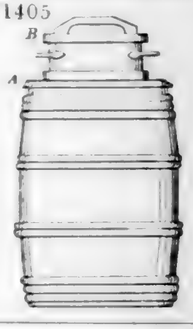


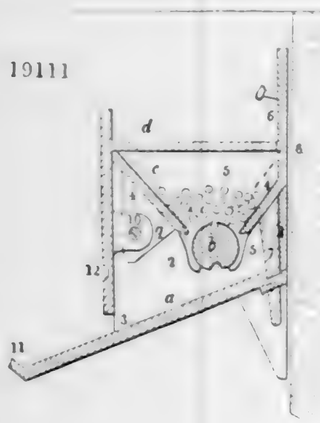
fig. 1

fig.2

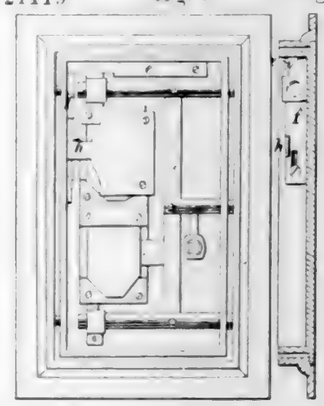
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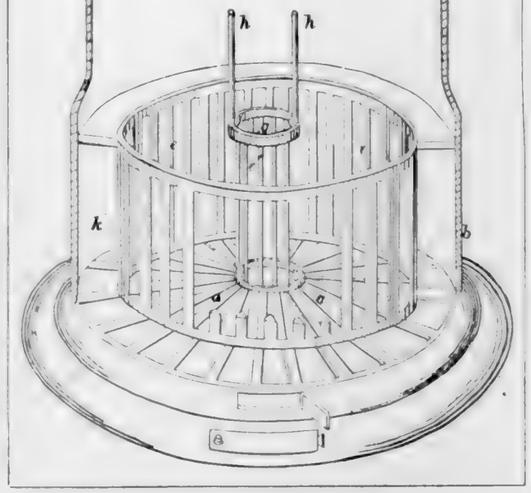
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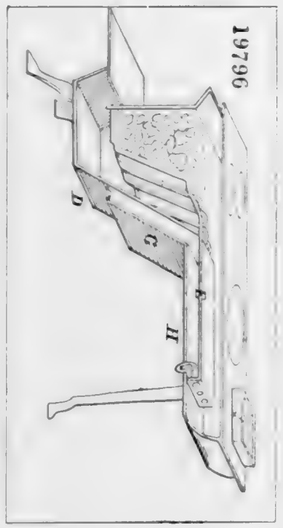
21119 fig. 1 fig.2



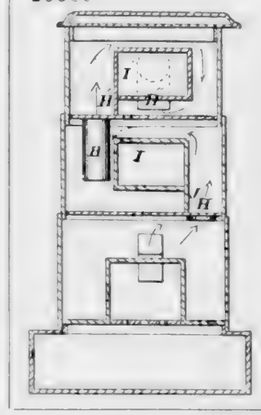
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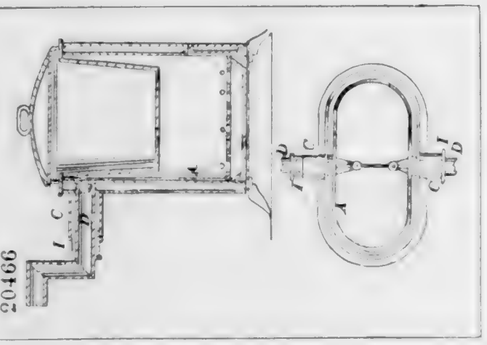
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20389



20466



21103

fig. 1

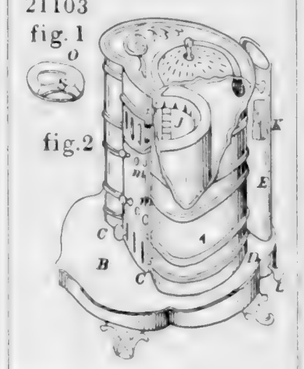


fig.2

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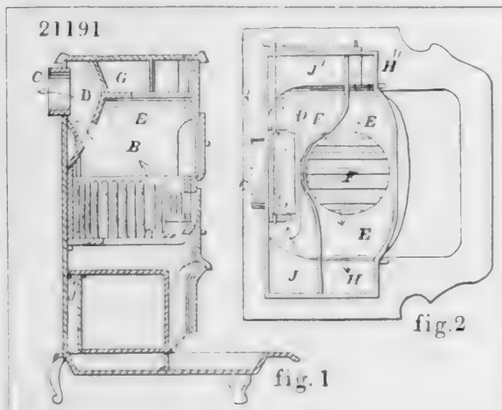


fig.2

fig. 1

17

21084

fig. 4

fig. 2

fig. 3

fig. 1

22277

21446

22250

fig. 1

fig. 2

21938

19650

fig. 2

fig. 1

22342

22276

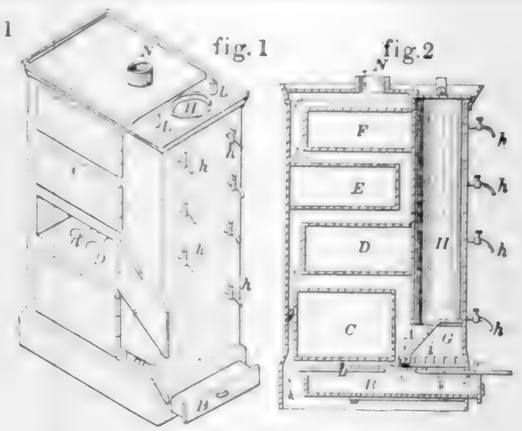
22392 fig. 1 fig. 2

22416

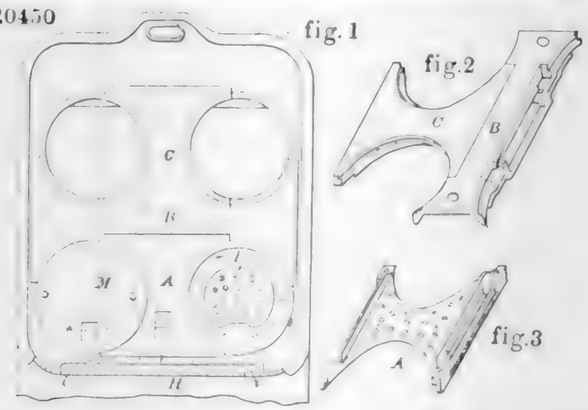
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21731 fig. 1 fig. 2

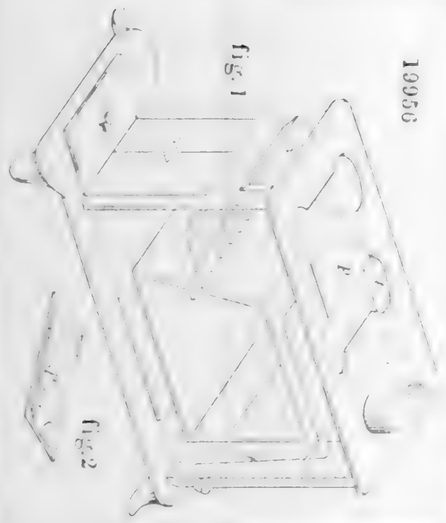
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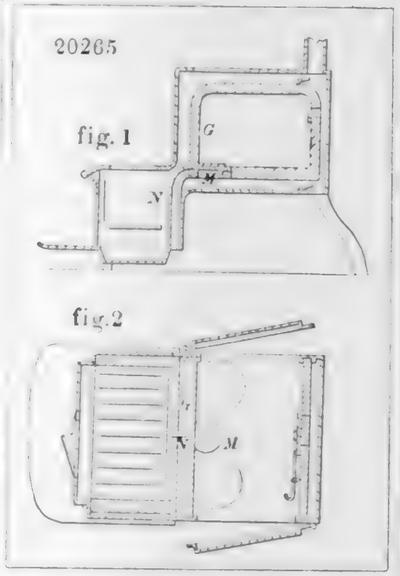
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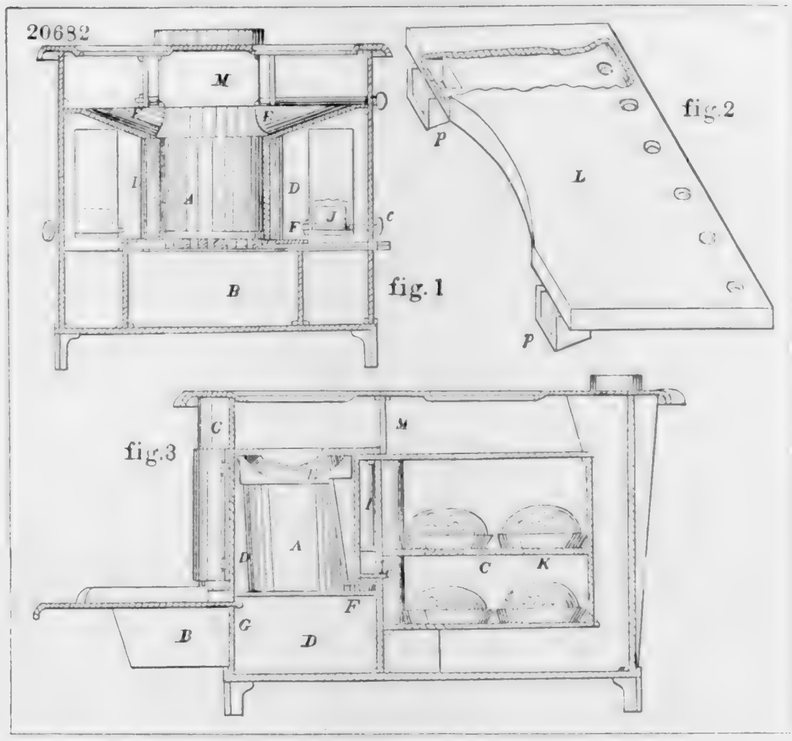
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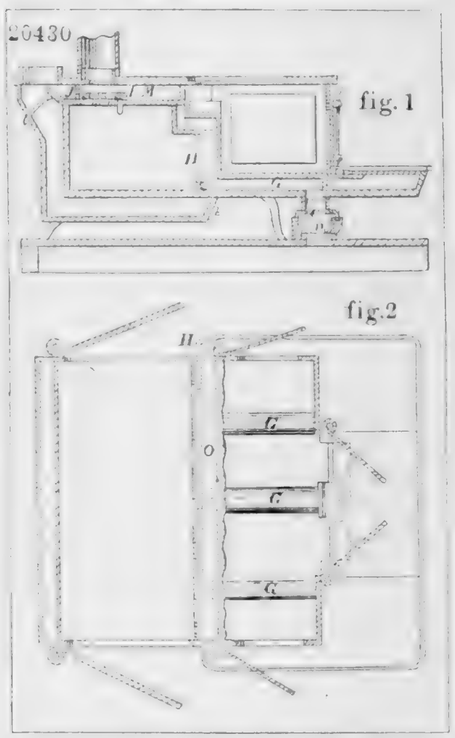
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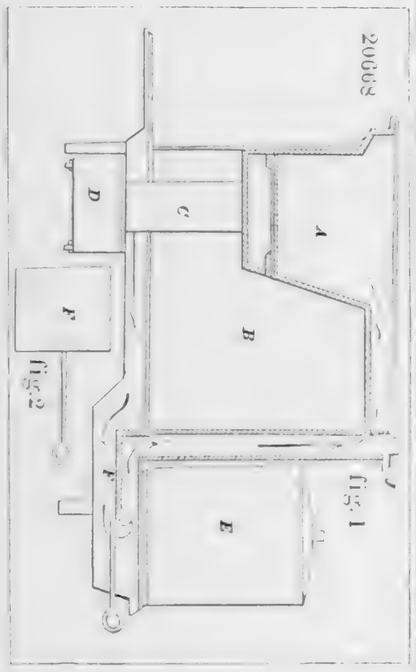
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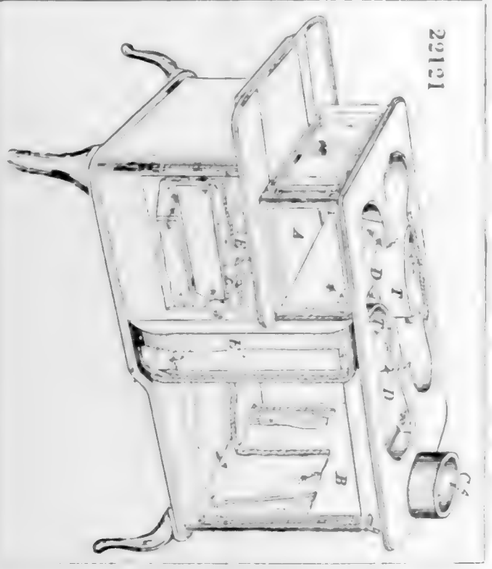
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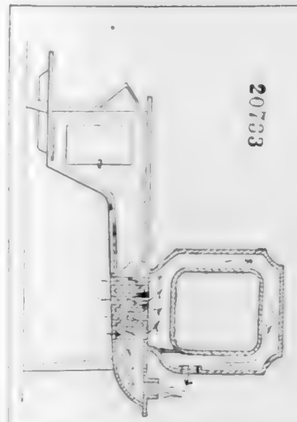
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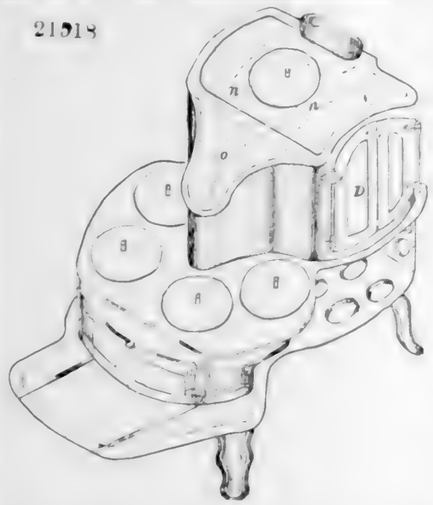
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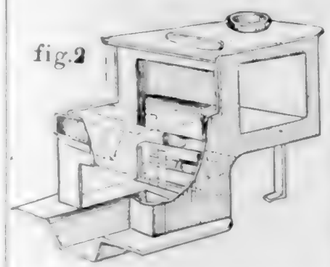


22147

fig. 1



fig. 2



21900

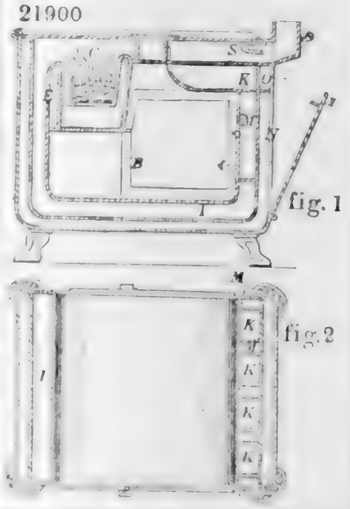


fig. 1

fig. 2

21171

fig. 1

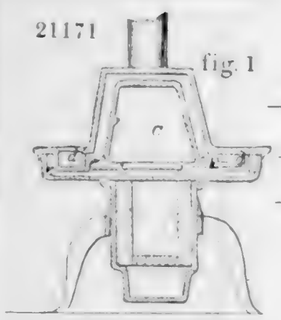
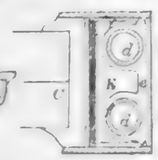
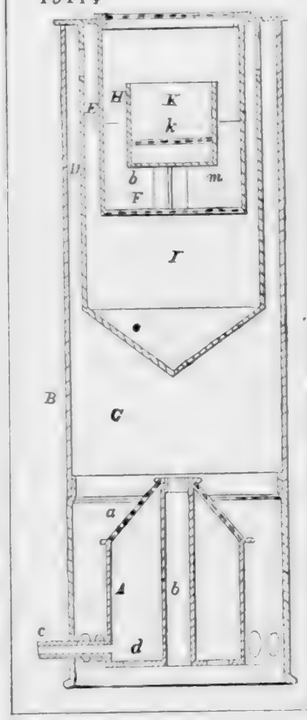


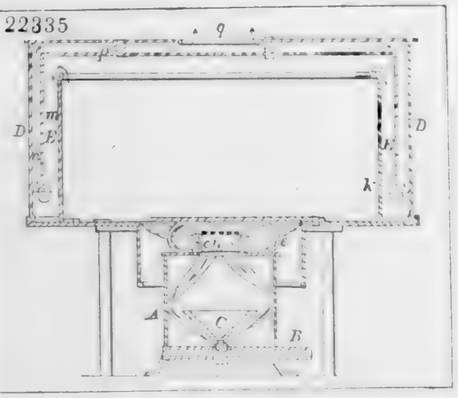
fig. 2



19114



22335



21075

fig. 1

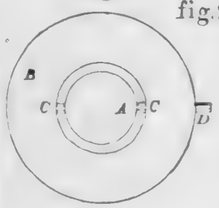
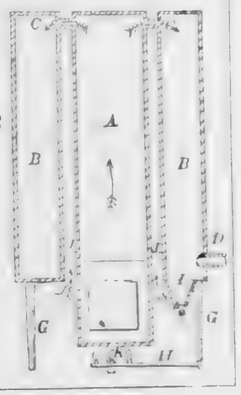
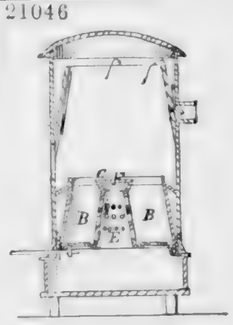


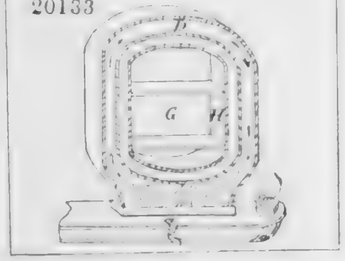
fig. 2



21046



20133



22223

fig. 1

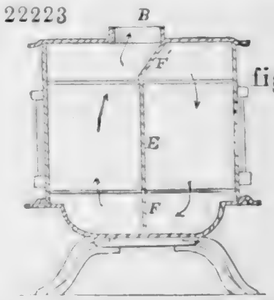
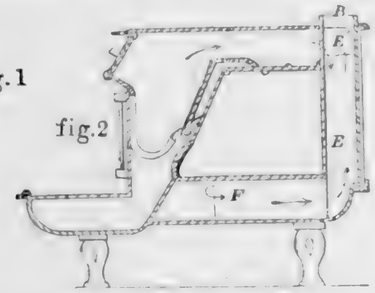
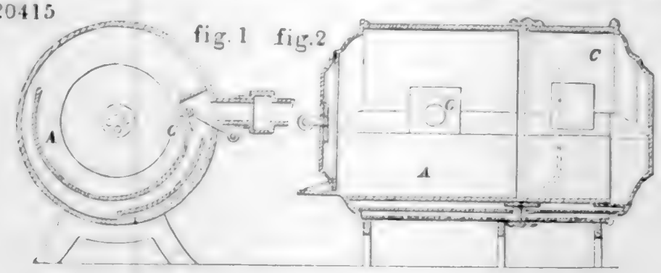


fig. 2



20415

fig. 1 fig. 2



21410

fig. 1

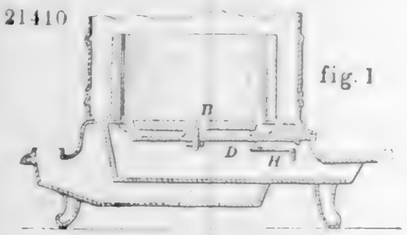
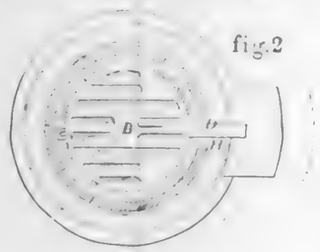


fig. 2



19713

fig. 1

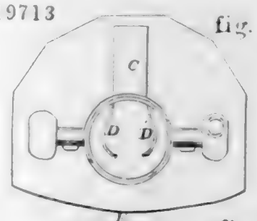
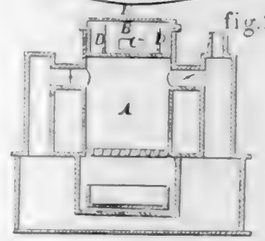


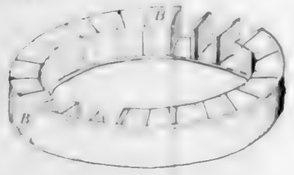
fig. 2



21707



21447



21467

fig. 1

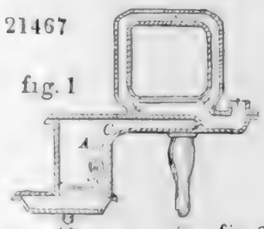
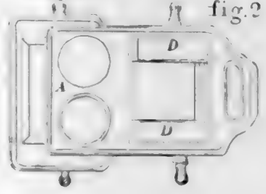
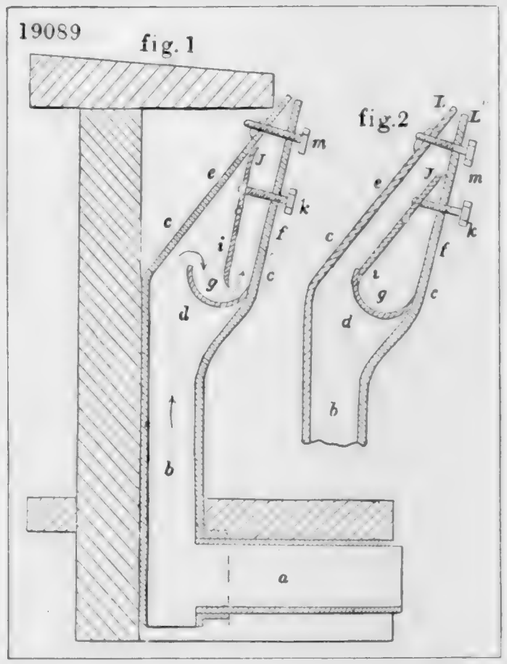


fig. 2



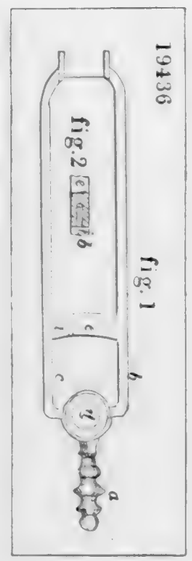
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fig. 1 fig. 2

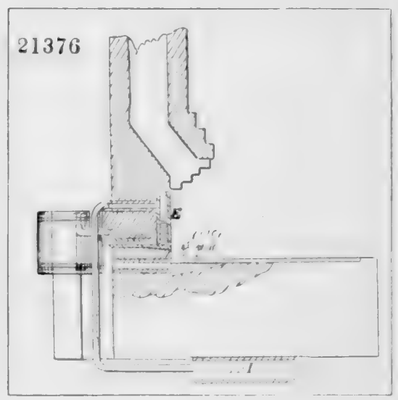


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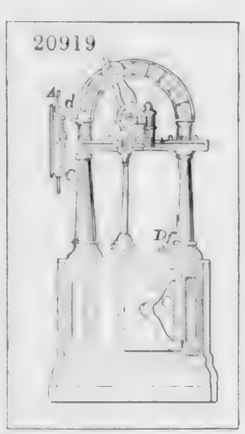
fig. 1



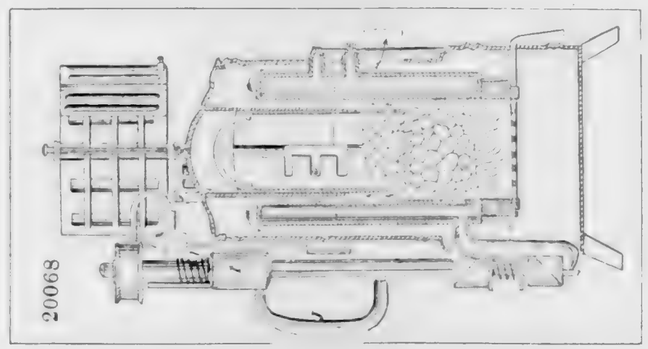
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20919



20068



19669

fig. 1

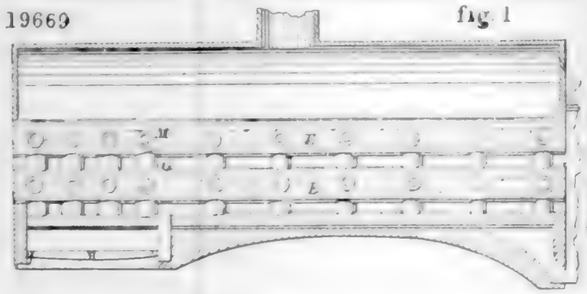
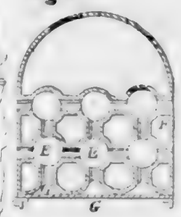


fig.2



19621

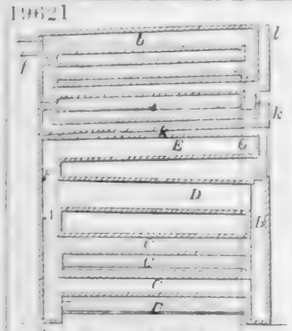
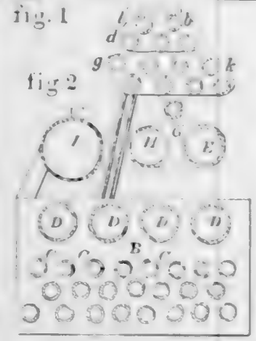


fig. 1

fig 2



19601

fig. 1



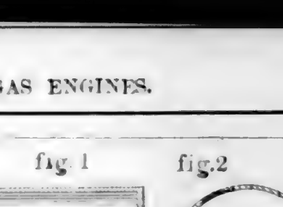
fig.2



30805



21017



20319

fig. 1

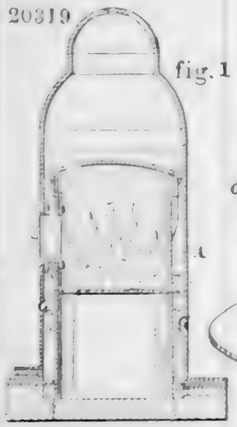
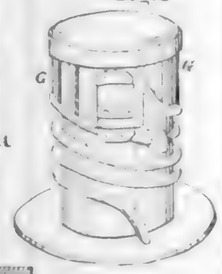


fig.2



20167

fig. 1

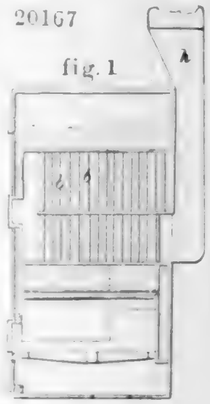
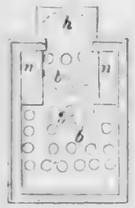


fig.2



22303

fig. 1

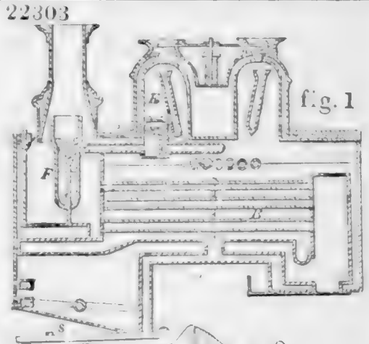
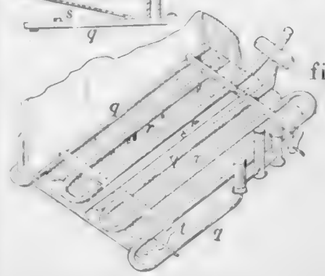


fig.2



22334

fig. 1

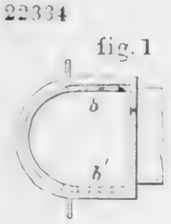
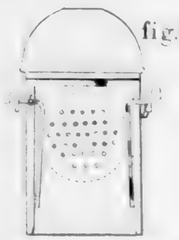


fig.2



19497

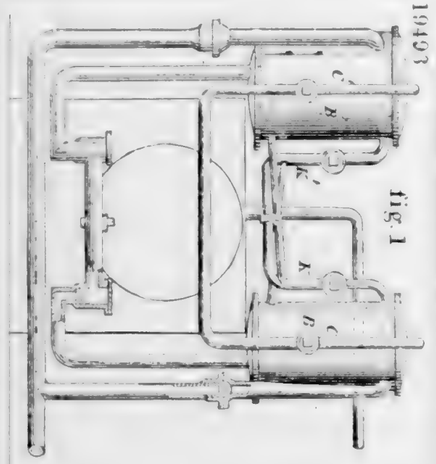
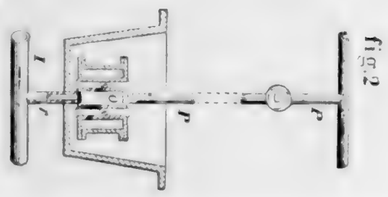
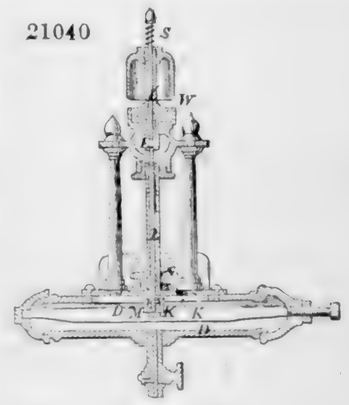


fig. 1

fig. 2



21040



21003

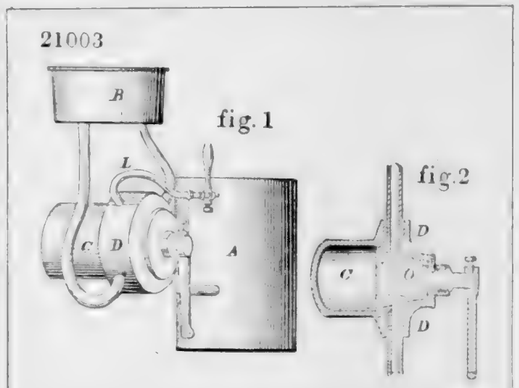
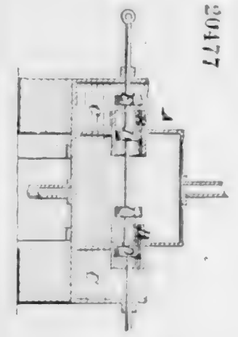


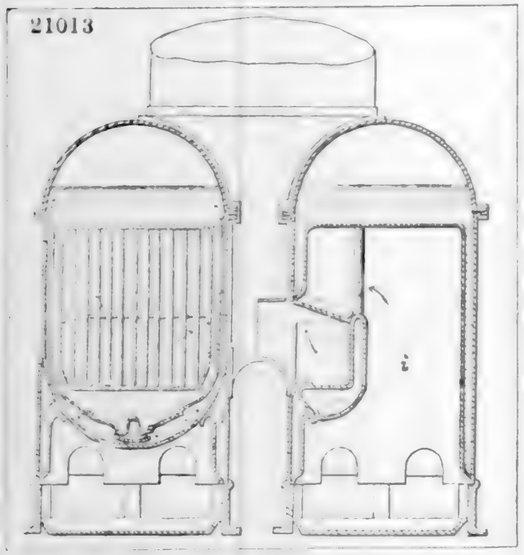
fig. 1

fig.2

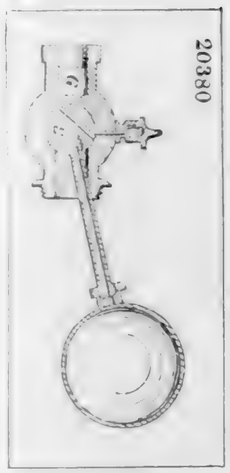
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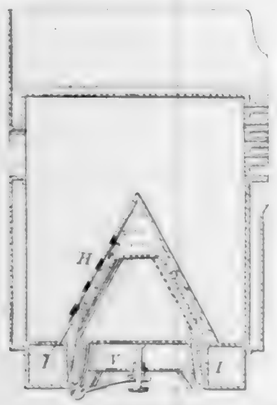
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20380



20840



22169

fig. 1

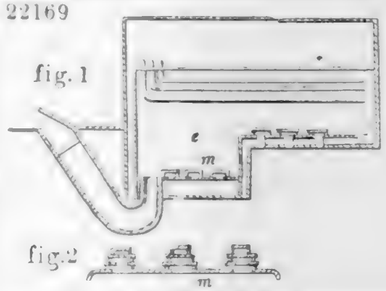


fig. 2

22271

fig. 1

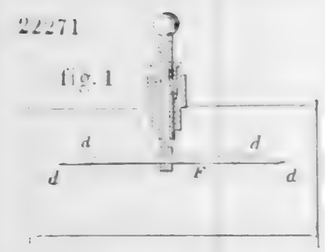
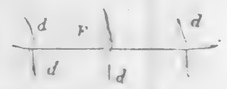
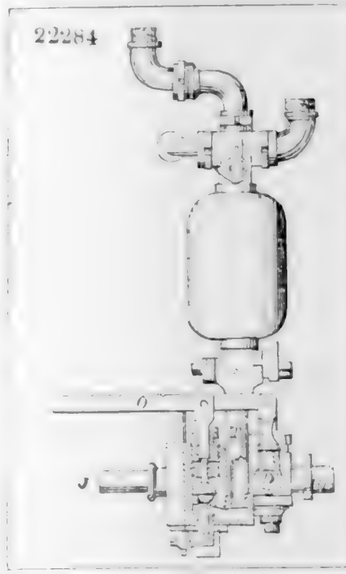


fig. 2



22284



20398

fig. 1

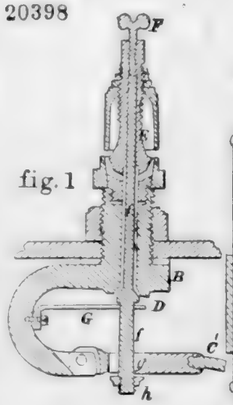
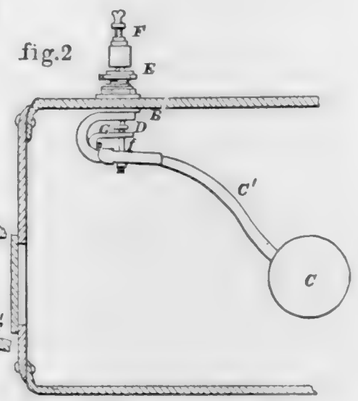


fig. 2



21686

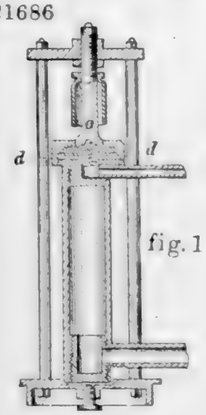
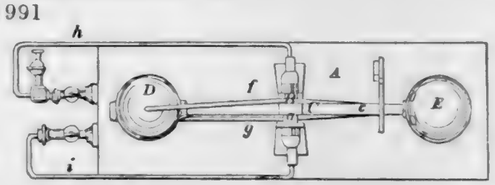


fig. 1

d

fig. 2

21991



21836

fig. 1

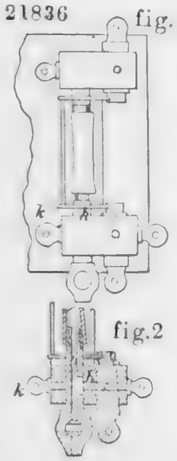


fig. 2

20927

fig. 1

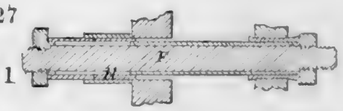
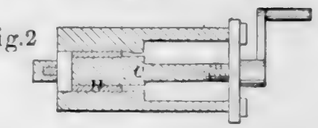
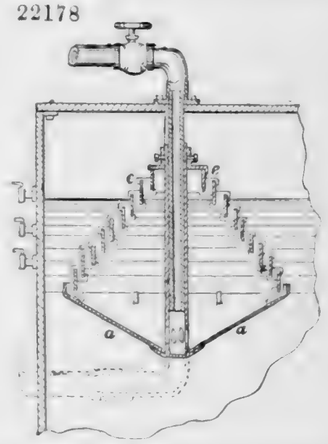


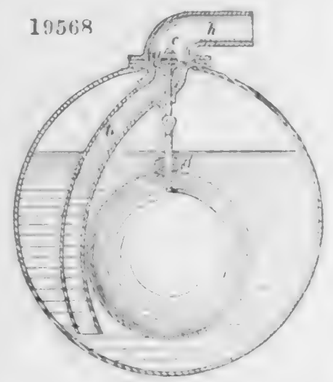
fig. 2



22178



19568



20612

fig. 1

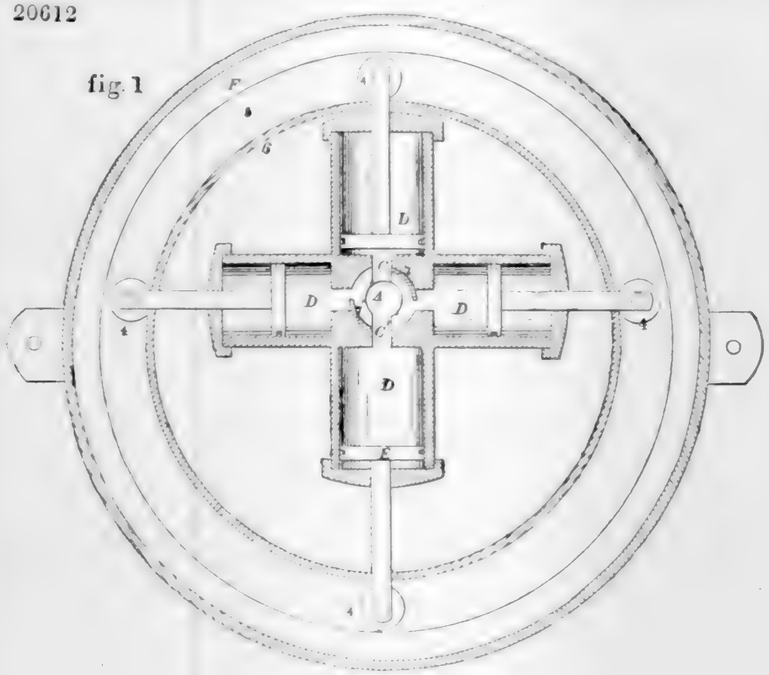
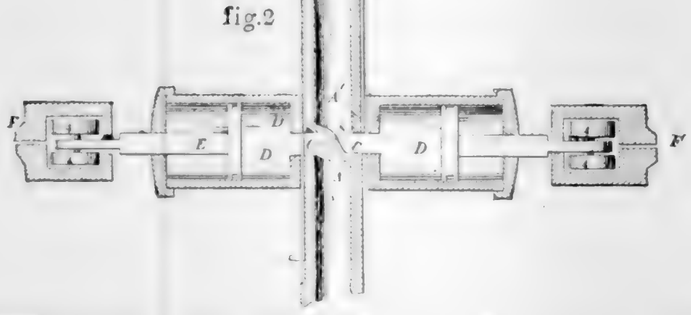


fig.2



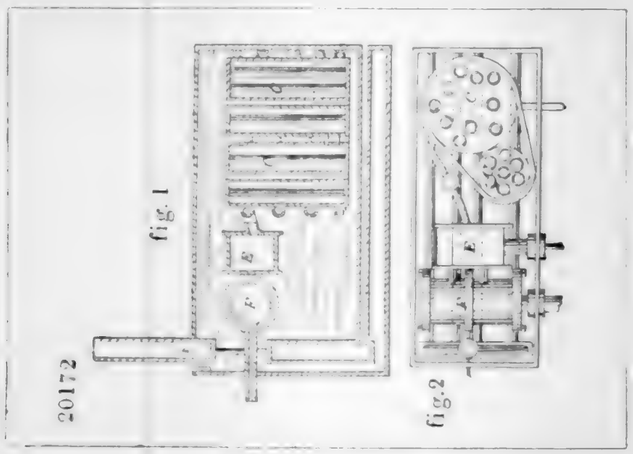


fig. 1

fig.2

20172

19247

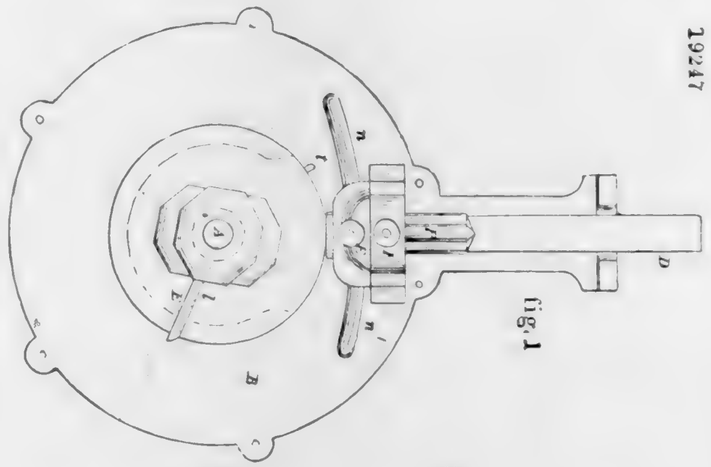
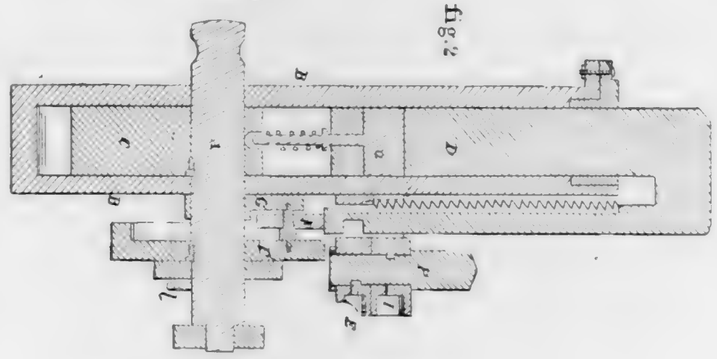


fig. 1

fig.2



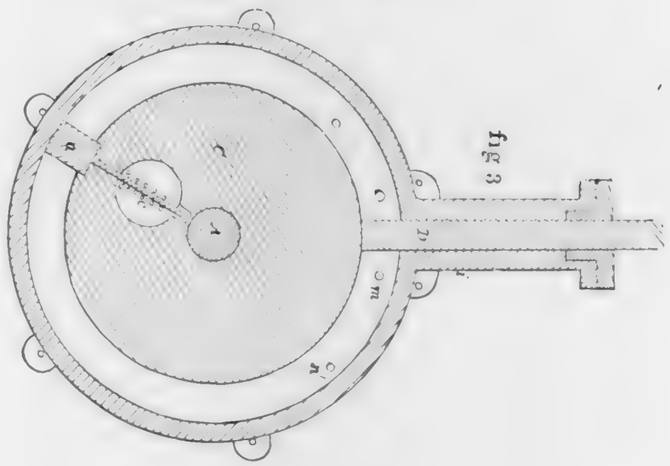
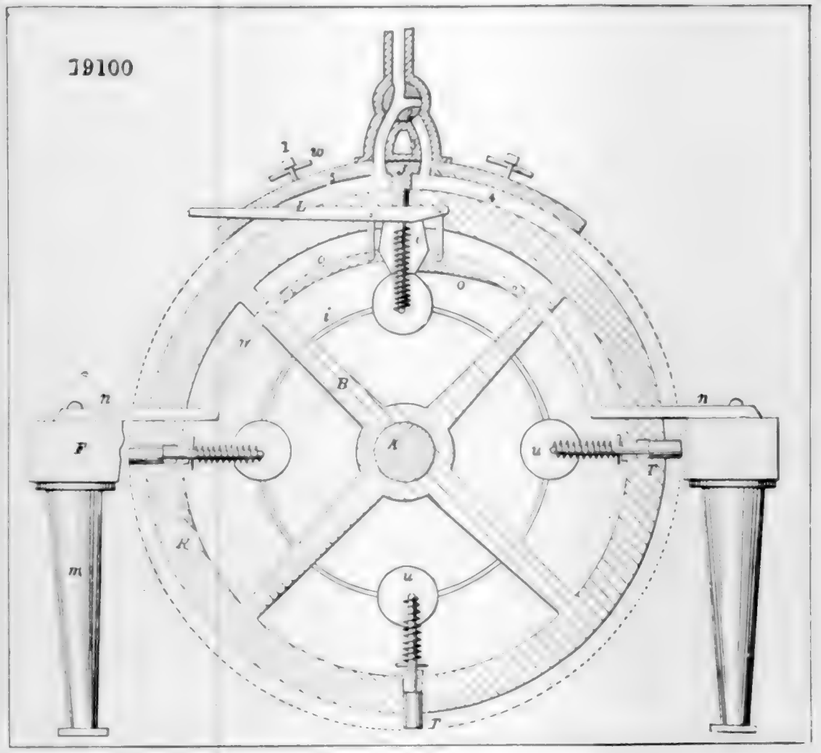
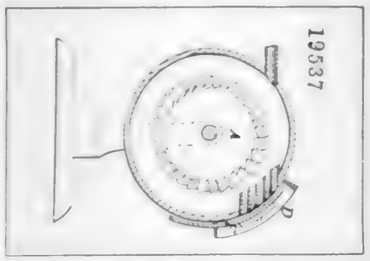


fig 3

19100



19537



19697

fig. 1

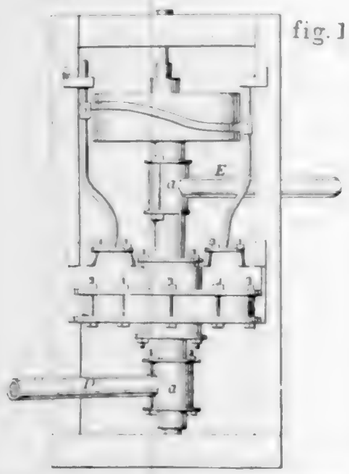
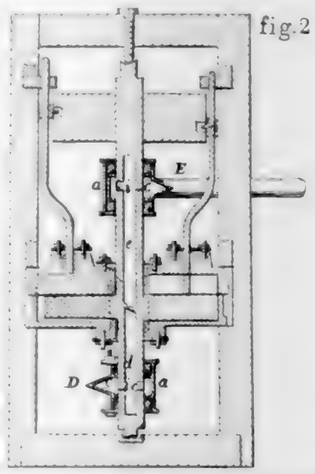
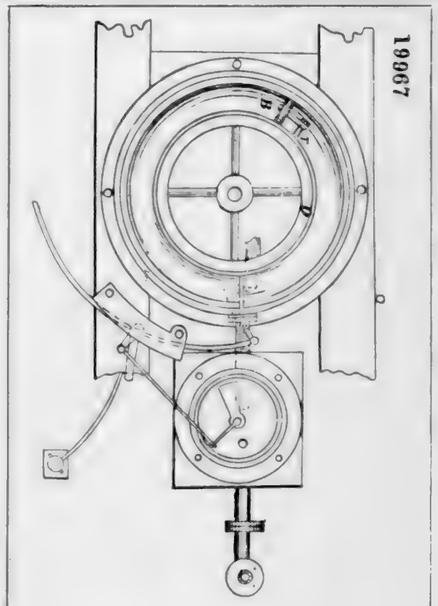


fig. 2



19967



21494

fig. 1

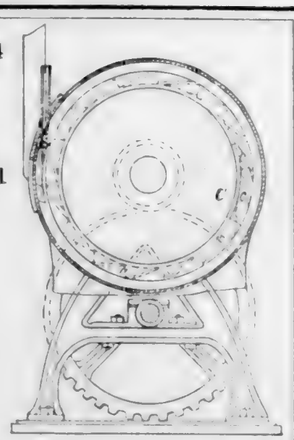


fig. 2

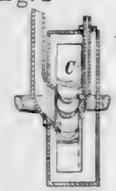
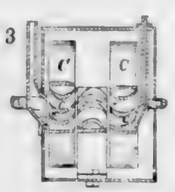
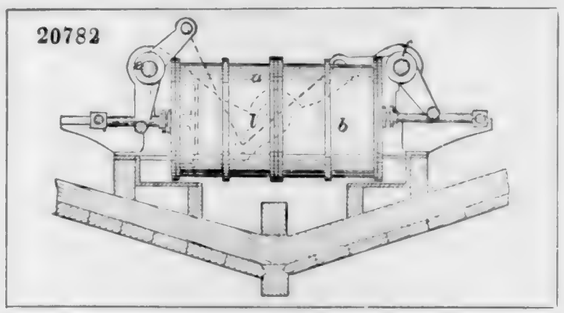


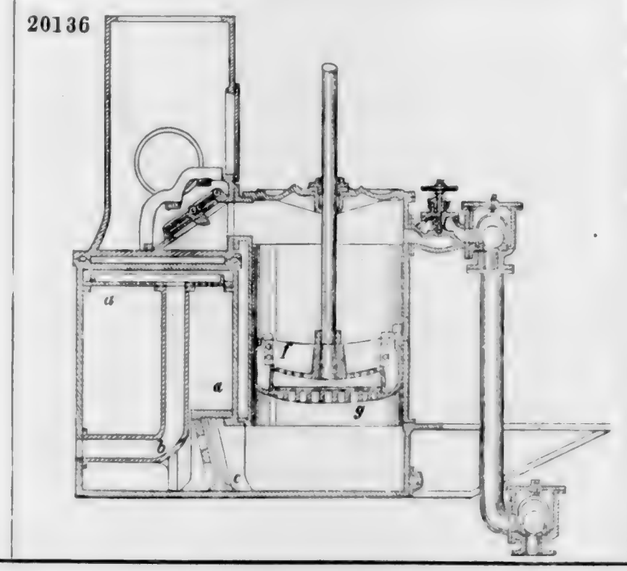
fig. 3



20782



20136



21659

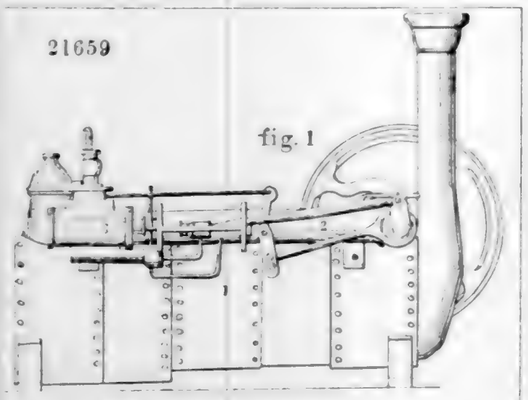


fig. 1

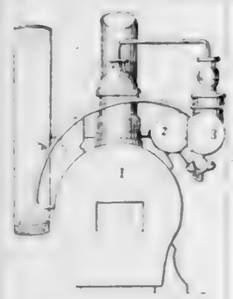


fig. 2

20583

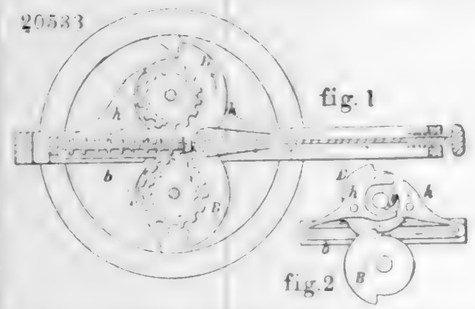
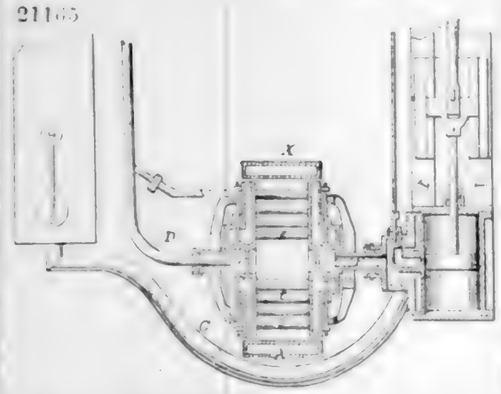


fig. 1

fig. 2

21165



21907

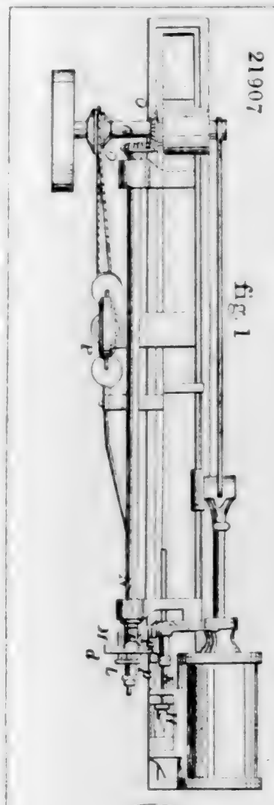


fig. 1

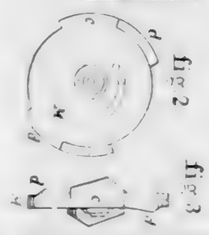
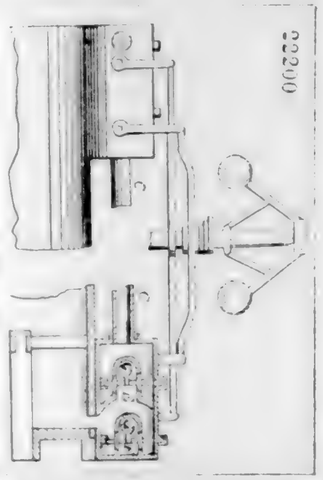


fig. 2

fig. 3

22220



19057

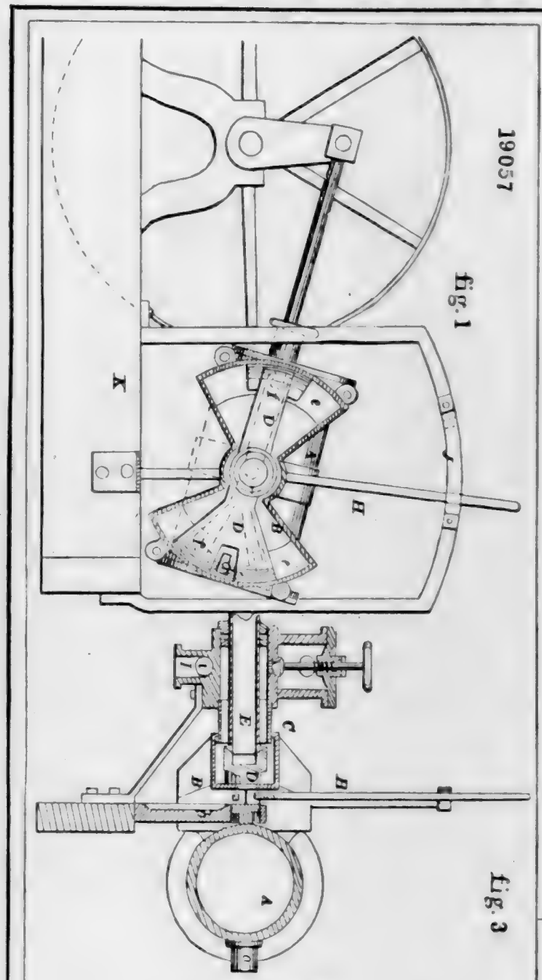


fig. 1

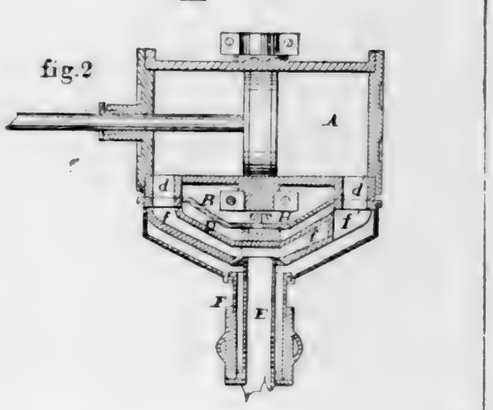
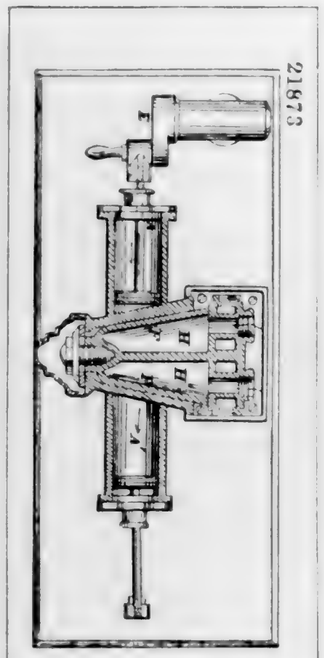


fig. 3

fig. 2

21873



19715

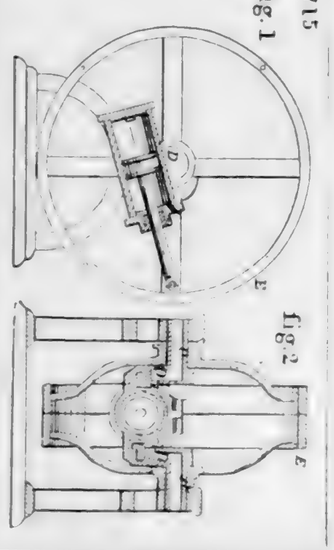


fig. 1

fig. 2

19464

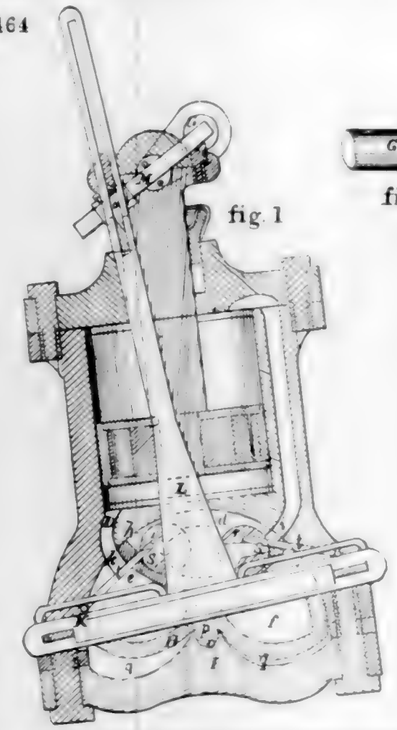


fig. 1

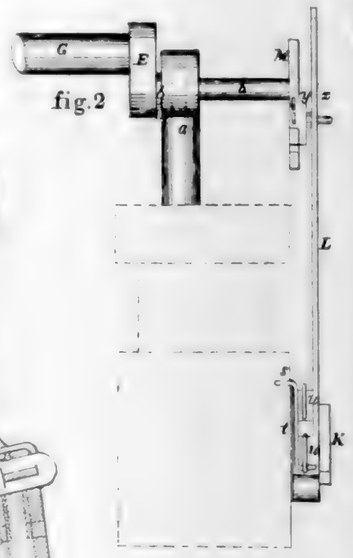
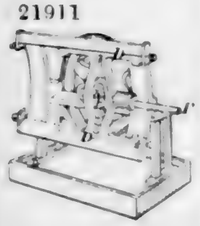
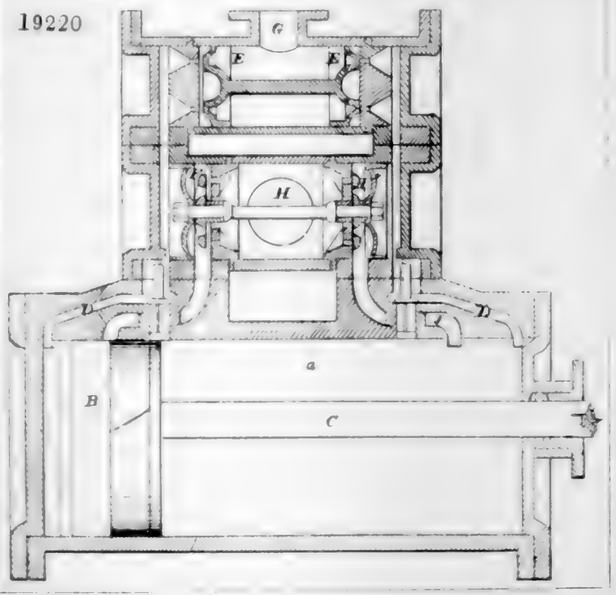


fig. 2

21911

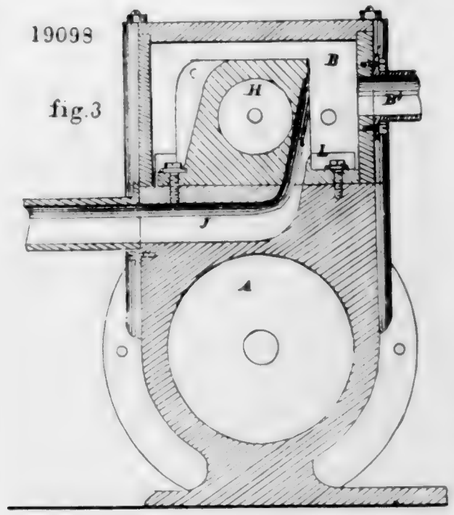


19220



19098

fig. 3



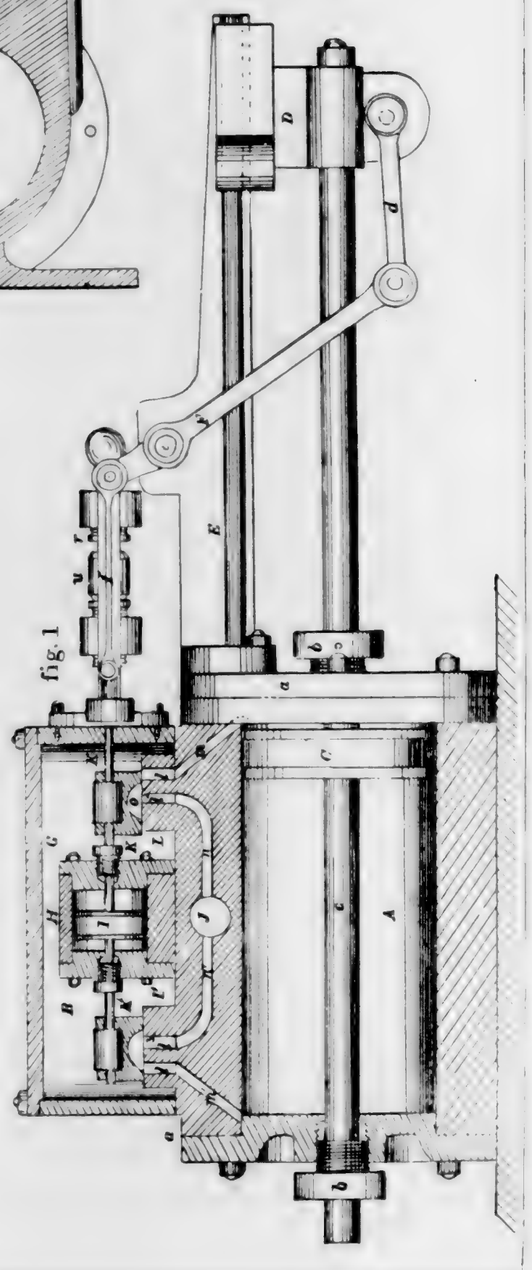


fig. 1

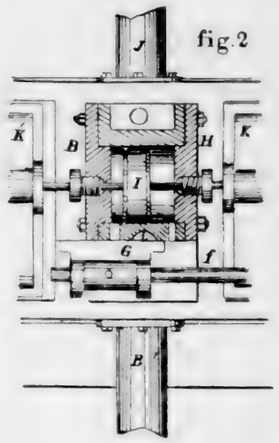


fig. 2

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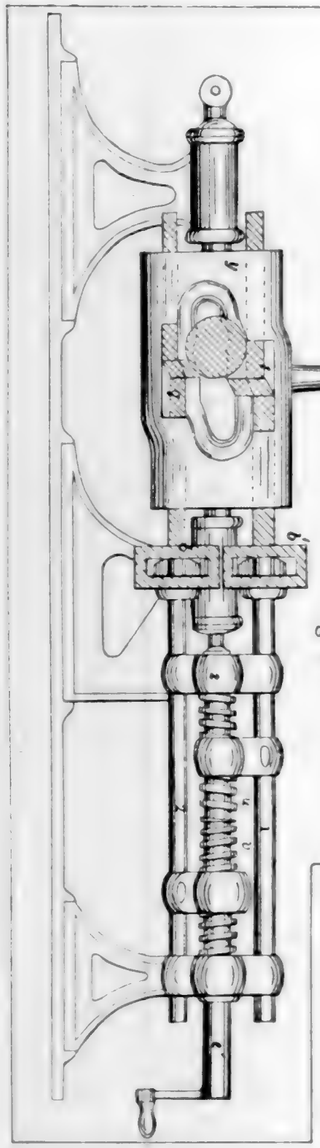


fig. 1

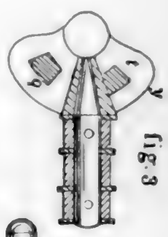


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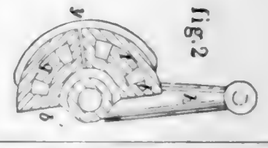
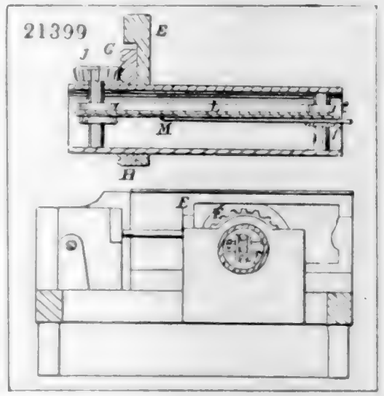
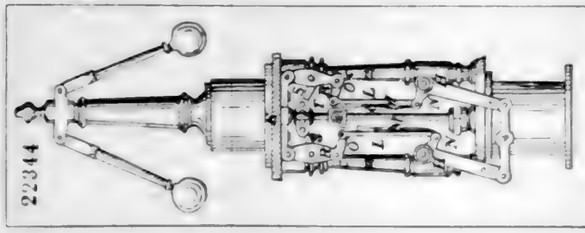


fig. 2

21399



22344



19890

fig. 1



fig. 2

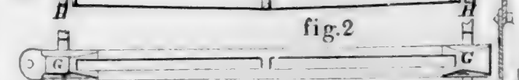


fig. 3

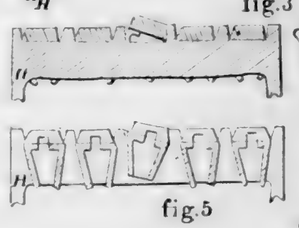
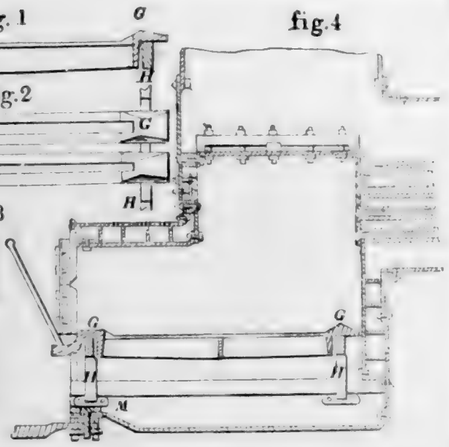


fig. 5

fig. 4



22361

fig. 1

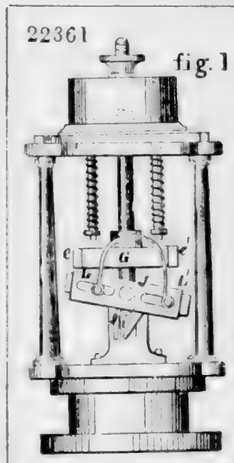


fig. 3

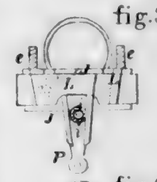
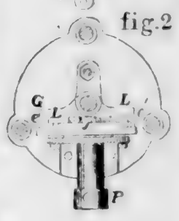


fig. 2



19888

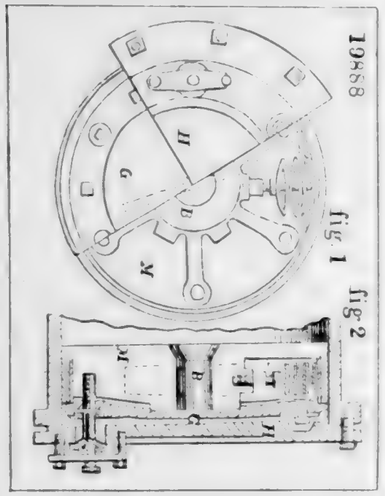
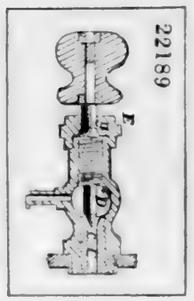


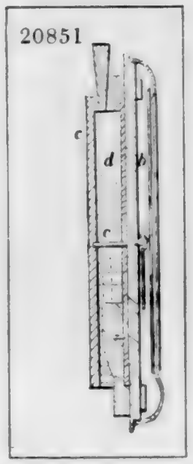
fig. 1

fig. 2

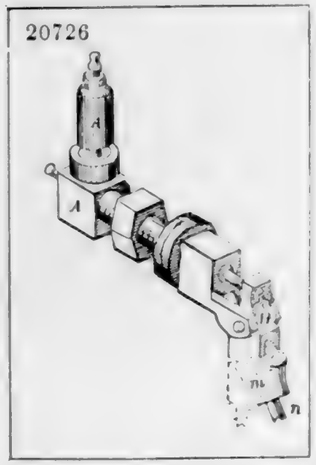
22189



20851



20726



19134

fig. 1

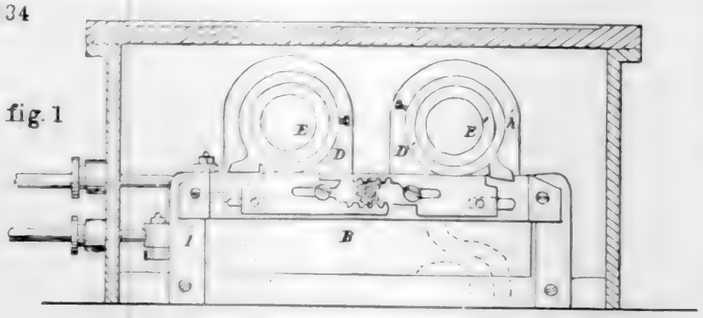


fig. 2

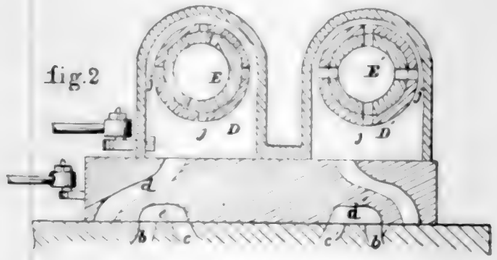


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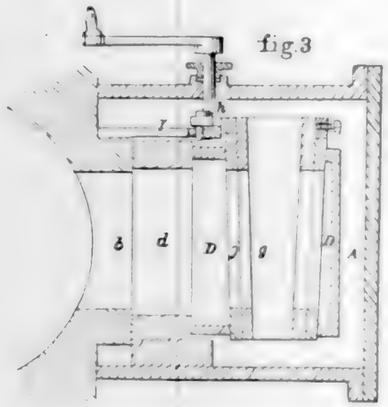


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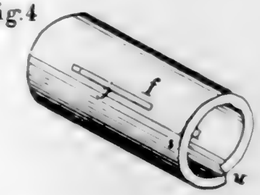
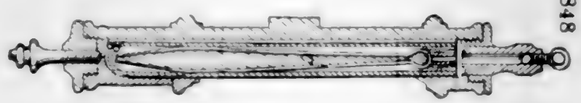


fig. 5



20848



19400

fig. 1

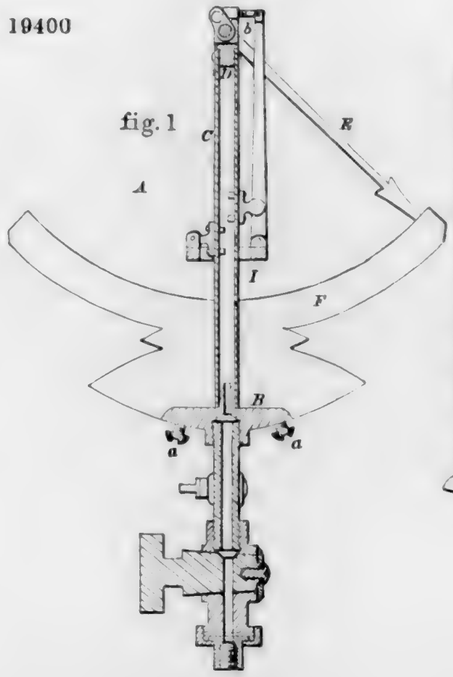
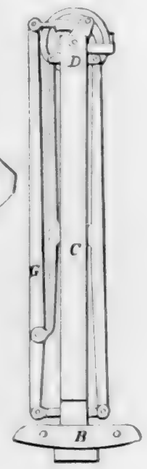
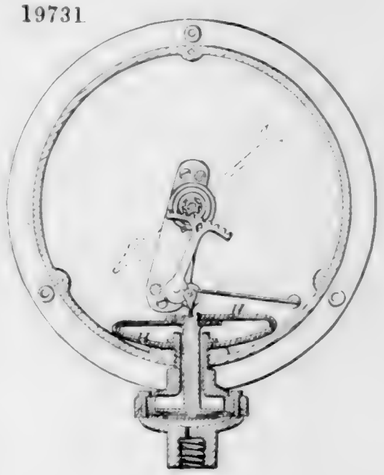


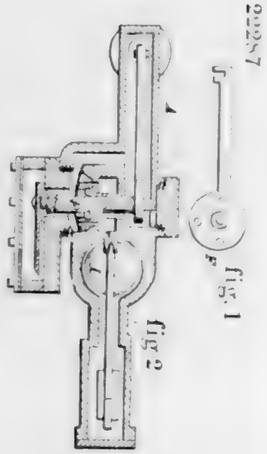
fig. 2



19731



22287



19177

fig 1

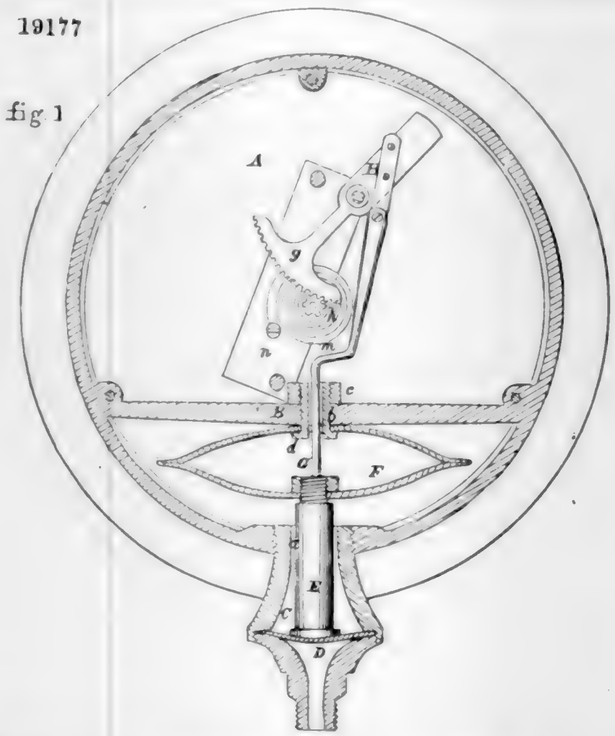
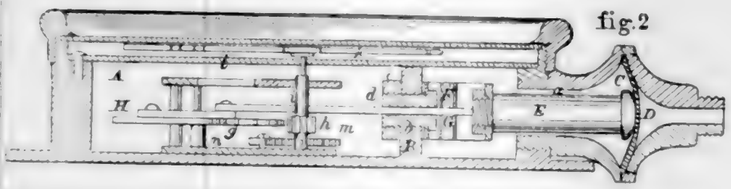
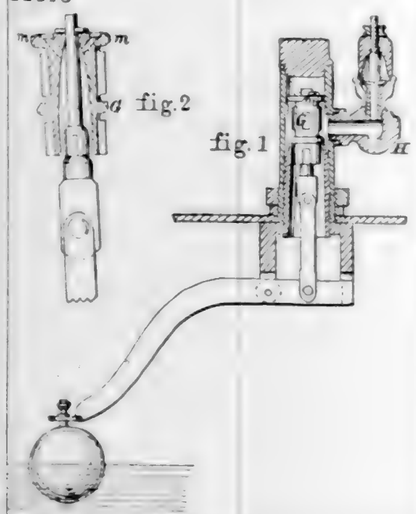


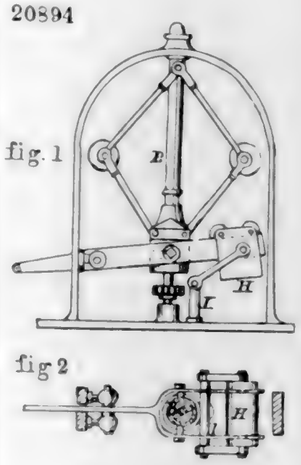
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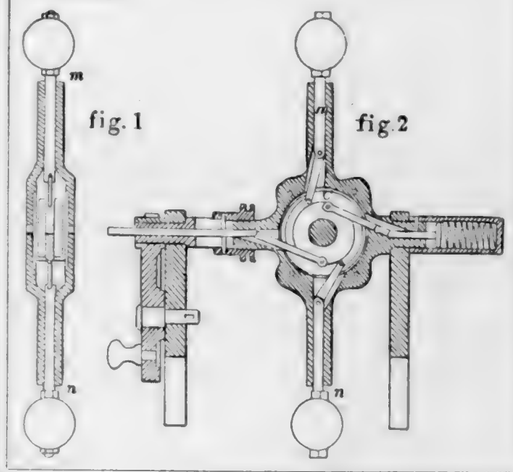
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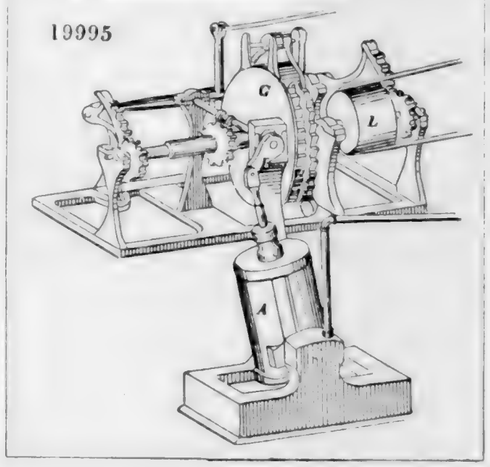
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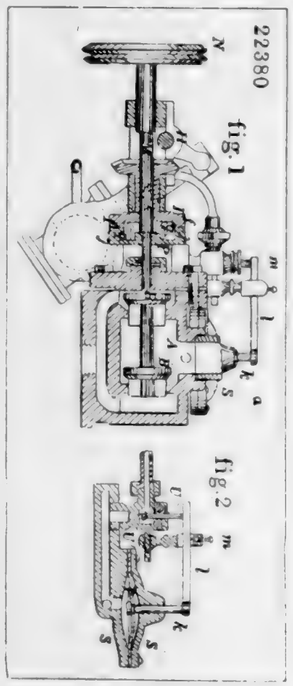
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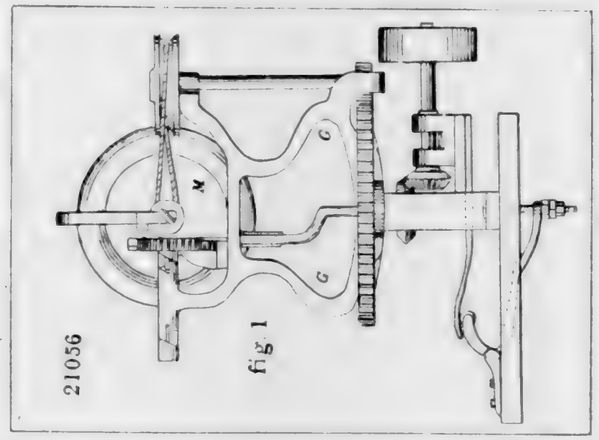


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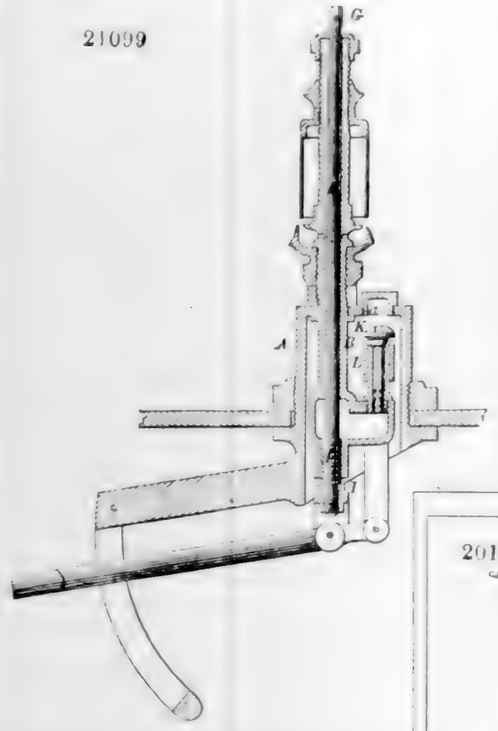


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21099



22439



fig. 1

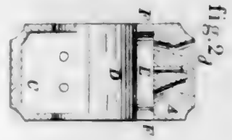


fig. 2

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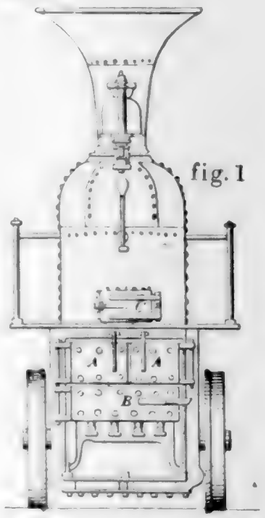


fig. 1

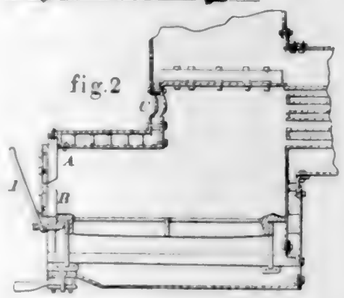


fig. 2

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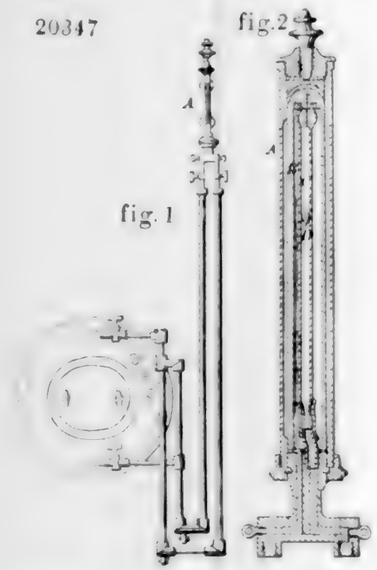


fig. 1

fig. 2

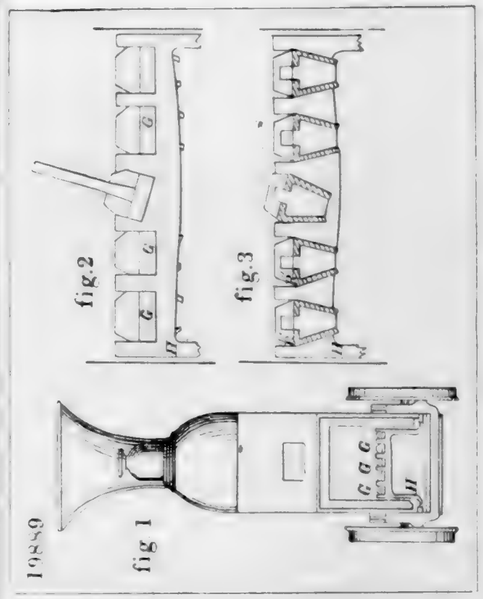


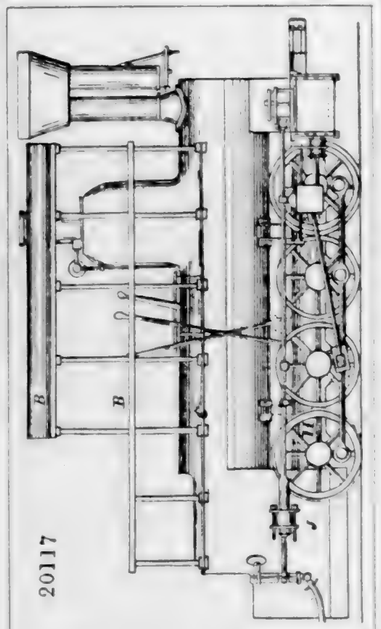
fig. 2

fig. 3

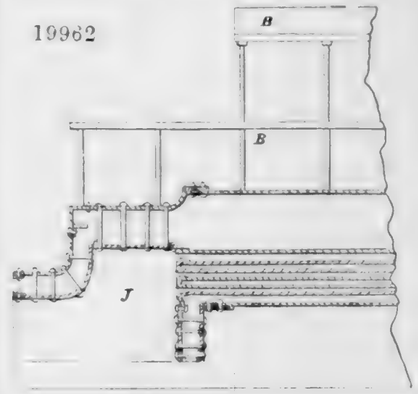
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fig. 1

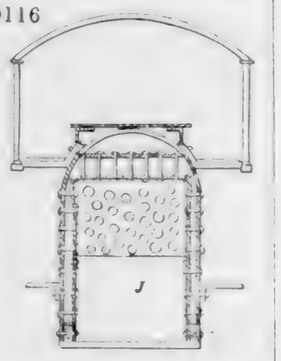
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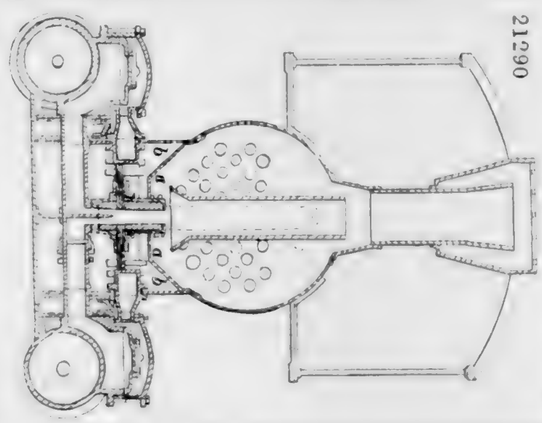
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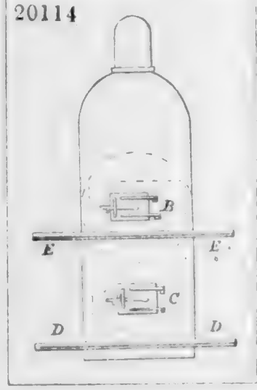
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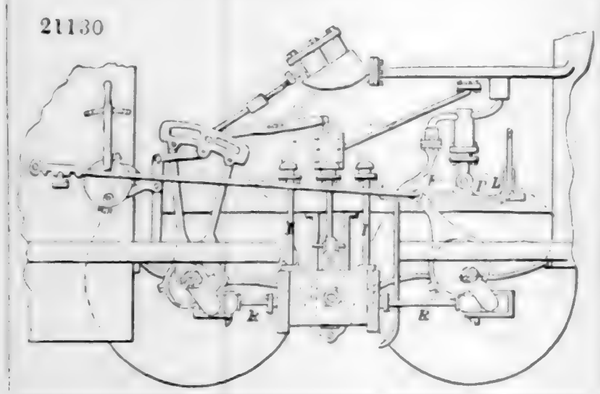
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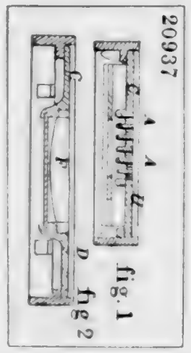
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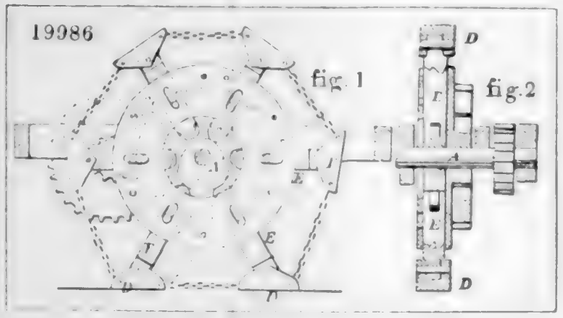
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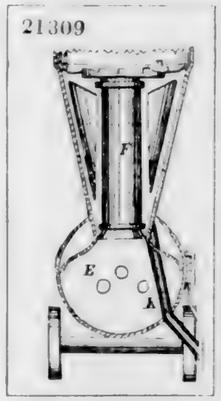
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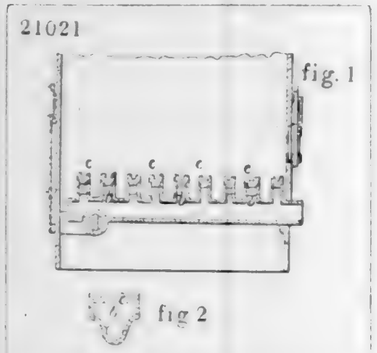
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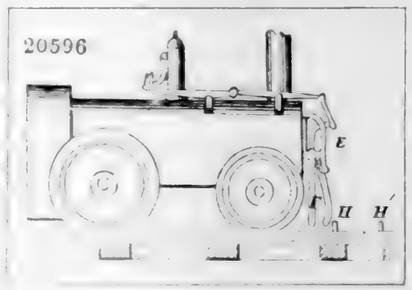
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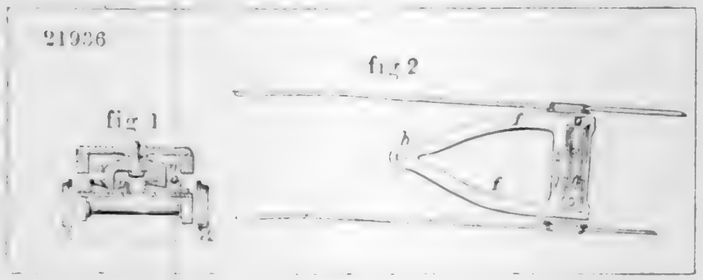
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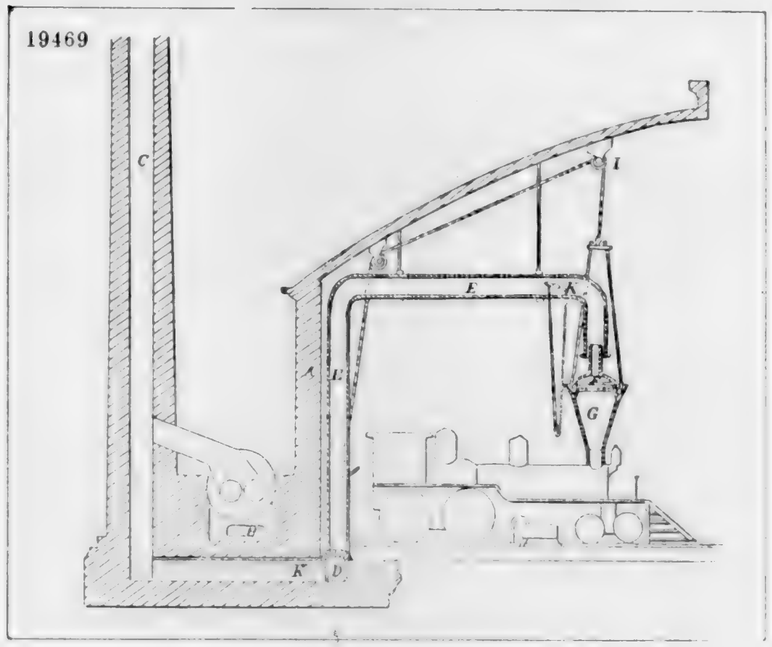
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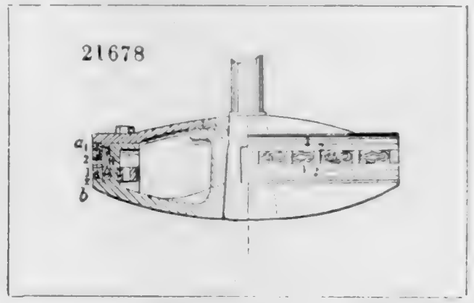
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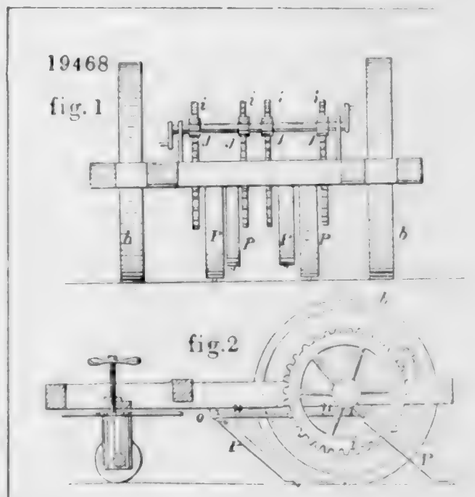
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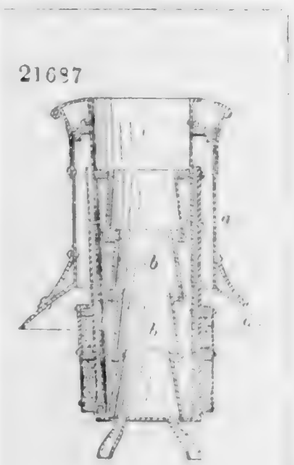
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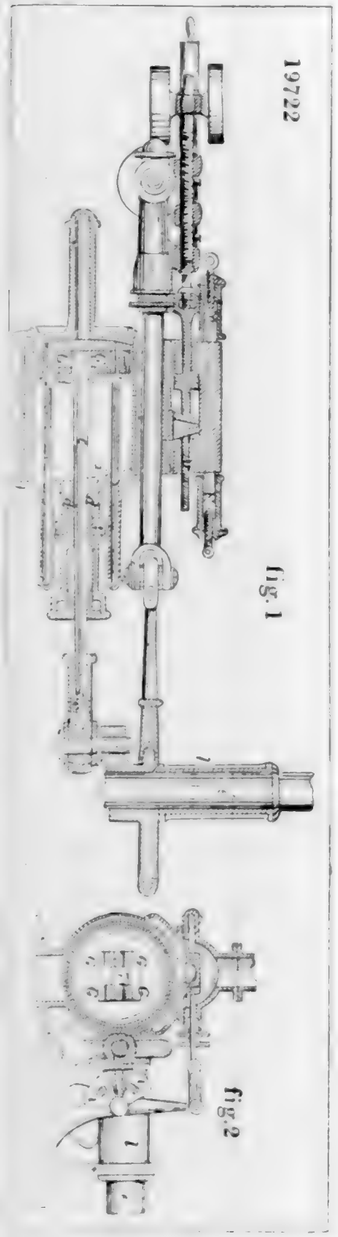
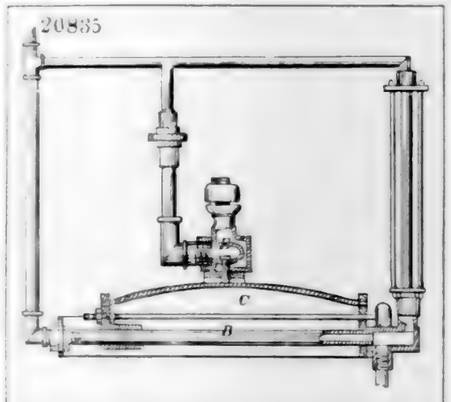


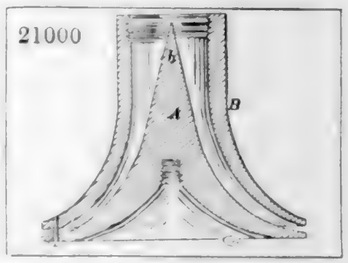
fig. 1

fig. 2

20885



21000



21276

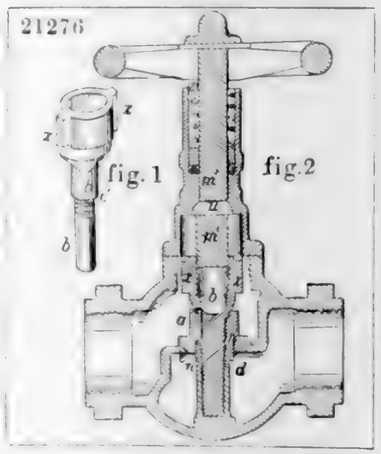
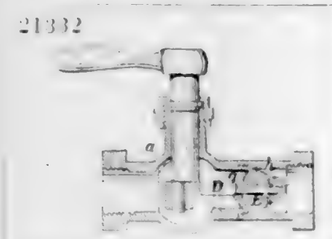
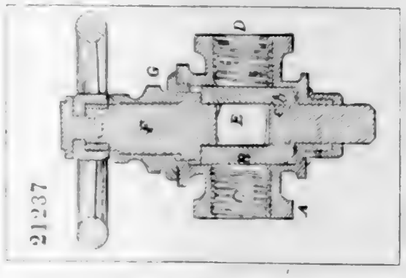


fig. 1 fig. 2

21332



21237



21788

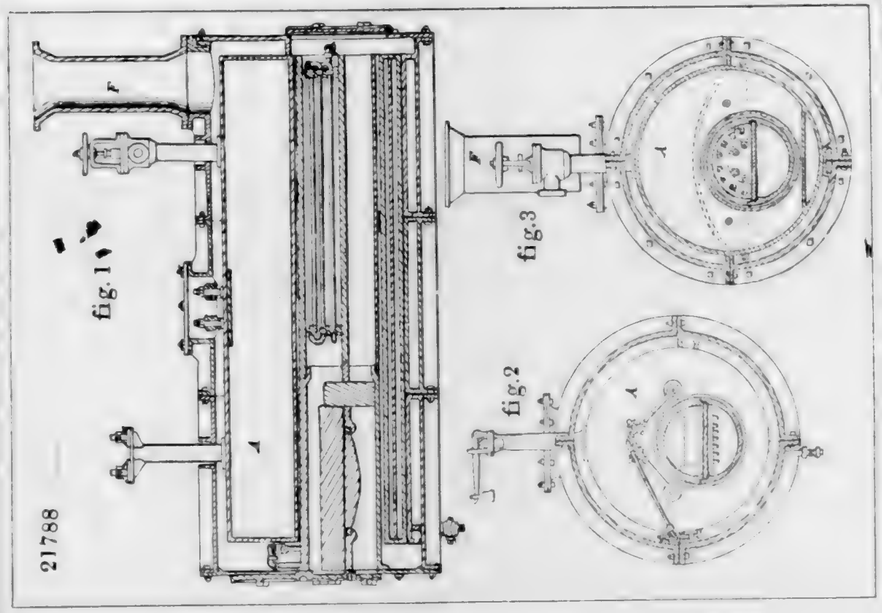
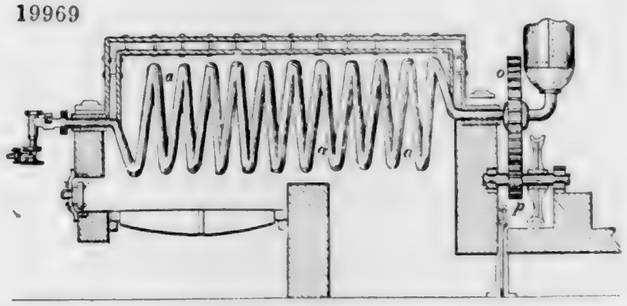


fig. 1

fig. 3

fig. 2

19969



22306

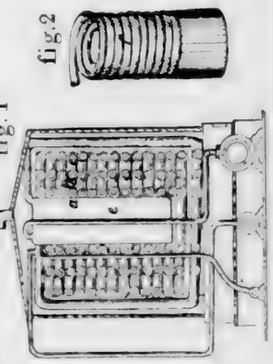
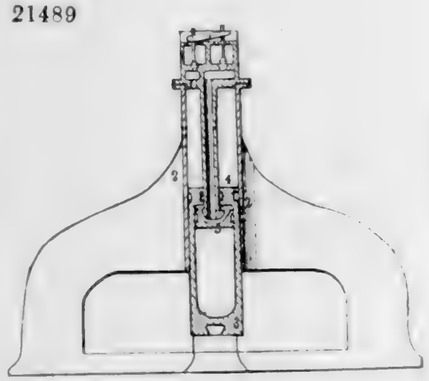


fig. 2

fig. 1

21489



20514

fig 1

fig.2

19804

21468

fig. 1

fig.2

21047

21472

fig.1

fig.2

21183

fig.1

fig.2

19757

fig.1

fig.2

20963

fig 1

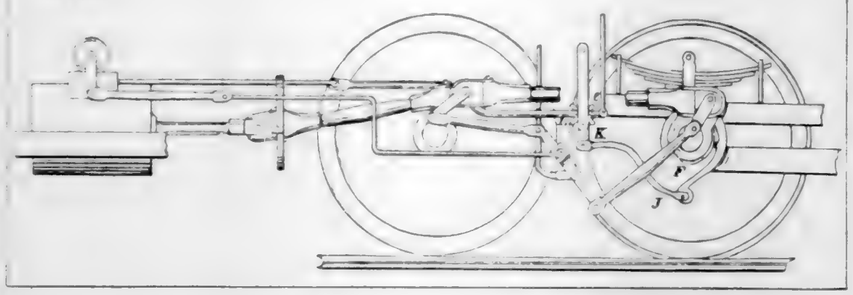
fig 2

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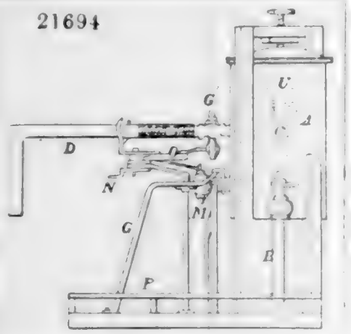
fig. 1

fig.2

22198

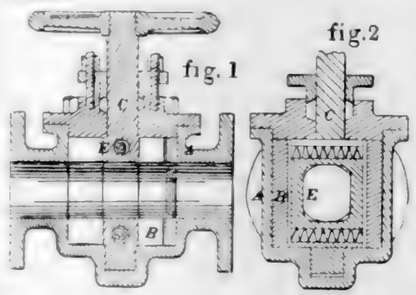


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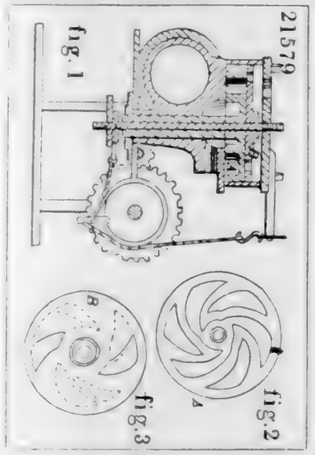


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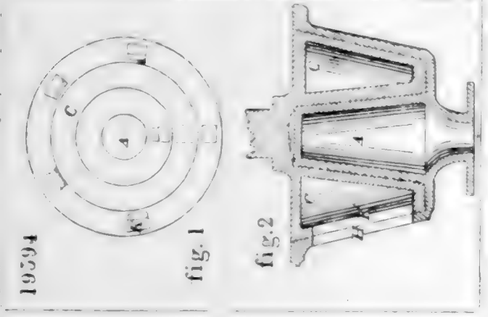
fig. 1 fig.2



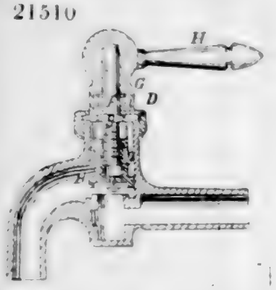
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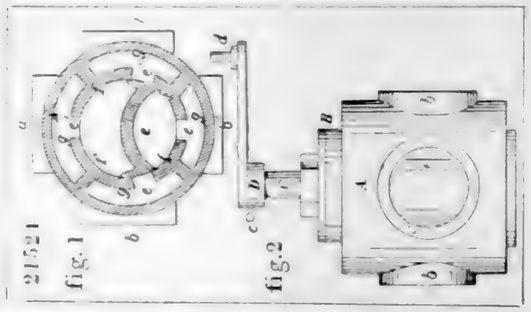
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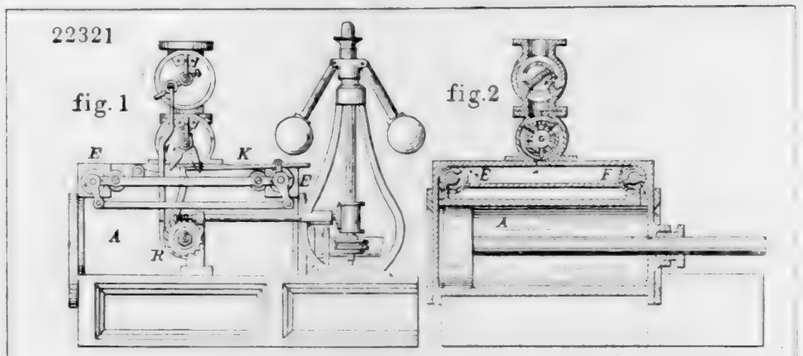
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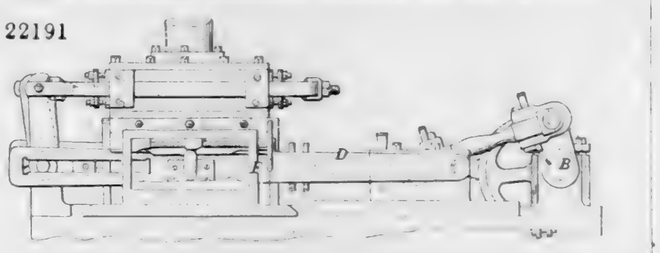
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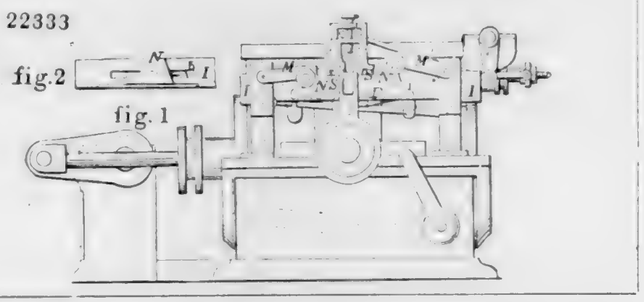
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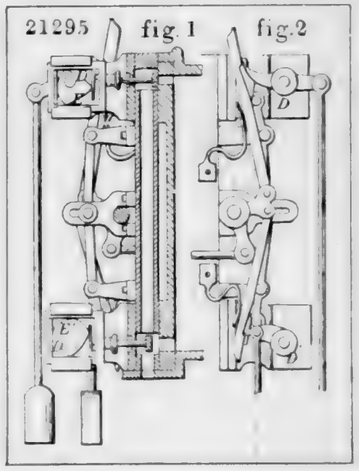
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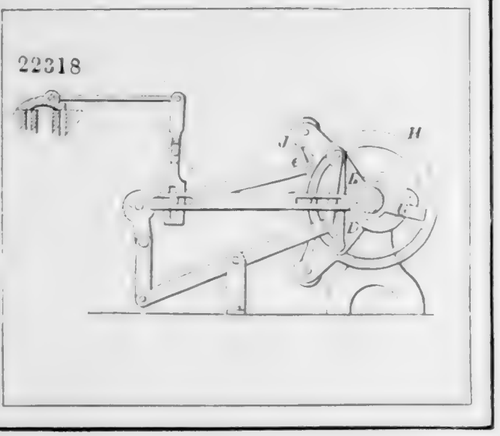
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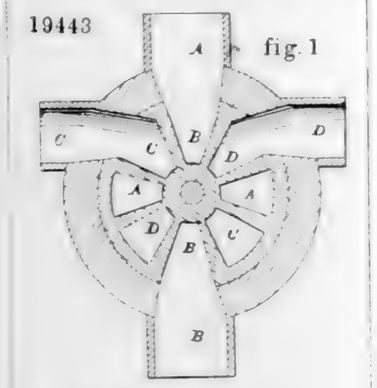
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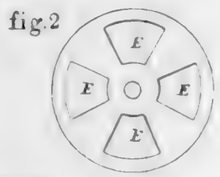


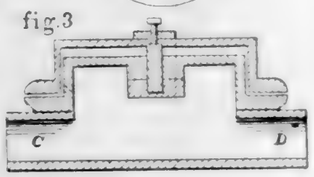
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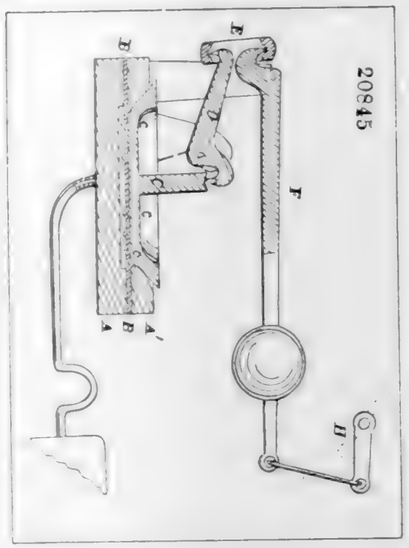
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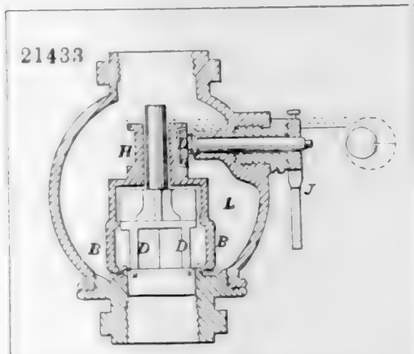




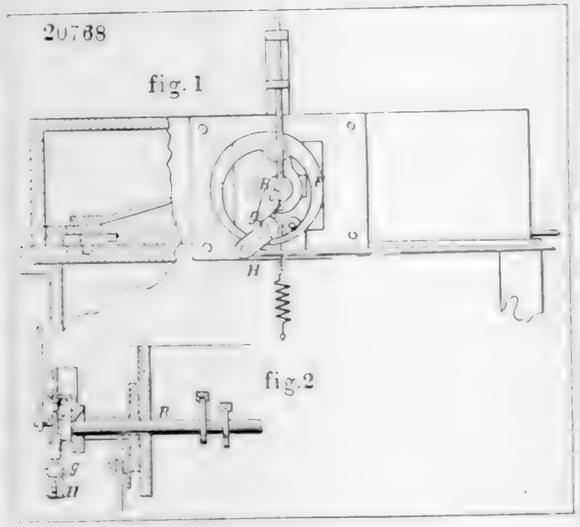
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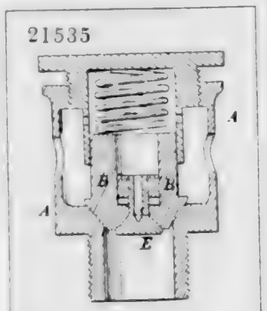
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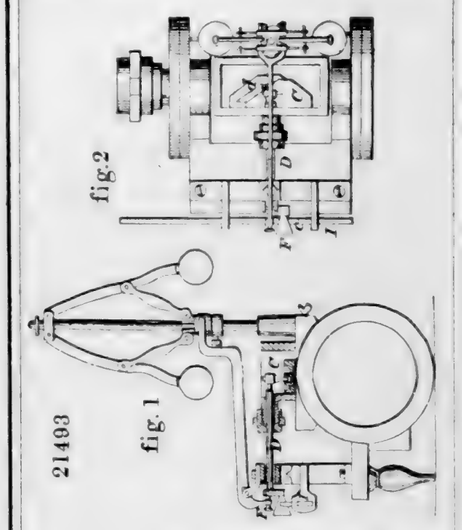


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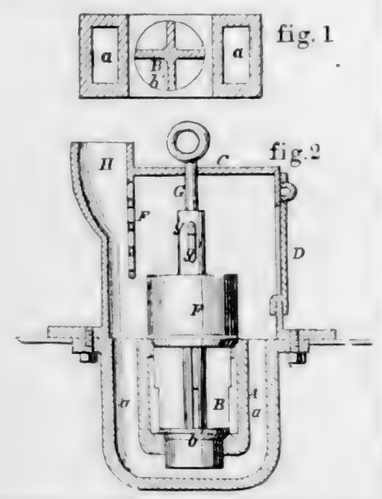


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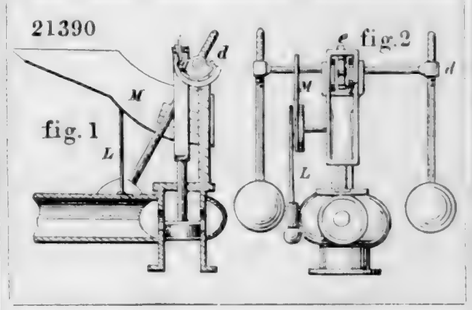




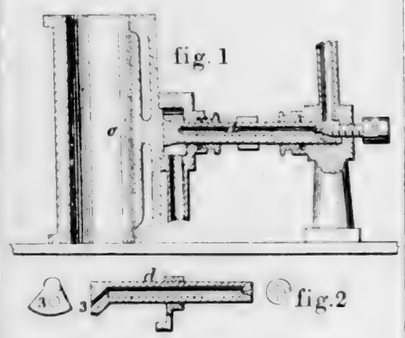
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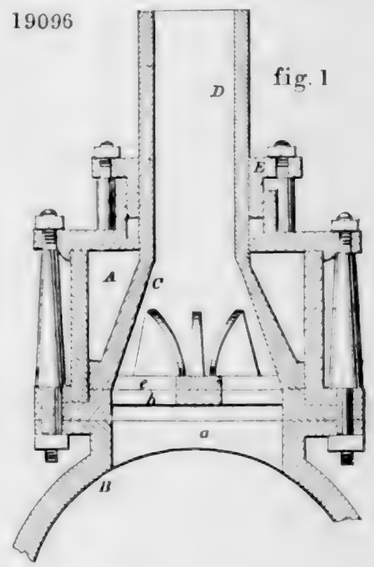
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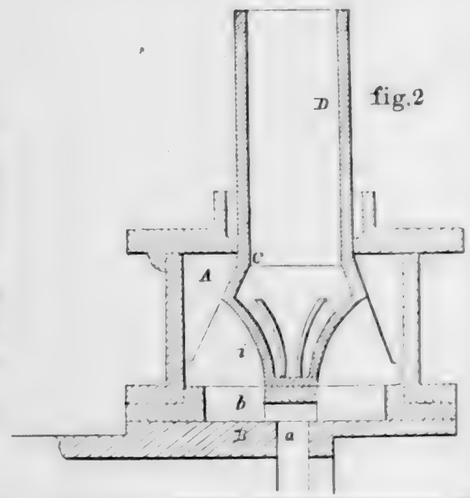


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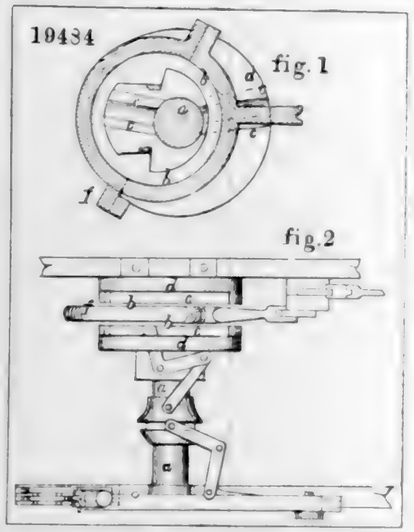


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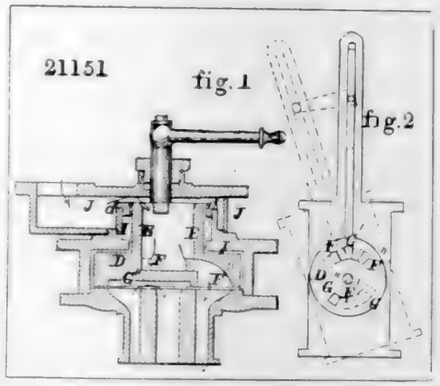




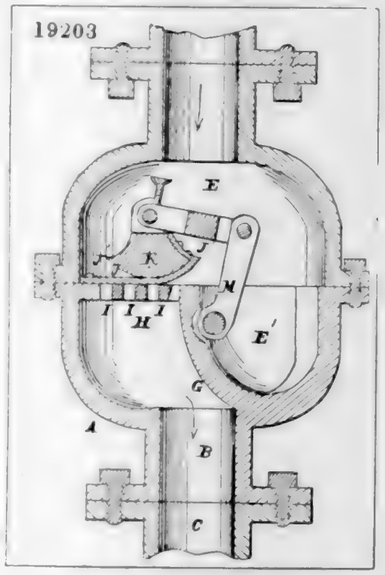
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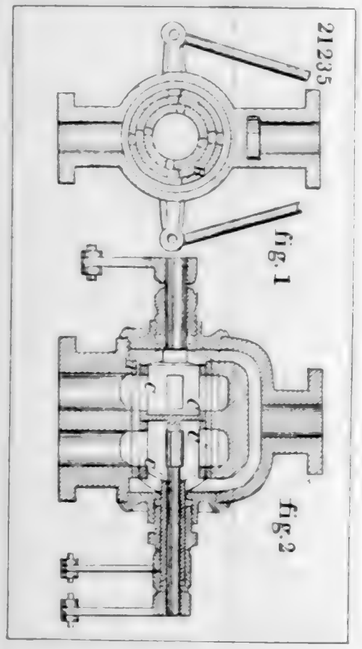
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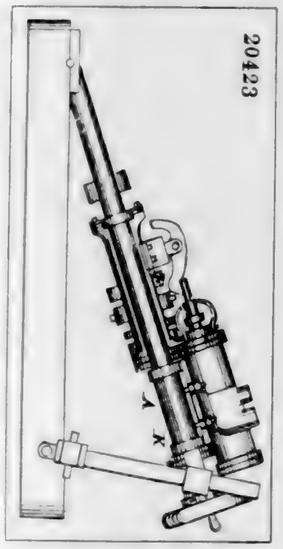
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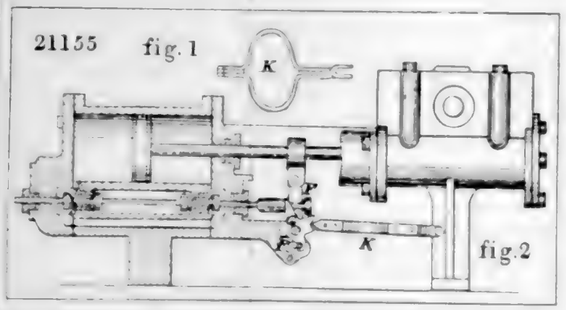
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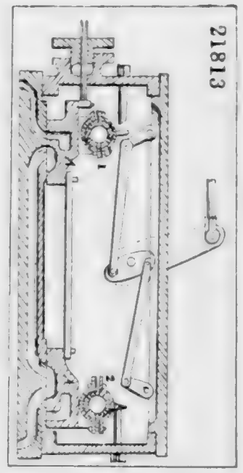
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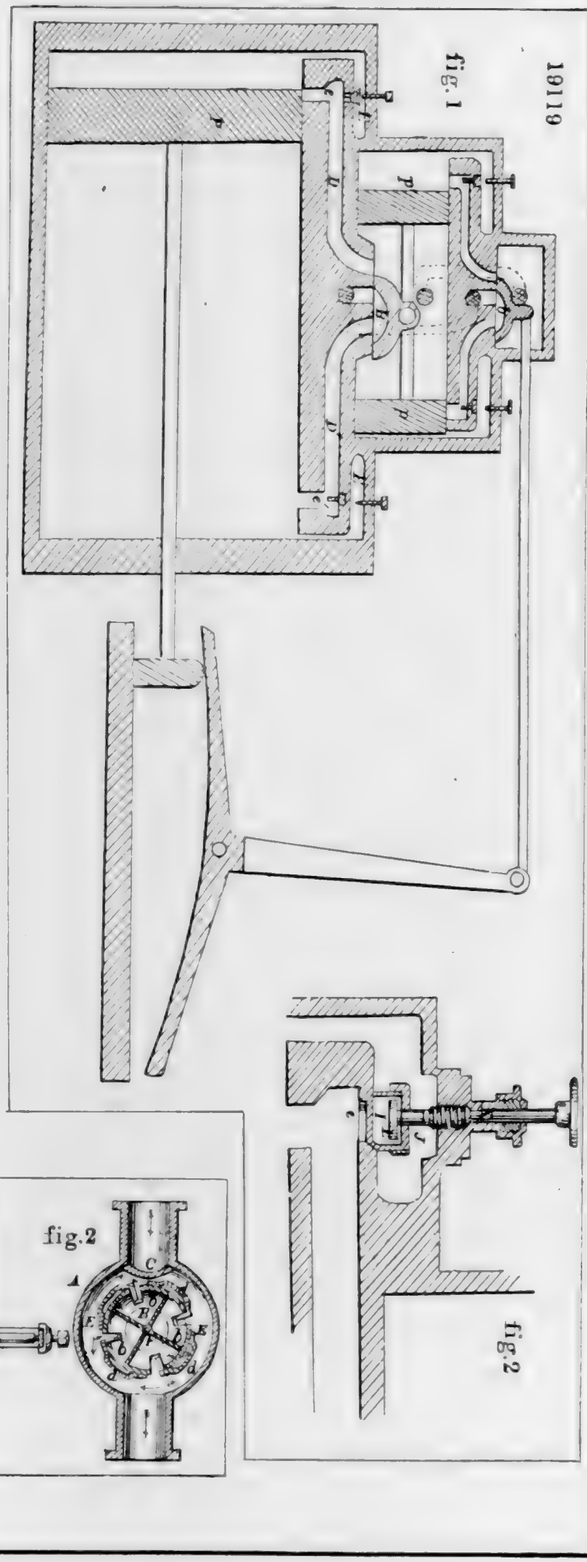
21155 fig. 1



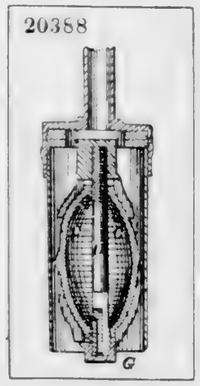
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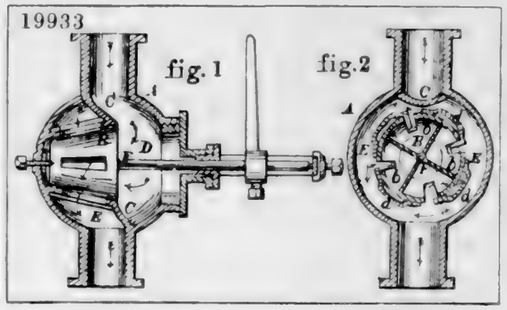
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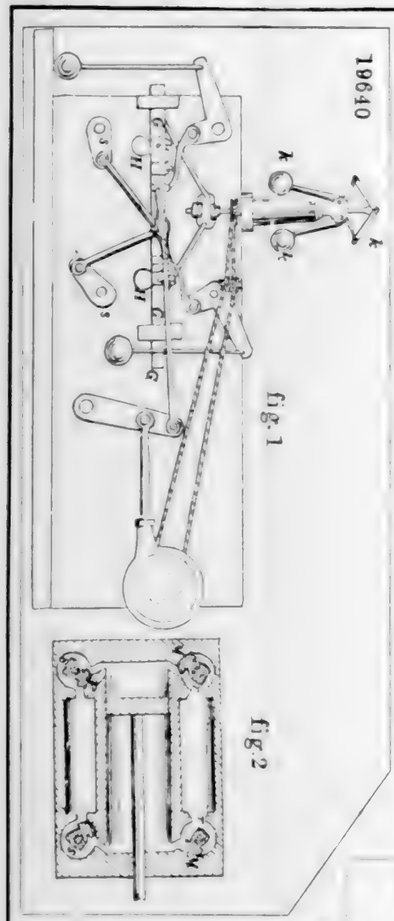


fig. 1

fig. 2

21300

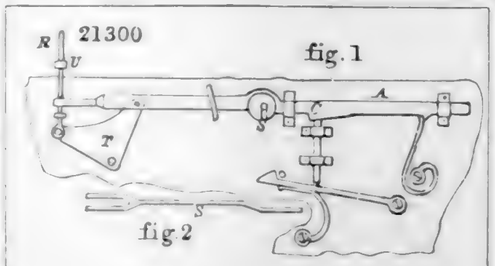


fig. 1

fig. 2

22192

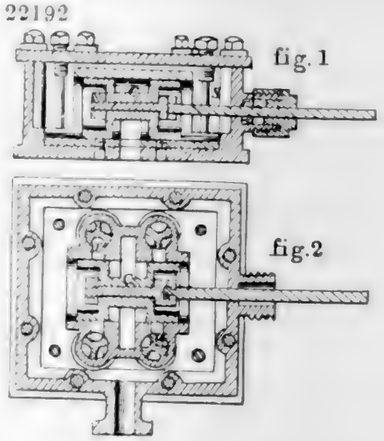


fig. 1

fig. 2

21668

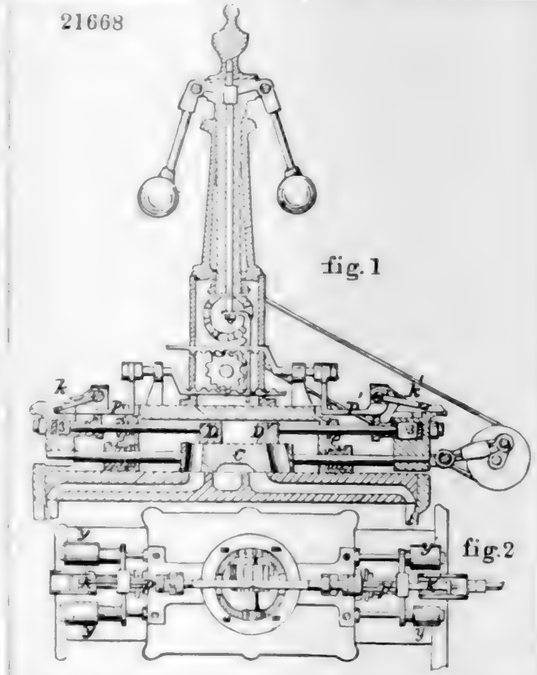


fig. 1

fig. 2

21682

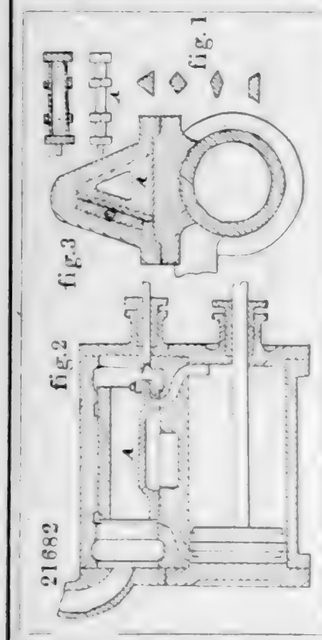


fig. 1

fig. 3

fig. 2

22322

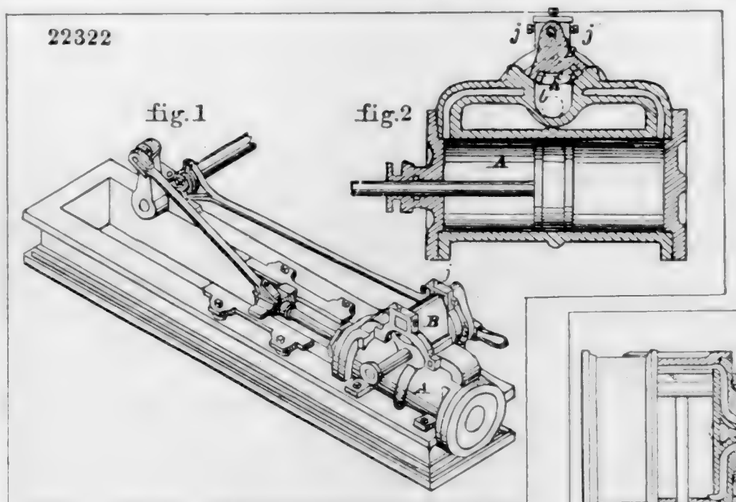
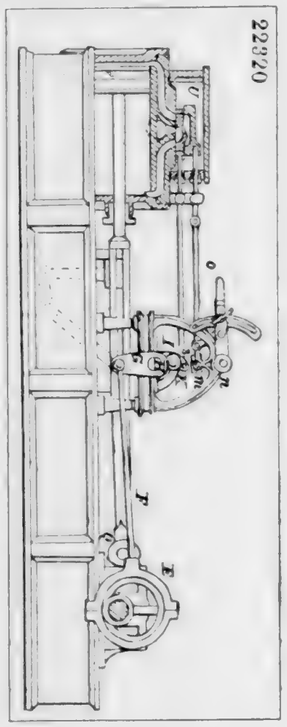


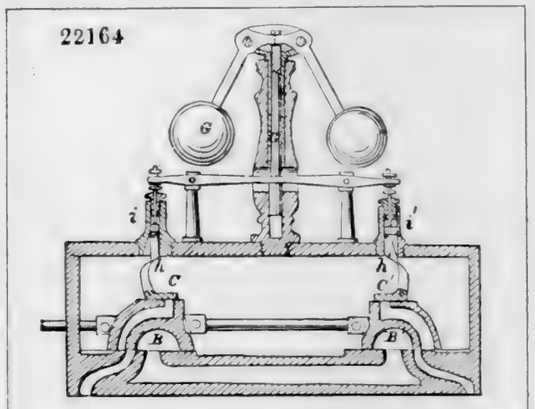
fig. 1

fig. 2

22320



22164



21455

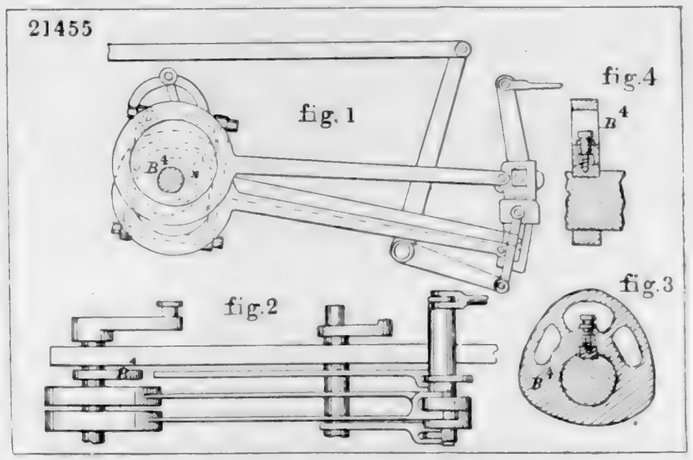


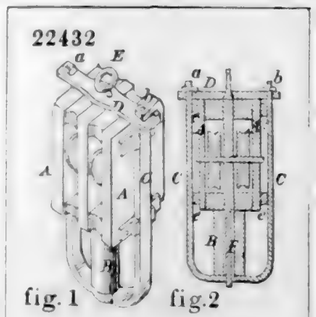
fig. 1

fig. 4

fig. 2

fig. 3

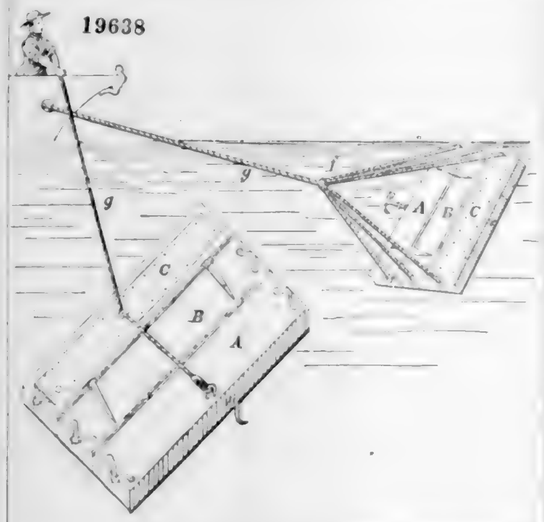
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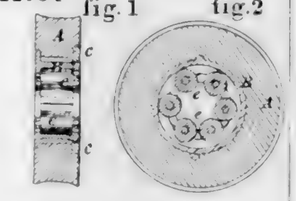
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fig. 1 fig. 2

19638



22154 fig. 1 fig. 2



20944

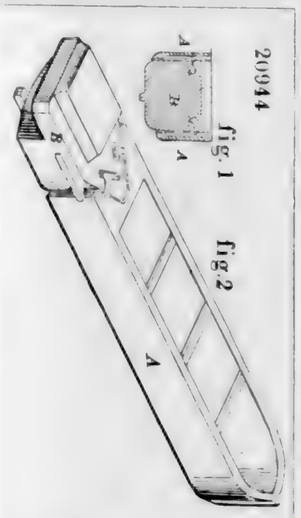
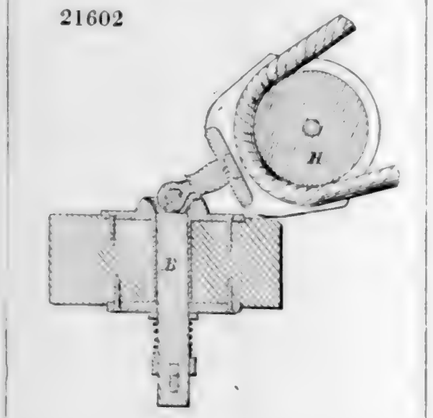
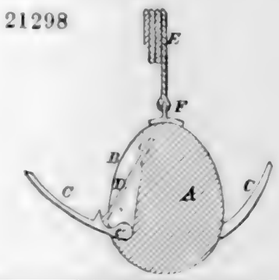


fig. 1 fig. 2

21602



21298



19656 fig. 1

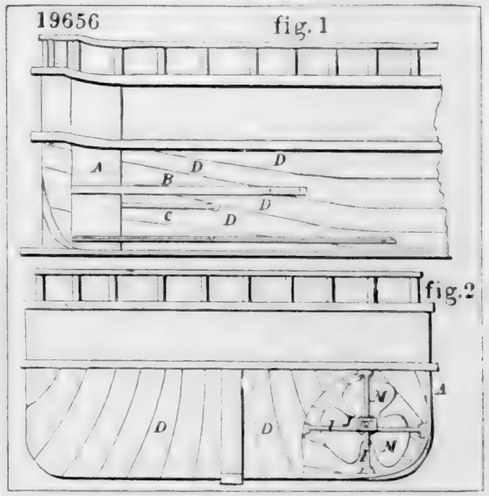


fig. 2

21572 fig. 1

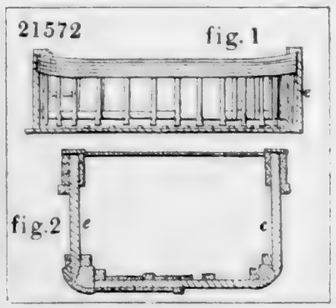
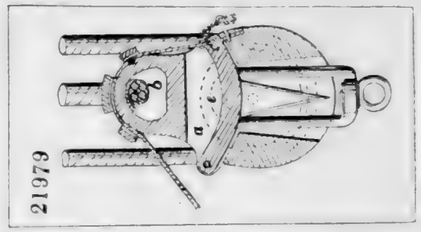


fig. 2

21979



19693

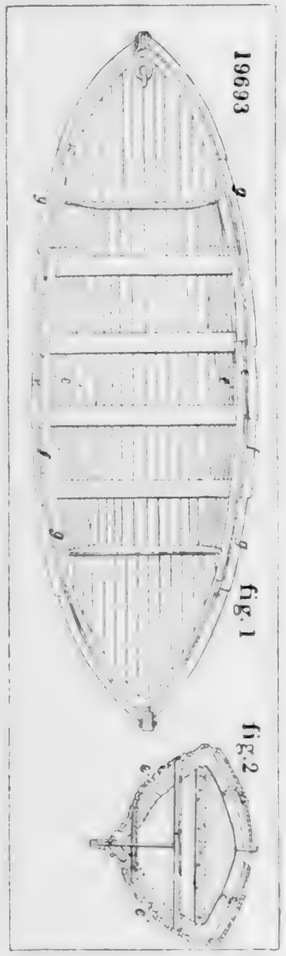


fig. 1 fig. 2

19317

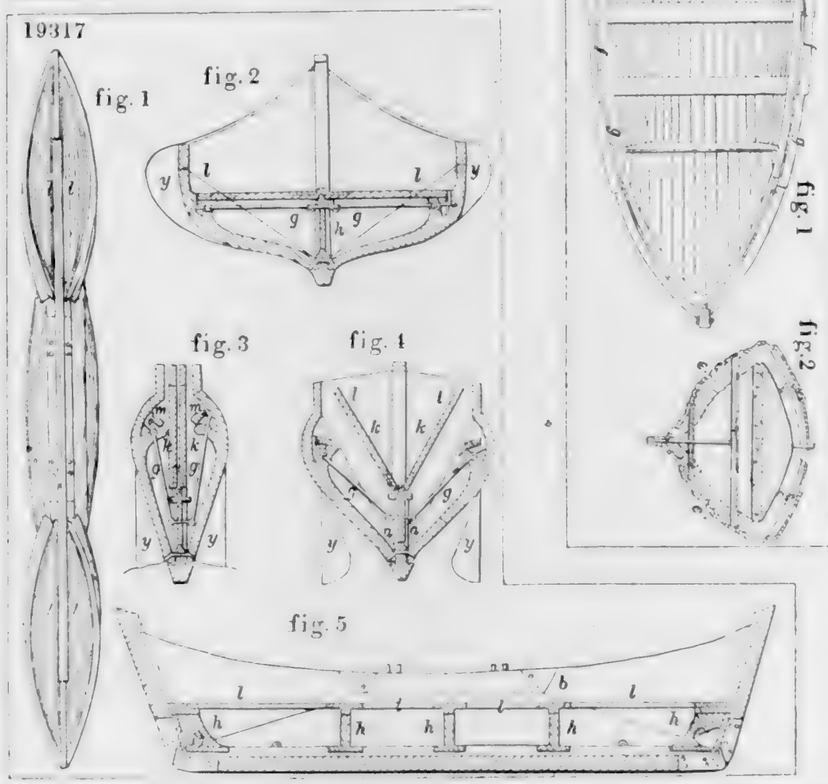
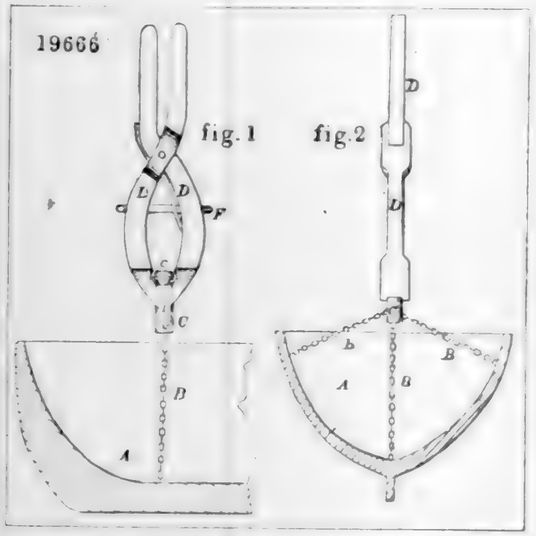


fig. 1 fig. 2 fig. 3 fig. 4 fig. 5

19666



20308

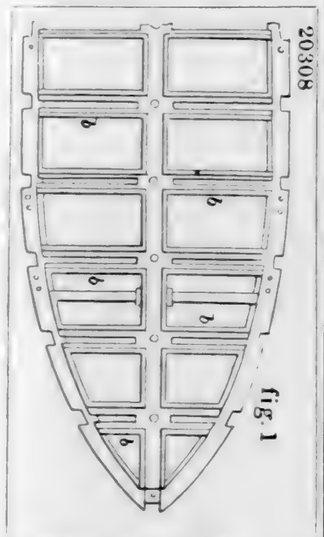
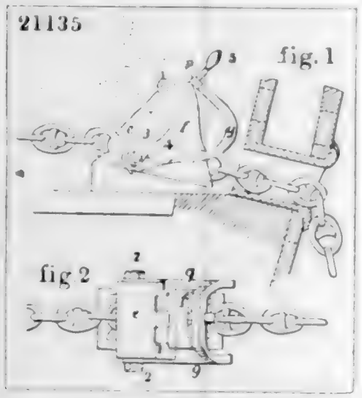


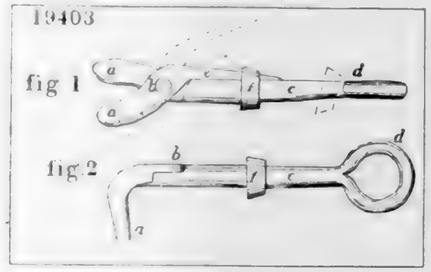
fig. 1

fig. 2

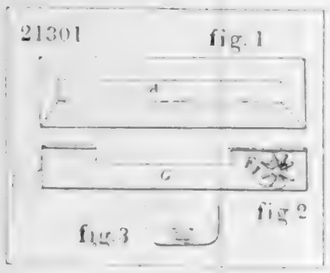
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19403



21301



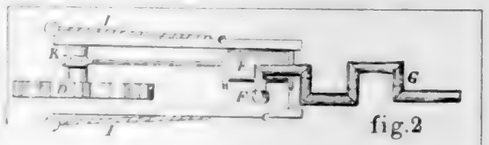


fig.2

19346

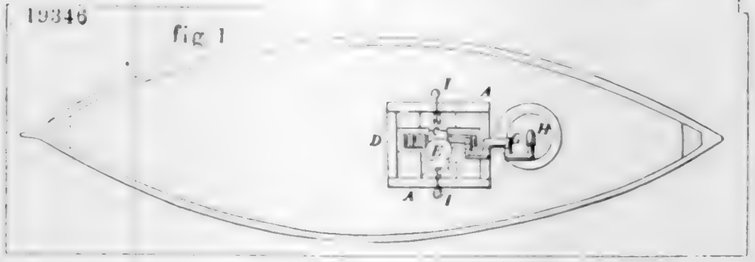
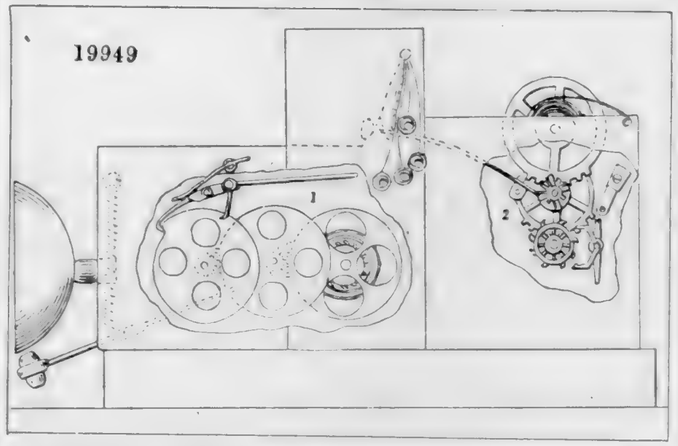
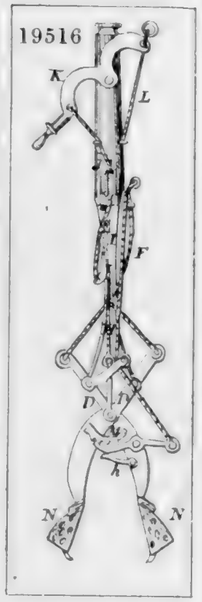


fig. 1

19949

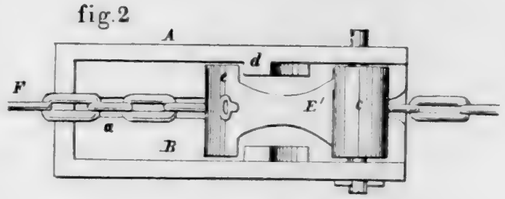


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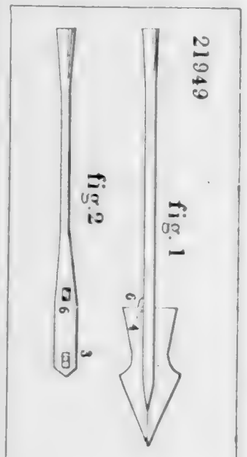


19131 fig. 1

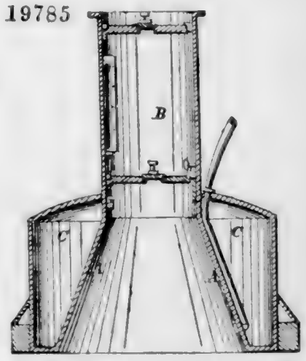
fig.2



21949



19785



21296 fig. 1

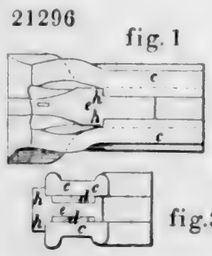


fig.2

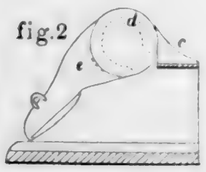
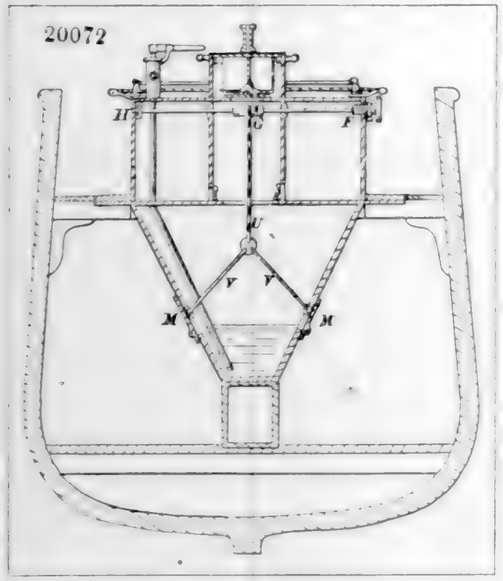


fig.3

20072



21879

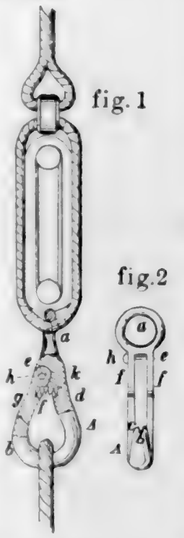
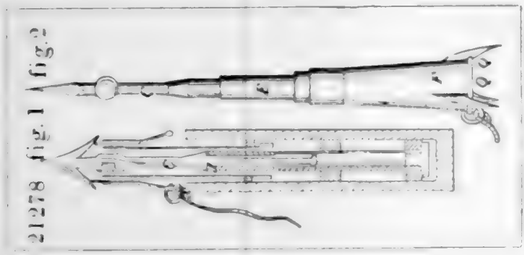


fig. 1

fig. 2

21278 fig. 1 fig. 2



22258

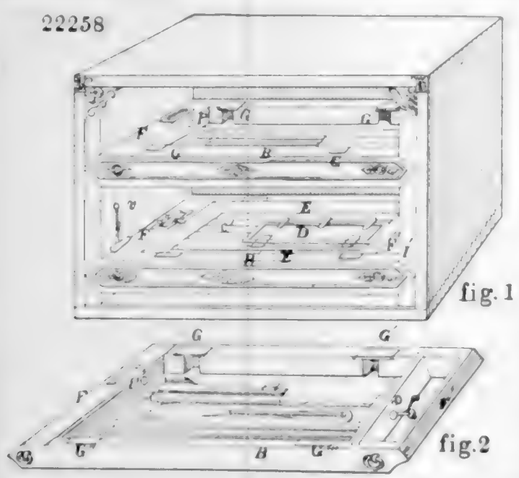


fig. 1

fig. 2

19363

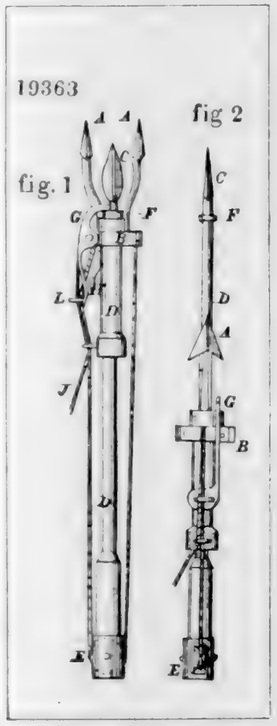
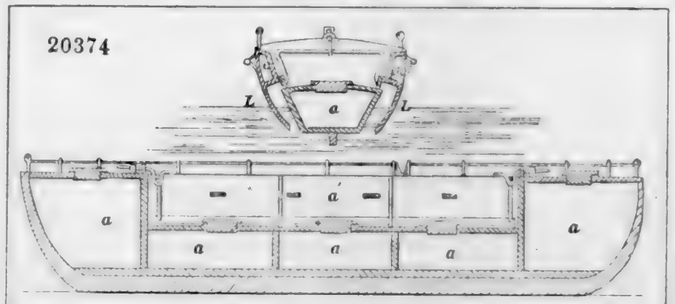


fig. 1

fig 2

20374



19989

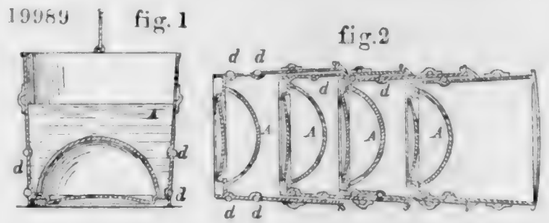


fig. 1

fig. 2

19977

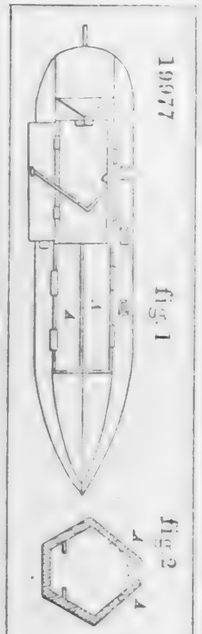


fig. 1

fig. 2

21776

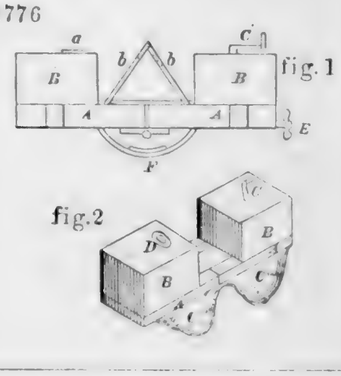


fig. 1

fig. 2

21570

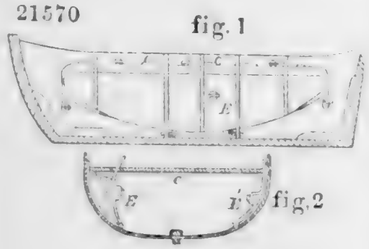


fig. 1

fig. 2

21462

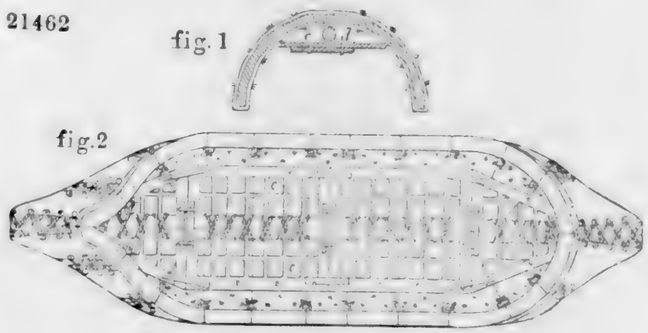
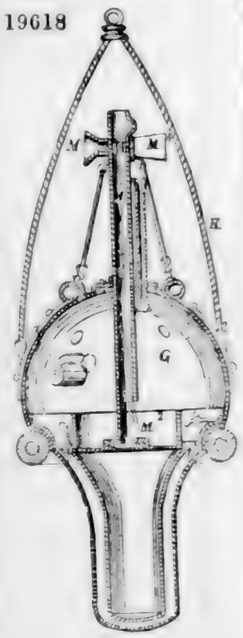


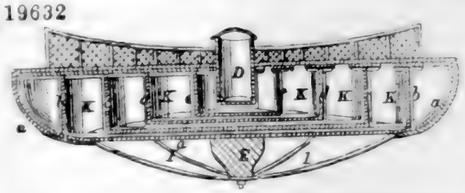
fig. 1

fig. 2

19618



19632



19593 fig. 1

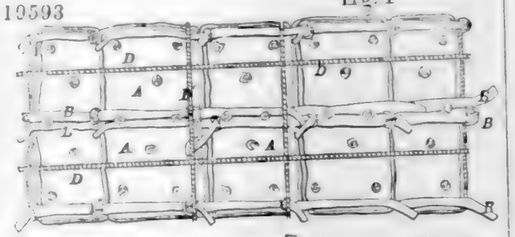
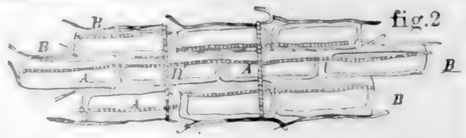


fig. 2



19350 fig. 1

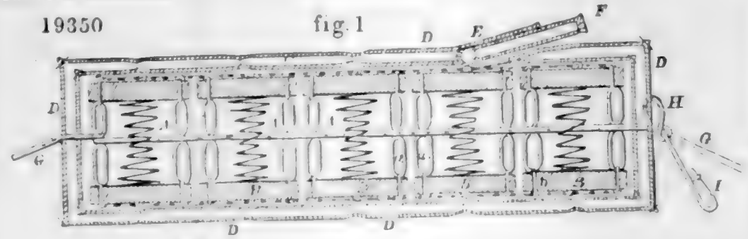
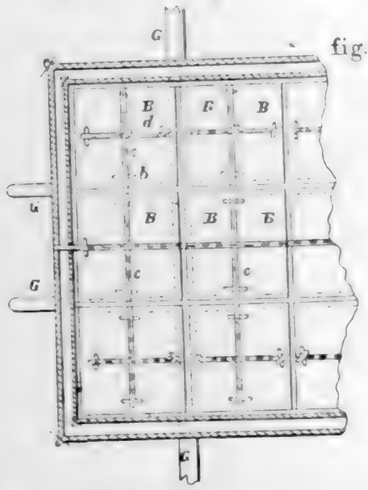


fig. 2



22467 fig. 1

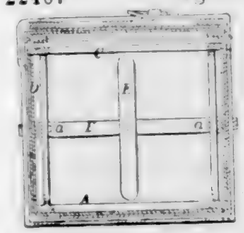
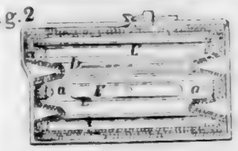


fig. 2



19216 fig. 1

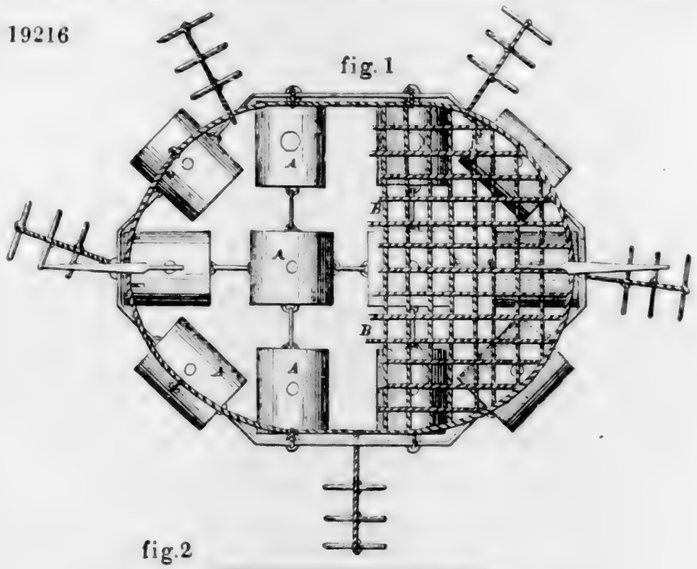
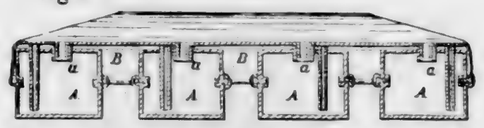
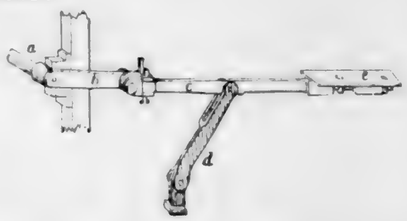


fig. 2



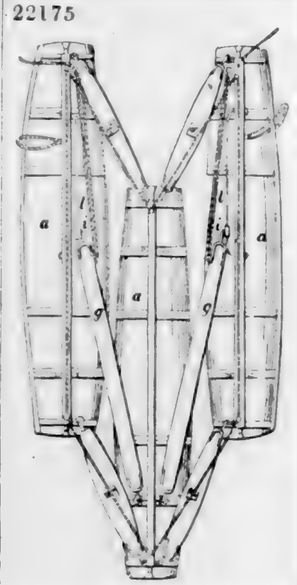
20228



22021



22175



20676

fig. 1

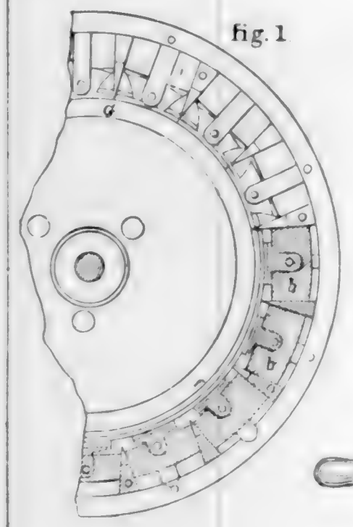
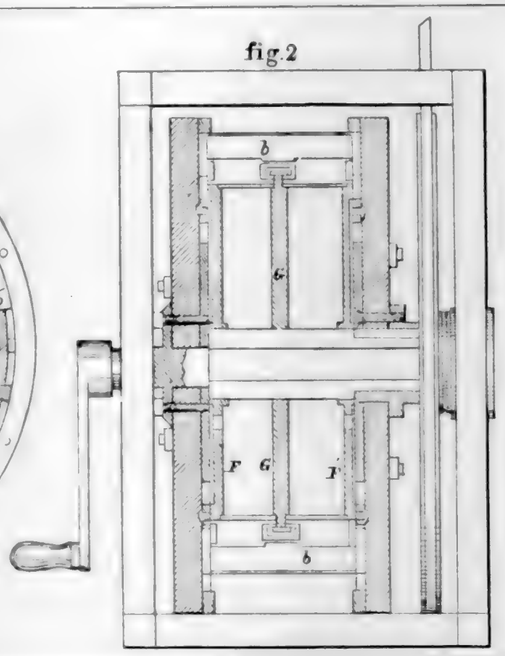
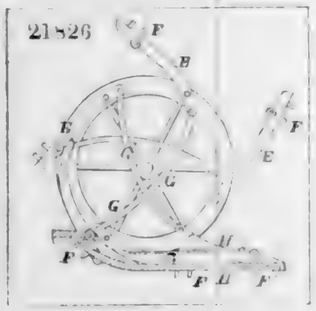


fig. 2

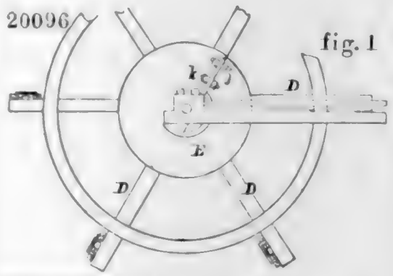


21826



20096

fig. 1



19482

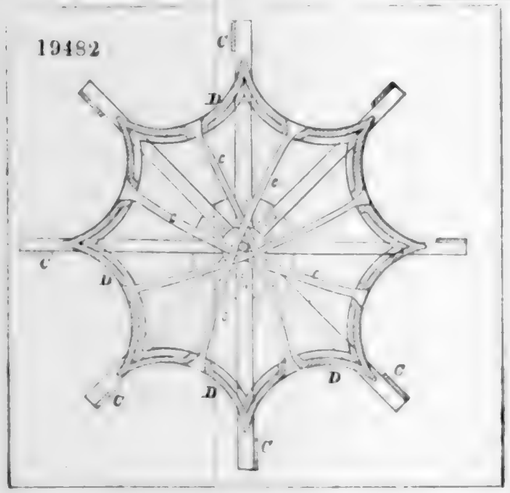
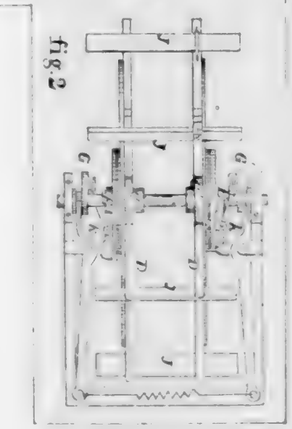


fig. 2



21892

fig. 1

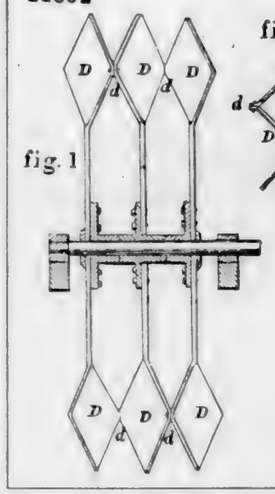


fig. 2



20606

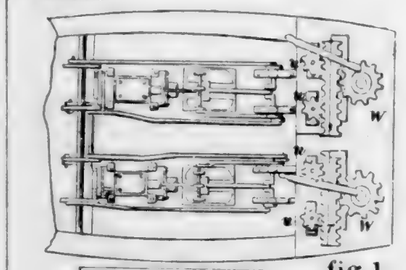
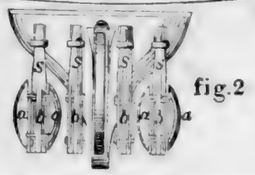


fig. 1

fig. 2



21432

fig. 1

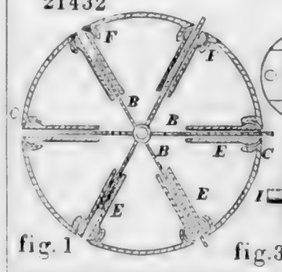


fig. 2

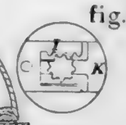
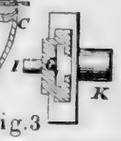


fig. 3

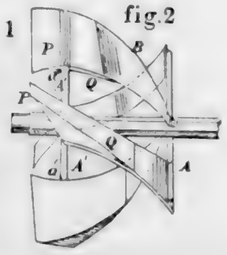


20744

fig. 1



fig. 2



20953

fig. 1

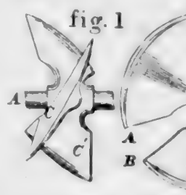
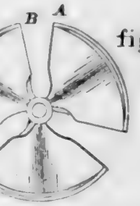


fig. 2

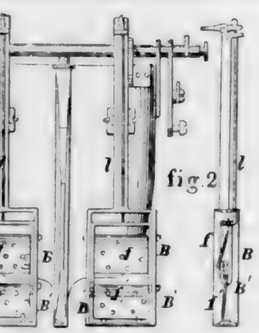


22016

fig. 1



fig. 2



22209

fig. 1

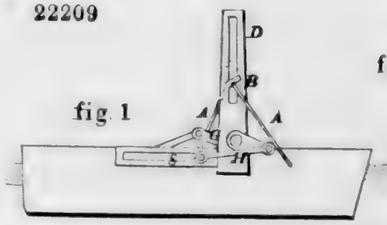
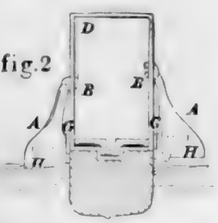


fig. 2



22373

fig. 1

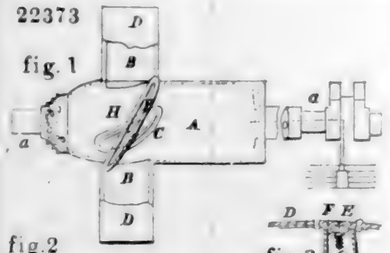


fig. 2

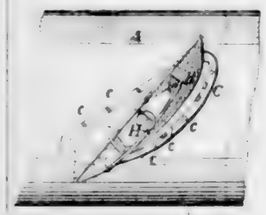
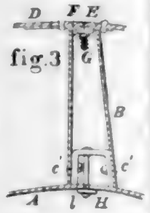
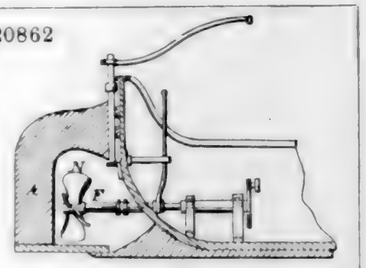


fig. 3



20862



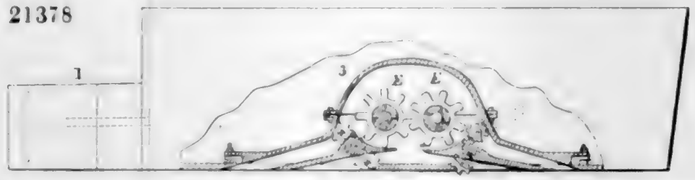
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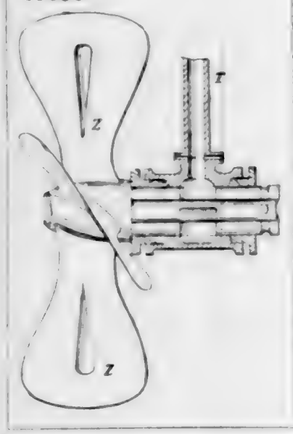
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21378



21650



20889

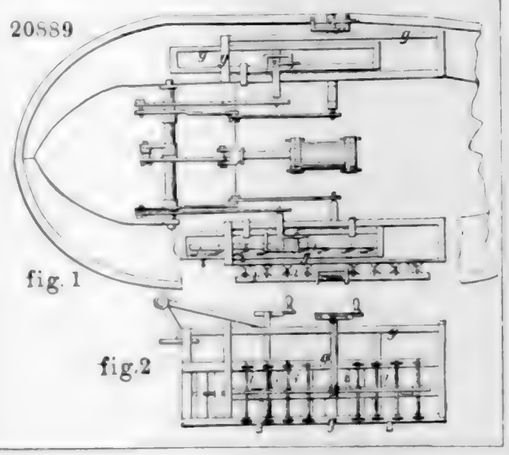


fig. 1

fig. 2

20322

fig. 1

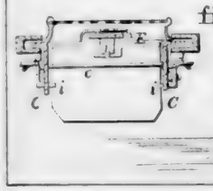
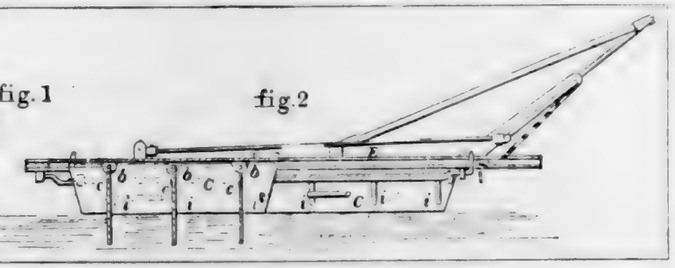


fig. 2



21825

fig. 1

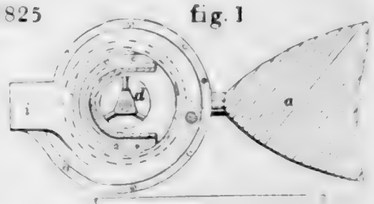
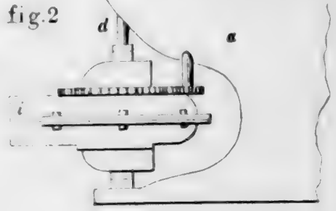
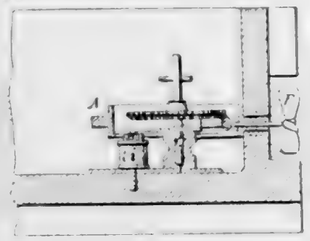


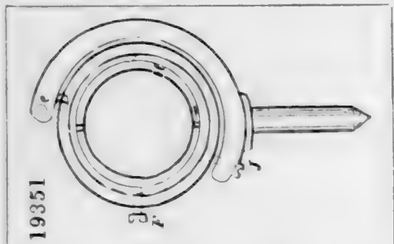
fig. 2



22417



19351



22266

fig. 1

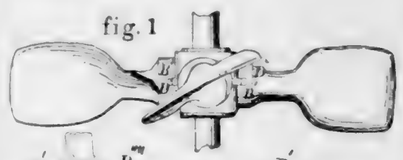


fig. 2

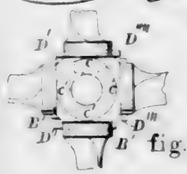


fig. 3



19387

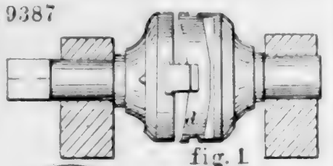


fig. 1

fig. 2

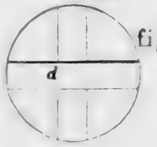
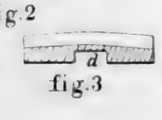


fig. 3



20751

fig. 1

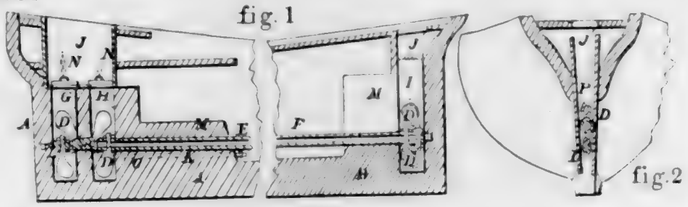
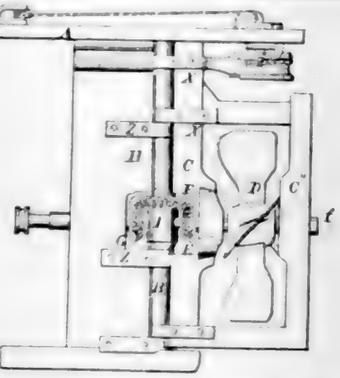
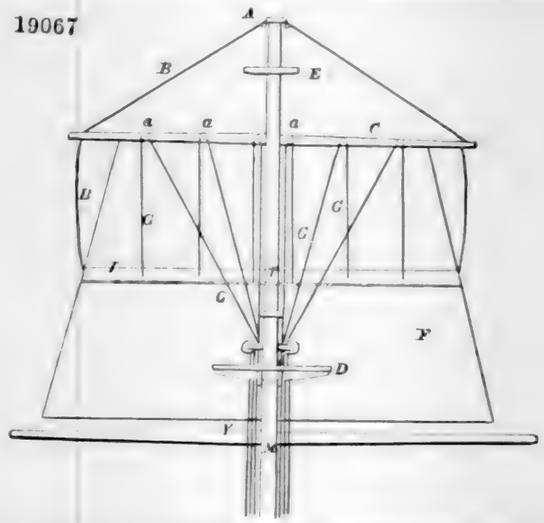


fig. 2

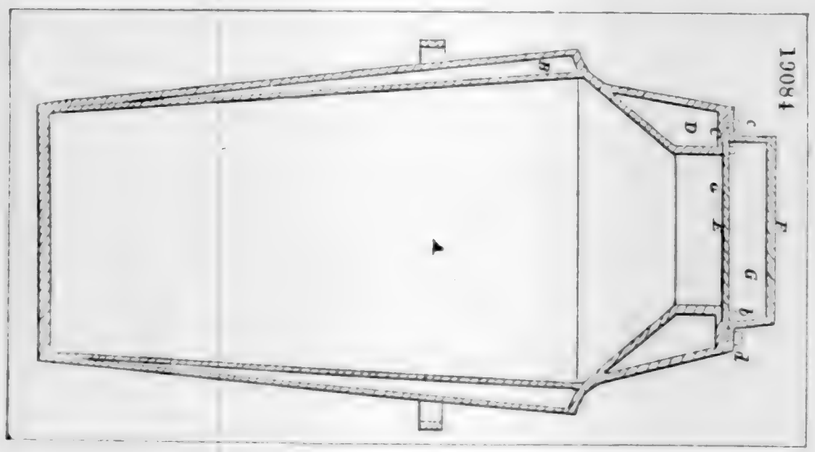
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19067



19084



19350

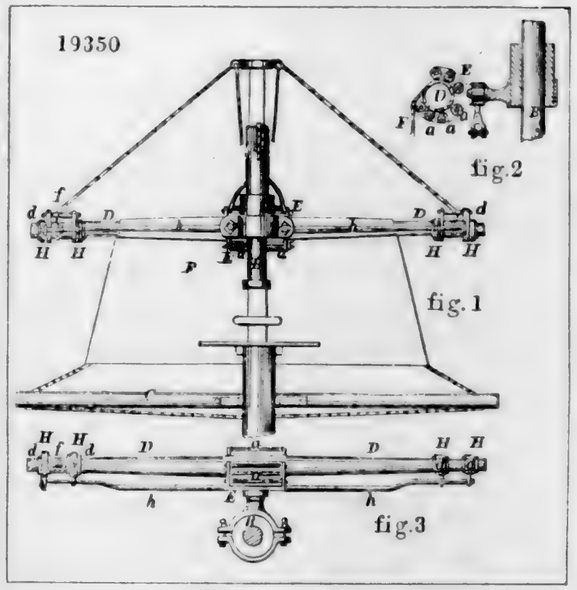


fig. 2

fig. 1

fig. 3

22097

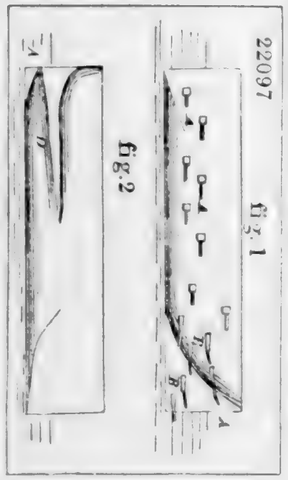


fig. 2

fig. 1

19225

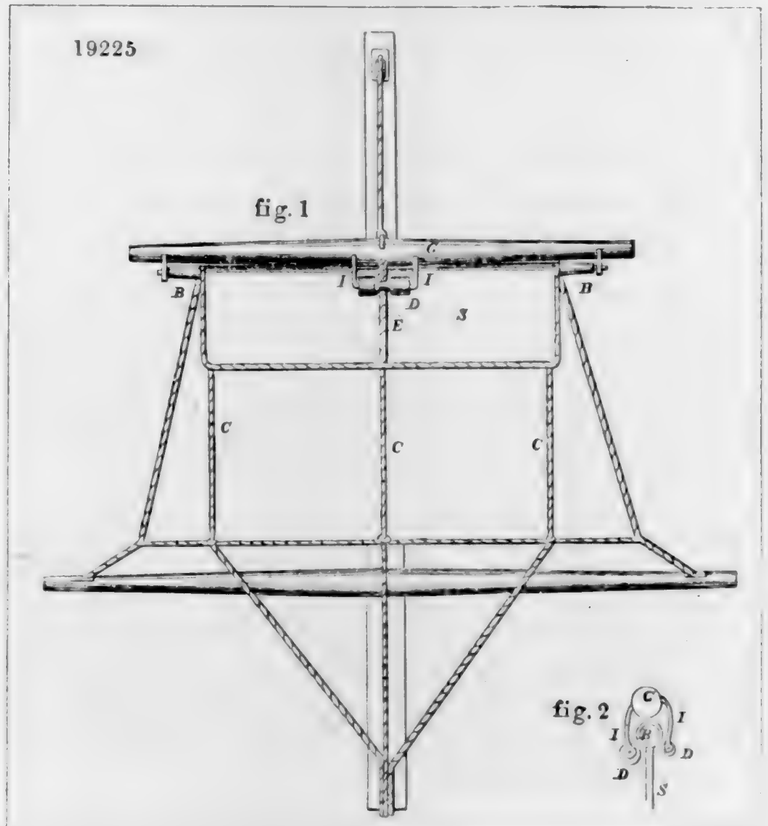


fig. 1

fig. 2

20657

fig. 1

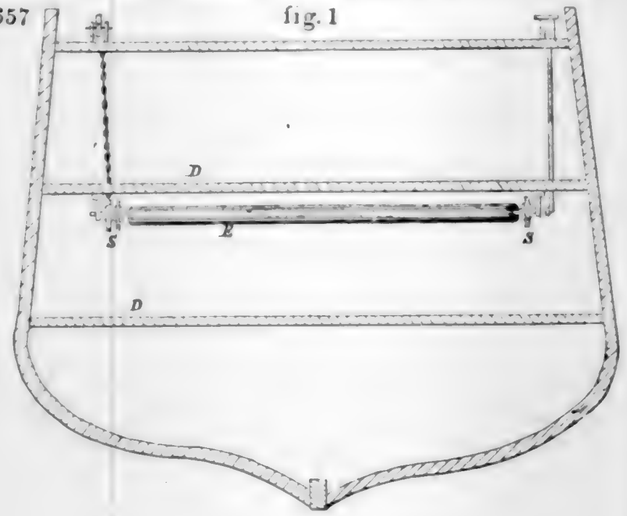


fig. 2

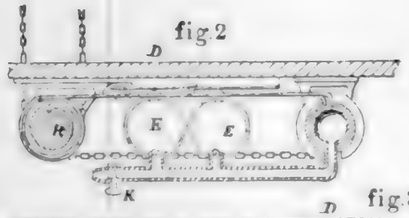


fig. 3



21609

fig. 1

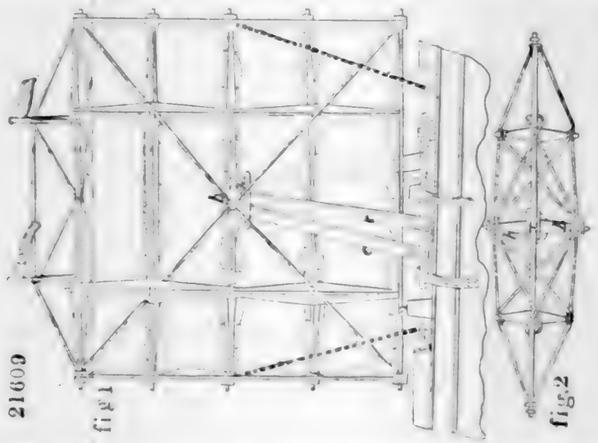


fig. 2

19043

fig. 2

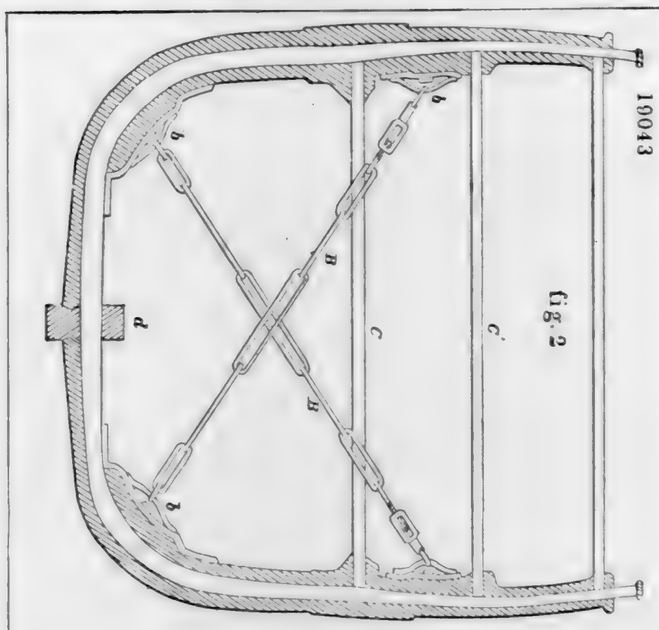
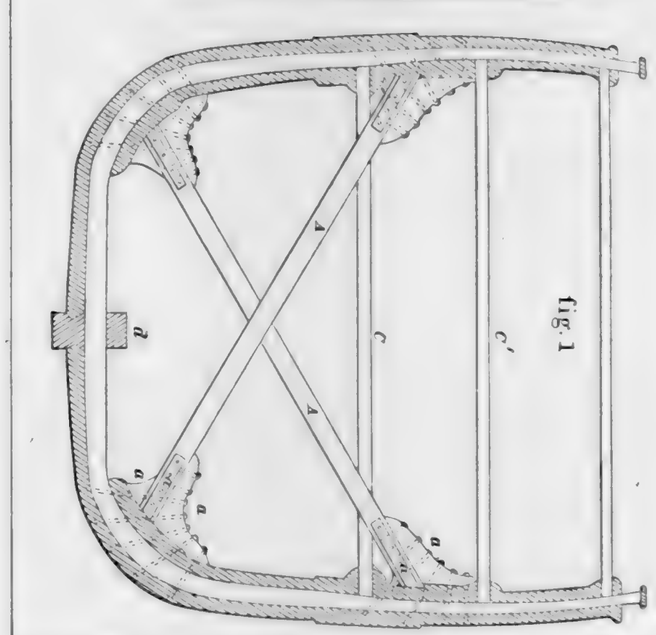


fig. 1



20131

fig. 2

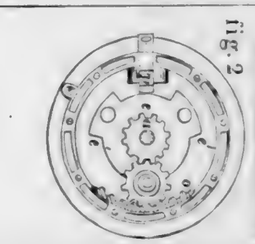
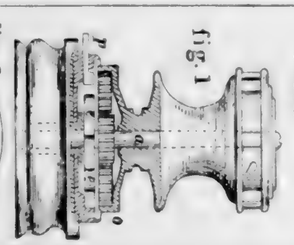


fig. 1



19737 fig. 1

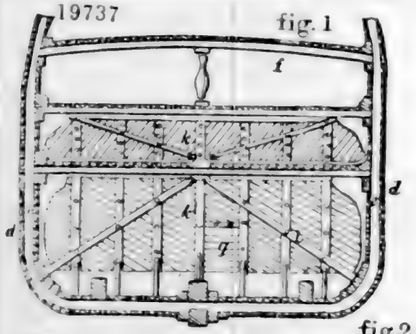
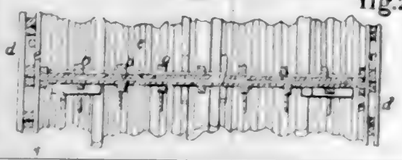
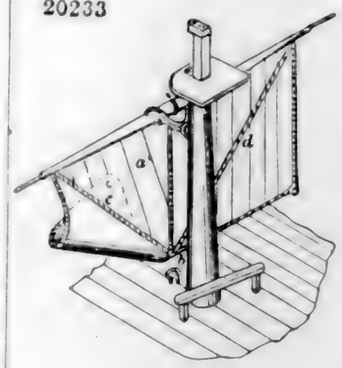


fig. 2



20233



20877 fig. 1



fig. 2



21134 fig. 1

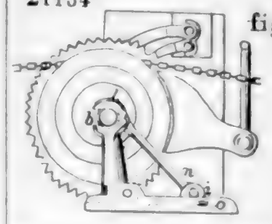
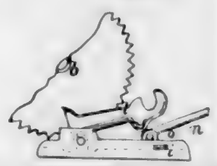
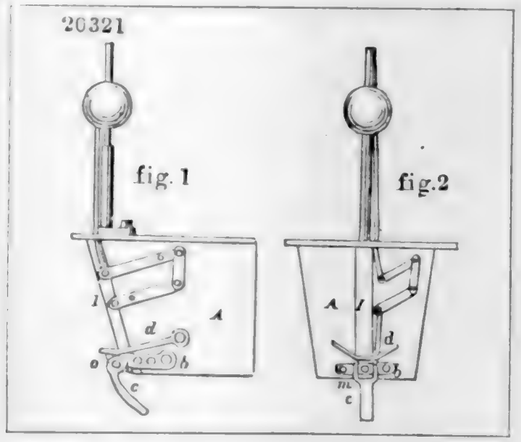


fig. 2



20321



19332 fig. 1

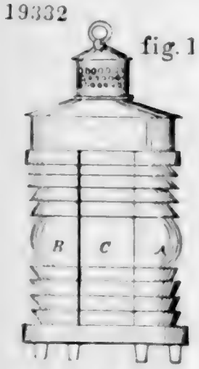


fig. 2



21919 fig. 1

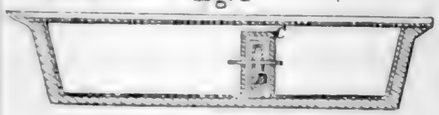
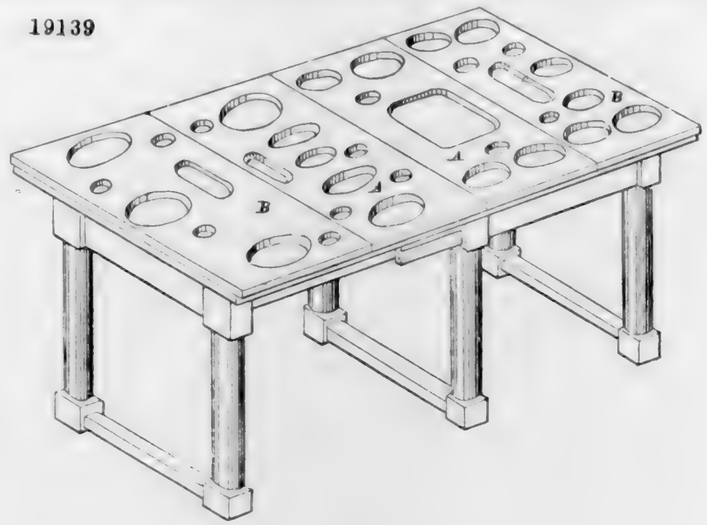


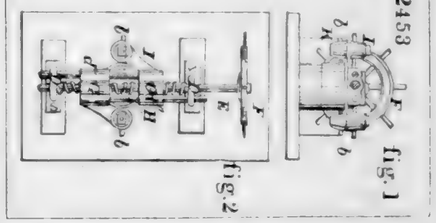
fig. 2



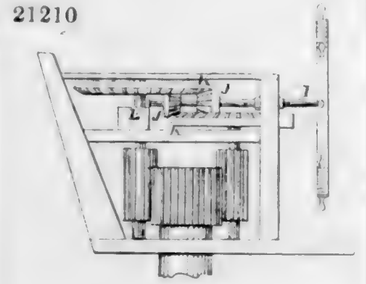
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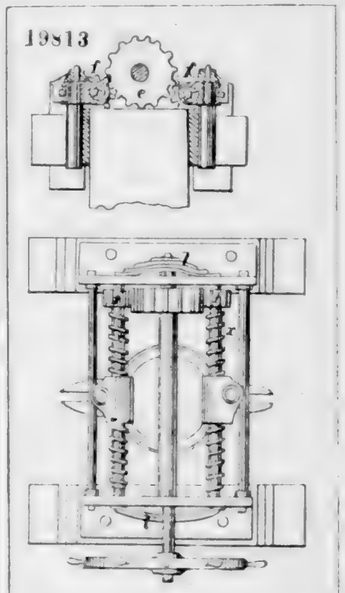
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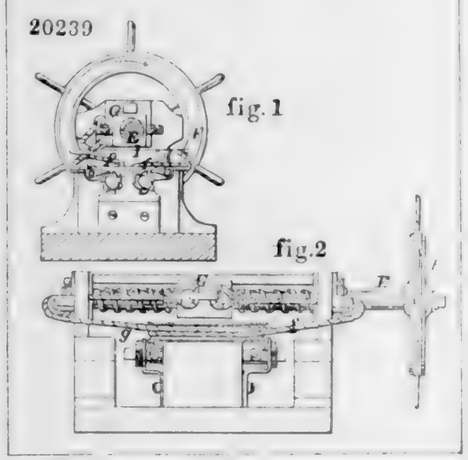
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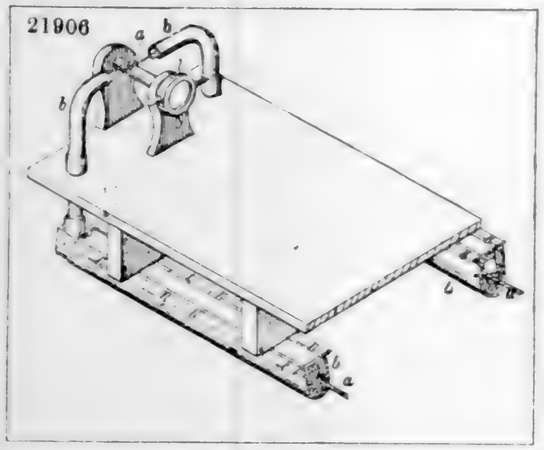
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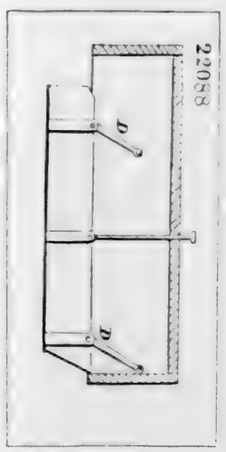
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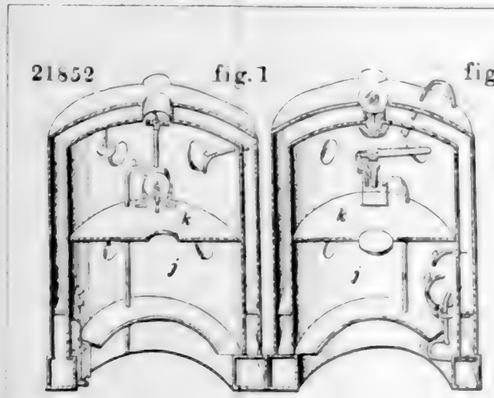
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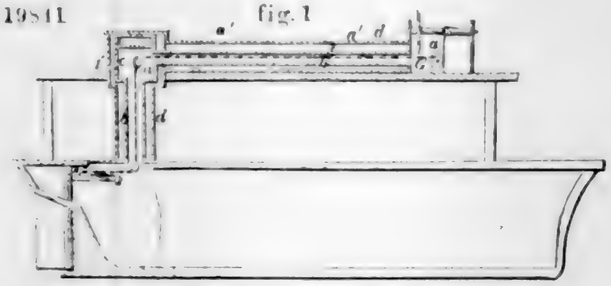
21852 fig.1 fig.2



21917



19811 fig.1



20673

fig.1

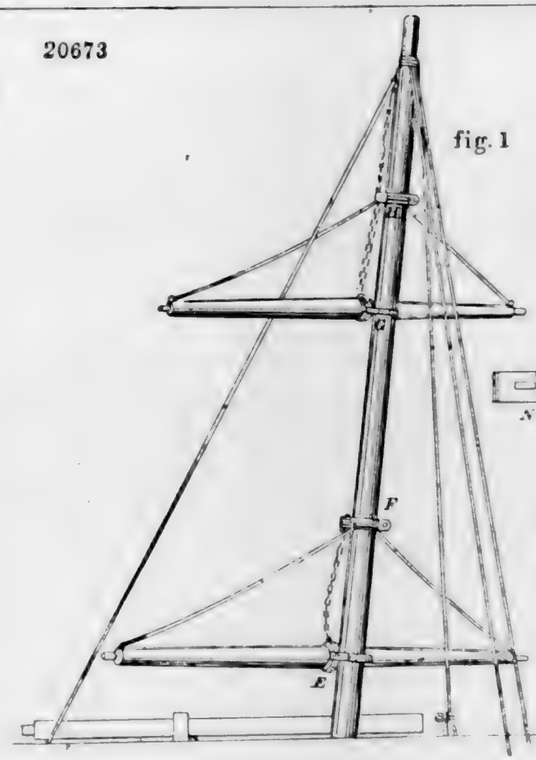


fig.2

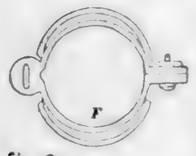


fig.3

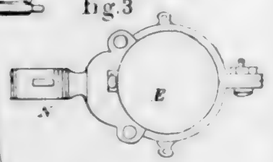
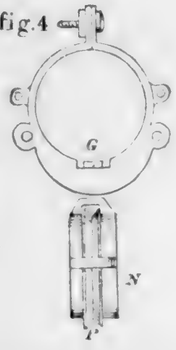
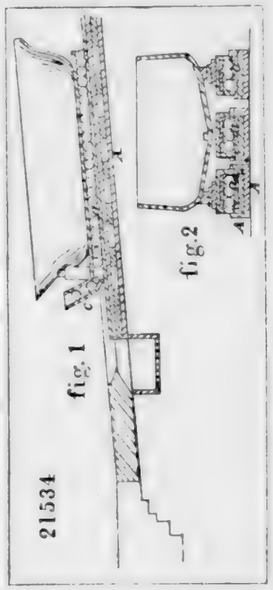


fig.4



21534



20426

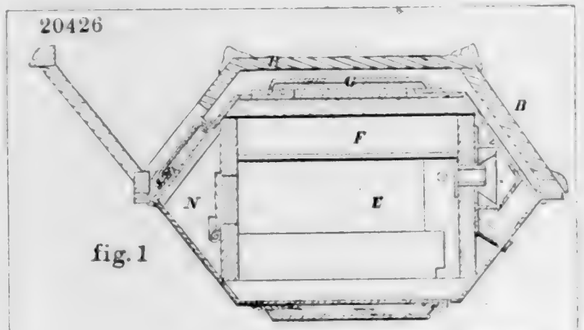
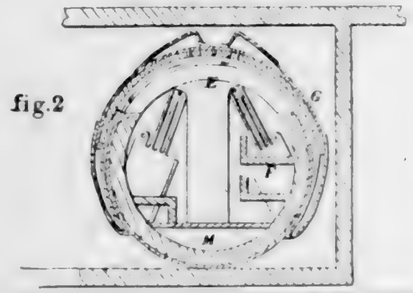


fig.1

fig.2



19047

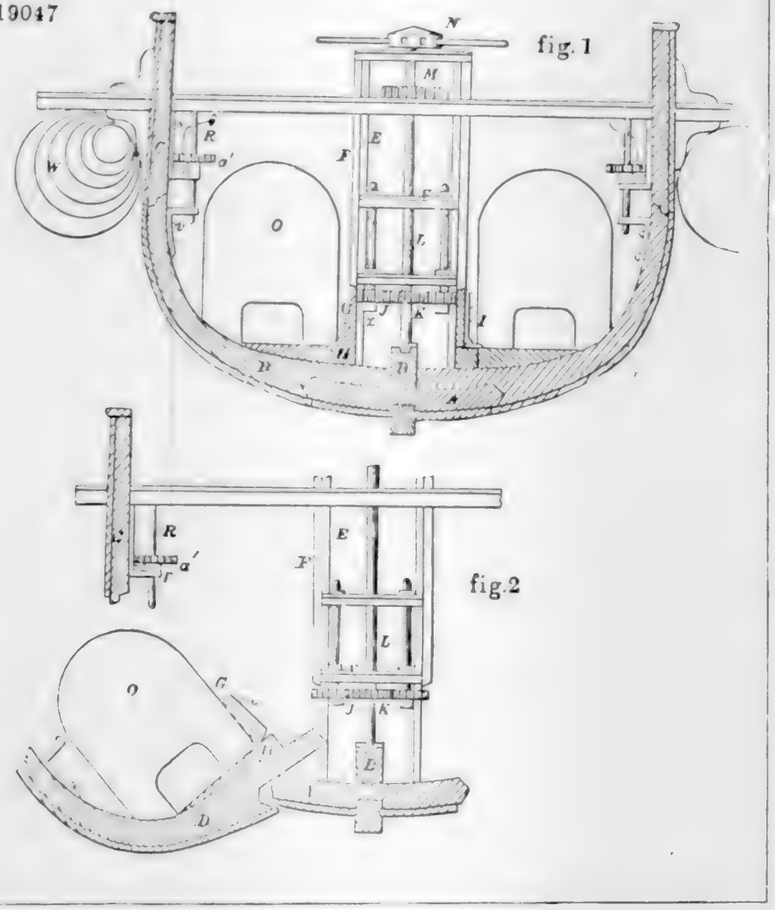


fig. 1

fig.2

22002

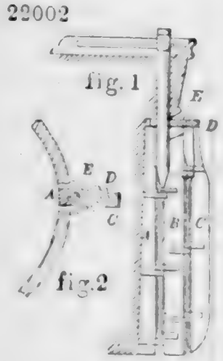
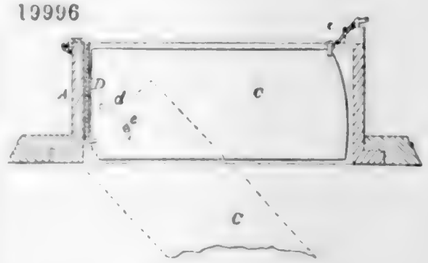


fig. 1

fig.2

19996



21918

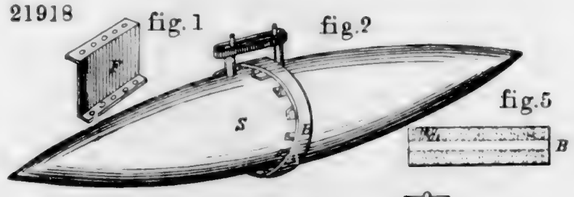


fig. 1

fig.2

fig.5

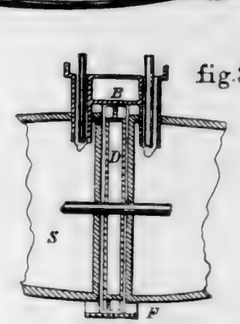


fig.3

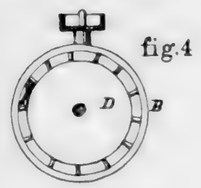


fig.4

20578

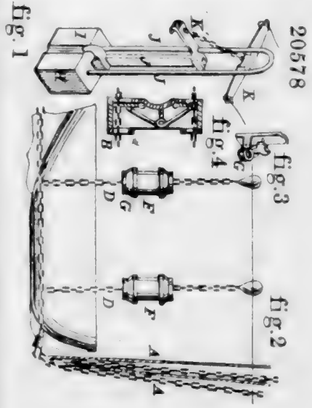
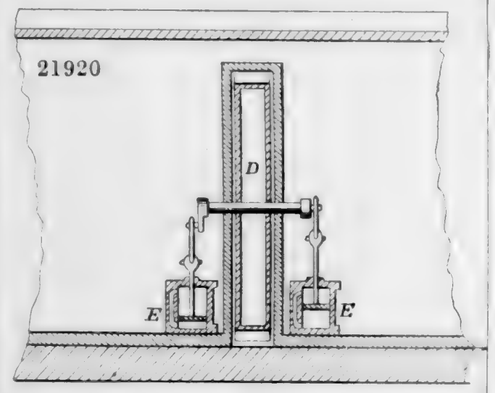


fig. 1

fig.2

21920



19500

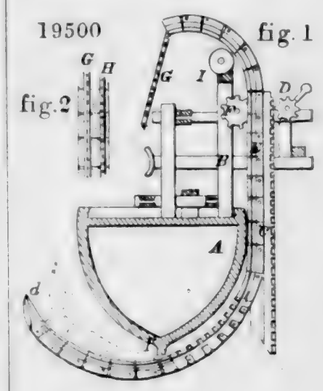


fig. 1

fig.2

21532

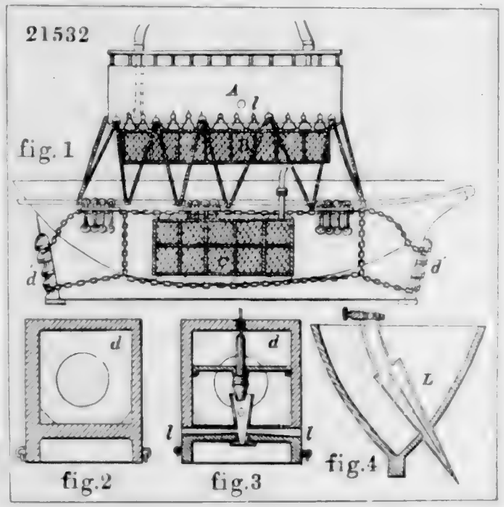


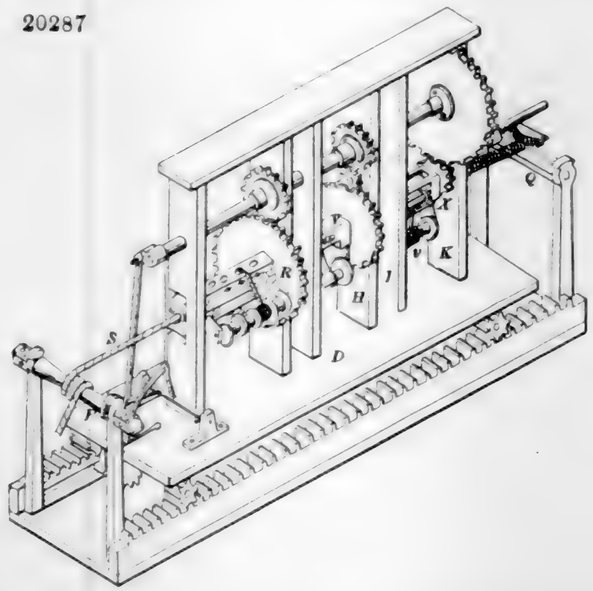
fig. 1

fig.2

fig.3

fig.4

20287



22457

fig. 1

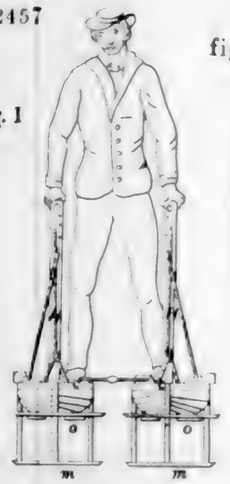
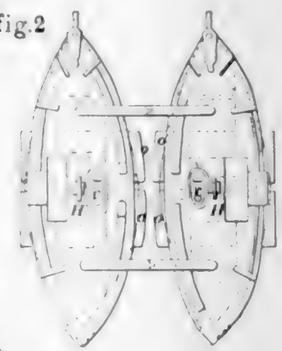
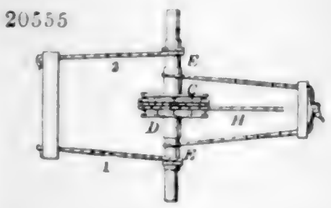


fig. 2



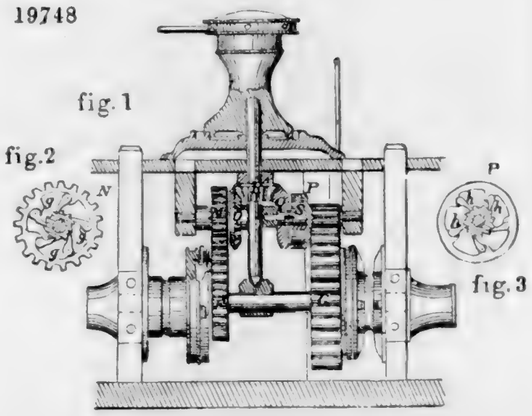
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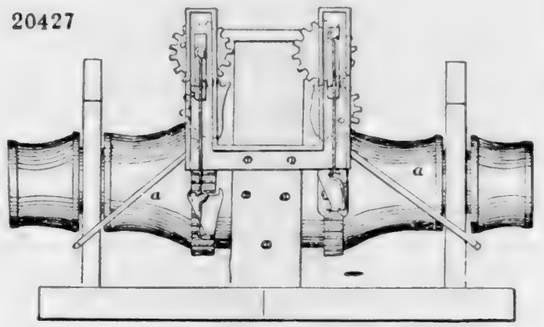
19748

fig. 1

fig. 2



20427



21280

fig. 1

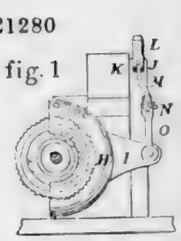
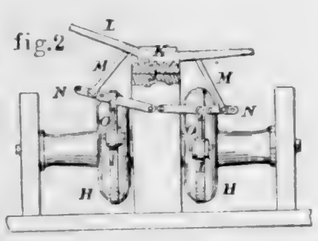
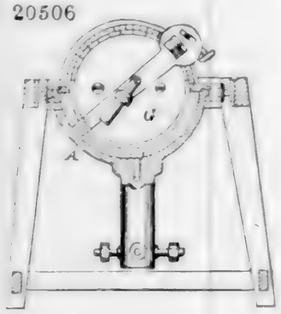


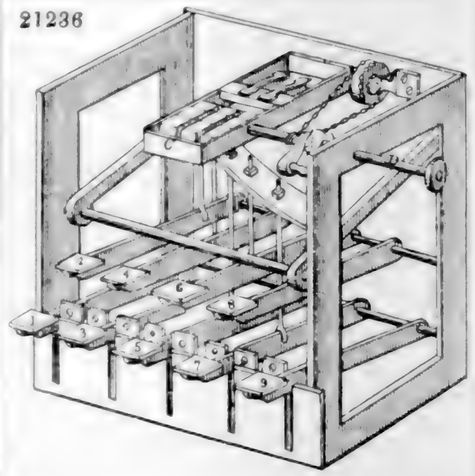
fig. 2



20506



21236



21243

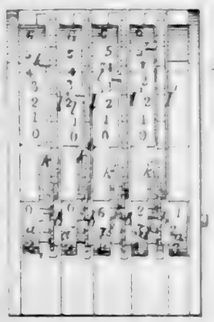
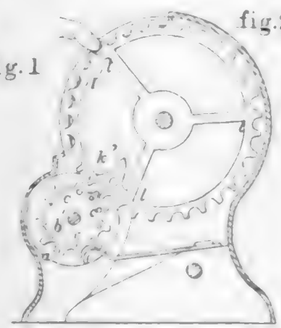


fig.1

fig.2



21921



21621

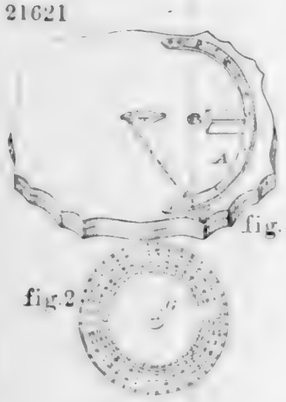


fig.1

fig.2

22396

fig.1

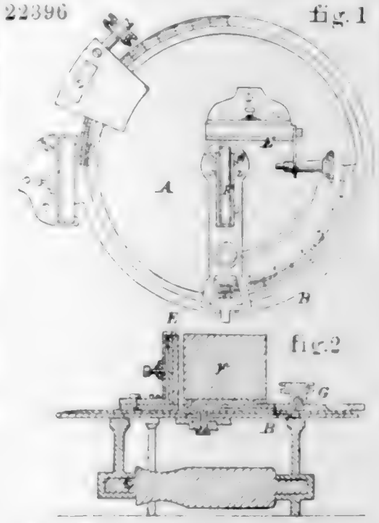


fig.2

21941

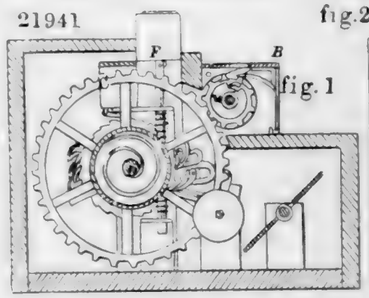
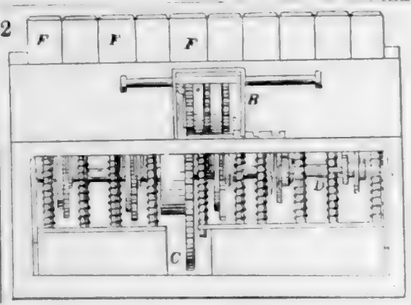


fig.1

fig.2



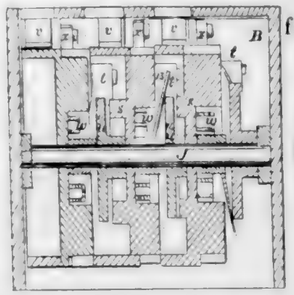


fig.3

fig.4

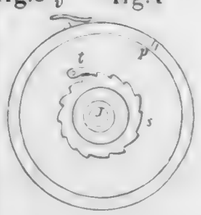


fig.5



21865

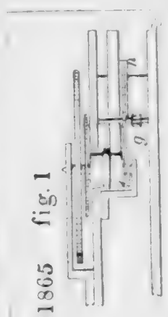
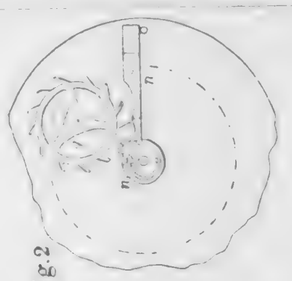
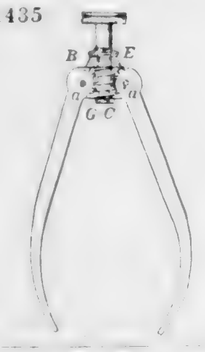


fig.1

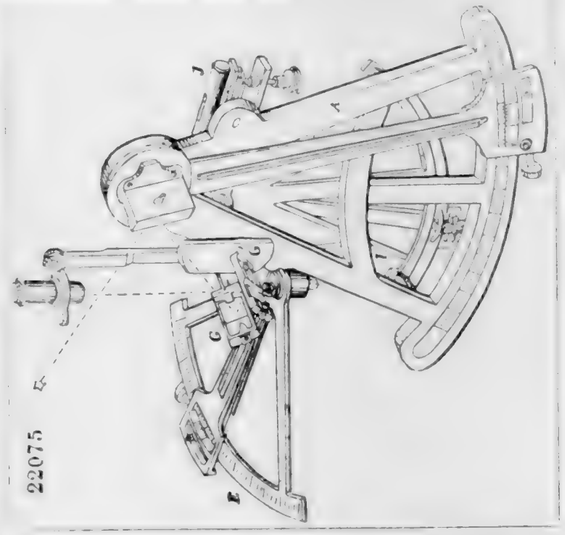
fig.2



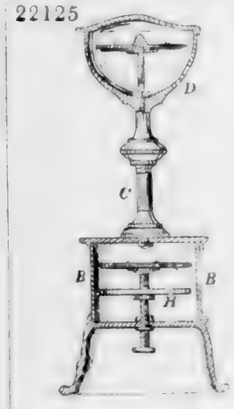
21435



22075



22125



19519

fig. 1

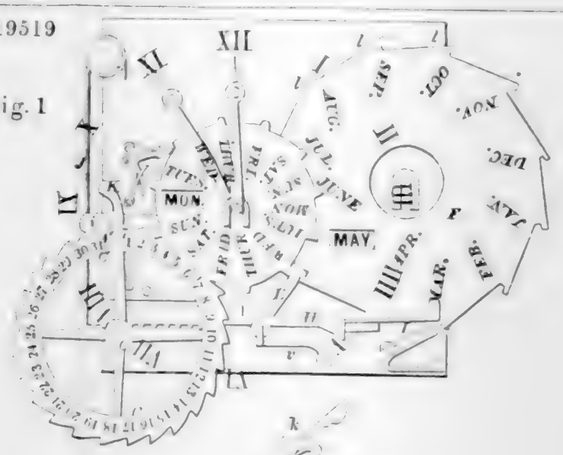
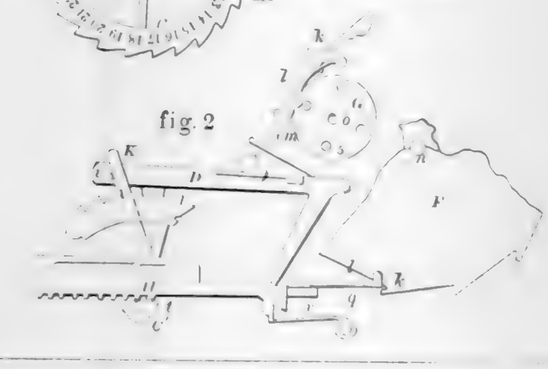
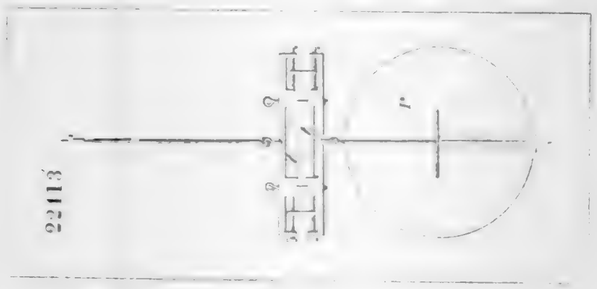


fig. 2



22113



19472

fig. 1

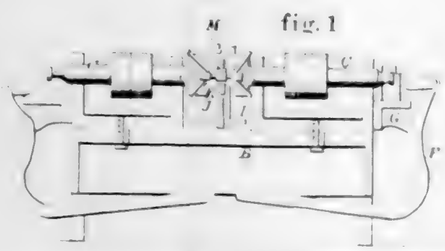
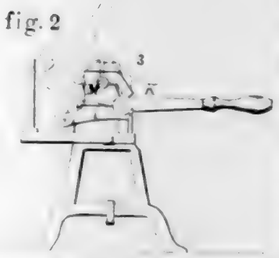


fig. 2



19351

fig. 1

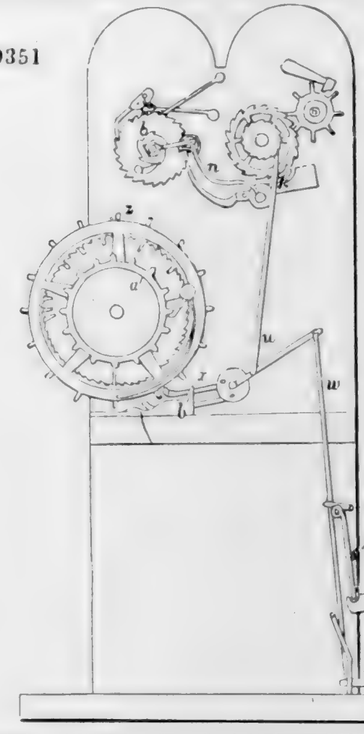


fig. 2

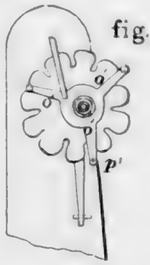
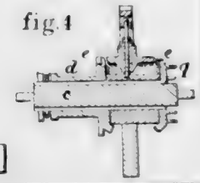


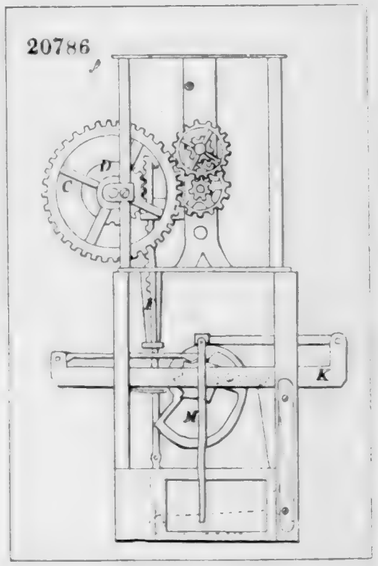
fig. 3



fig. 4



20786



22388

fig. 1

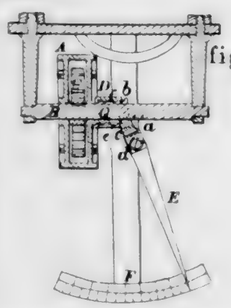


fig. 2



19058

fig. 1

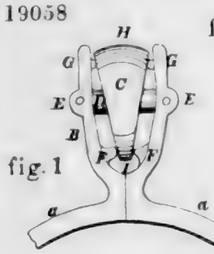
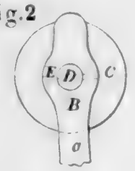


fig. 2



21781

fig. 1

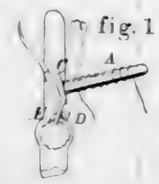
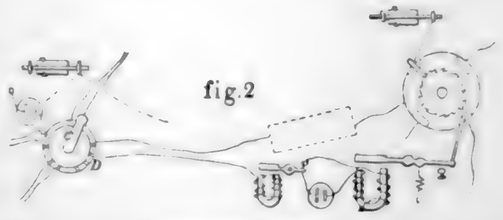
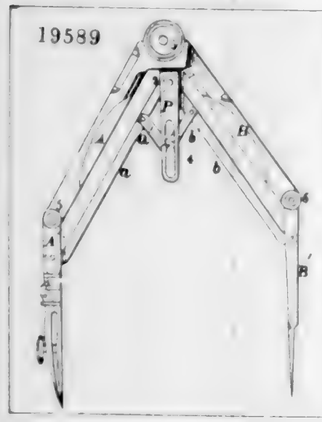


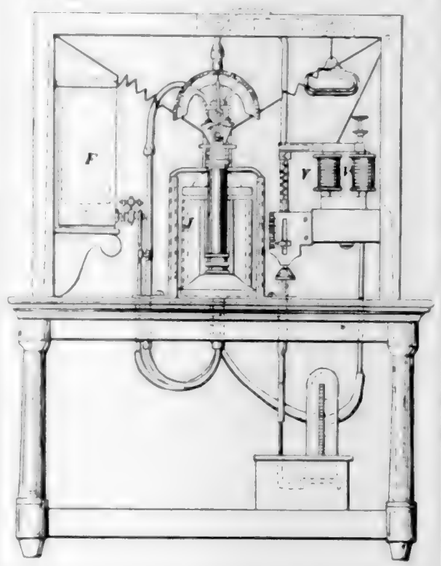
fig.2



19589



19642



19766

fig 1



fig.2

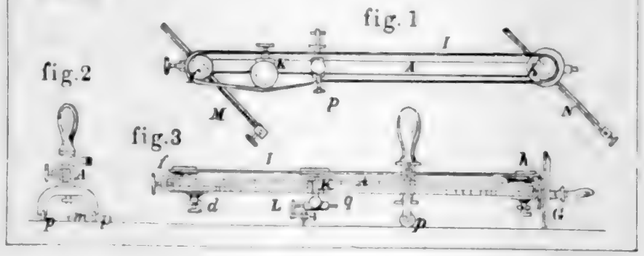


21041

fig. 1

fig.2

fig.3



19176

fig. 1

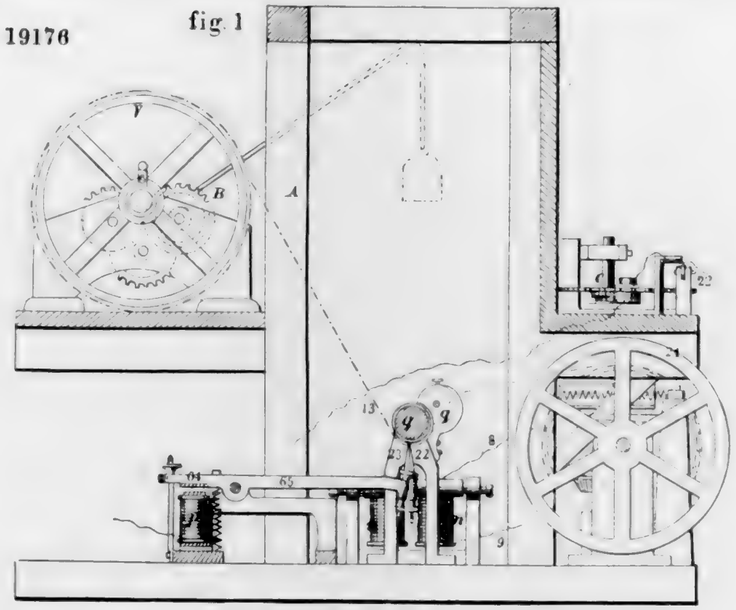


fig.2

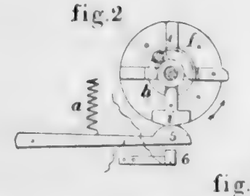
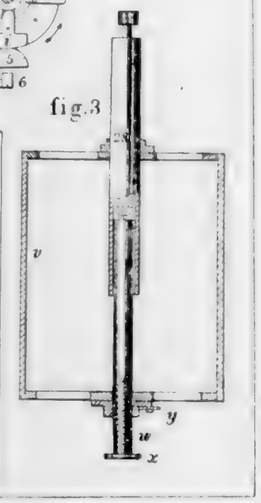


fig.3



19460

fig. 1

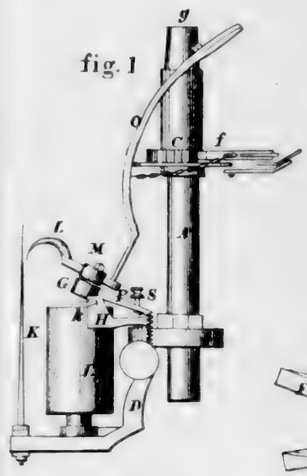
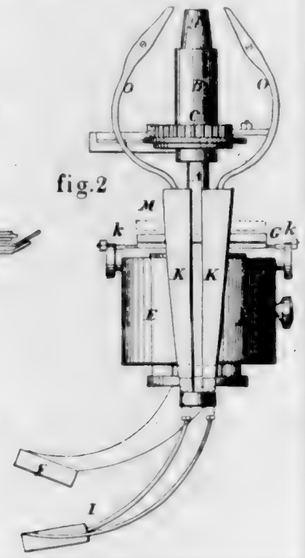


fig.2



19132

fig. 1

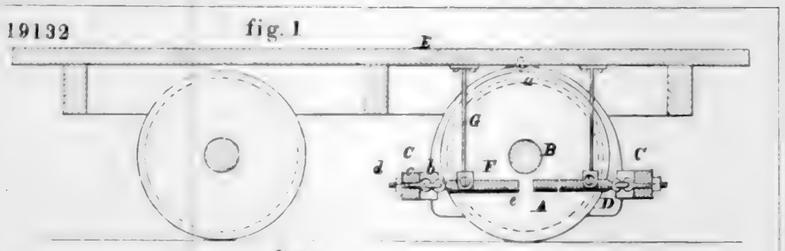
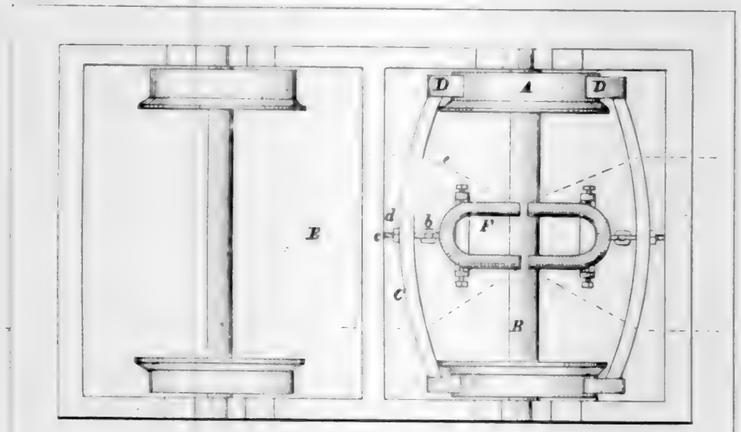
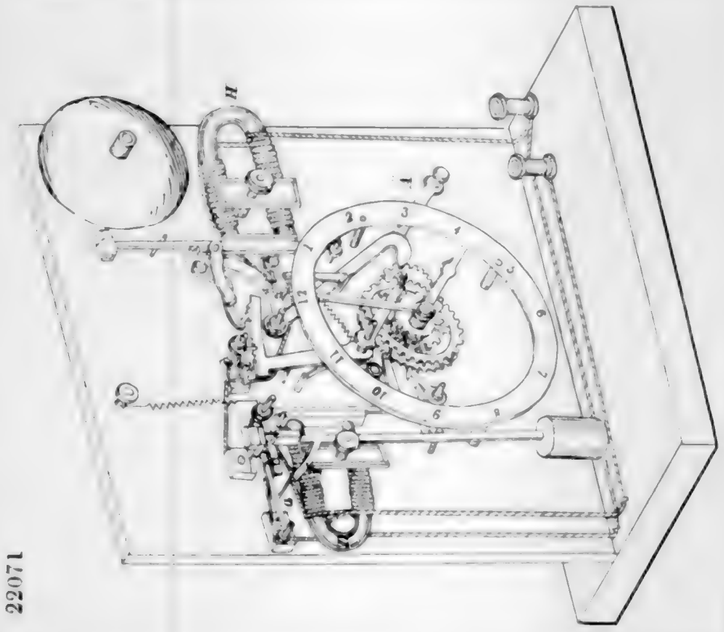


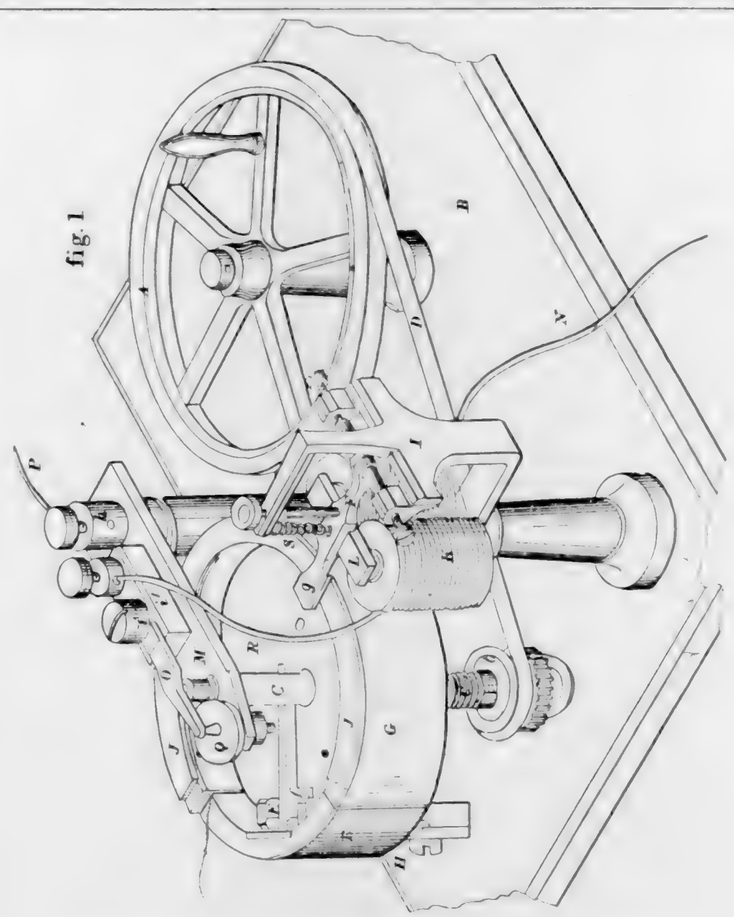
fig. 2

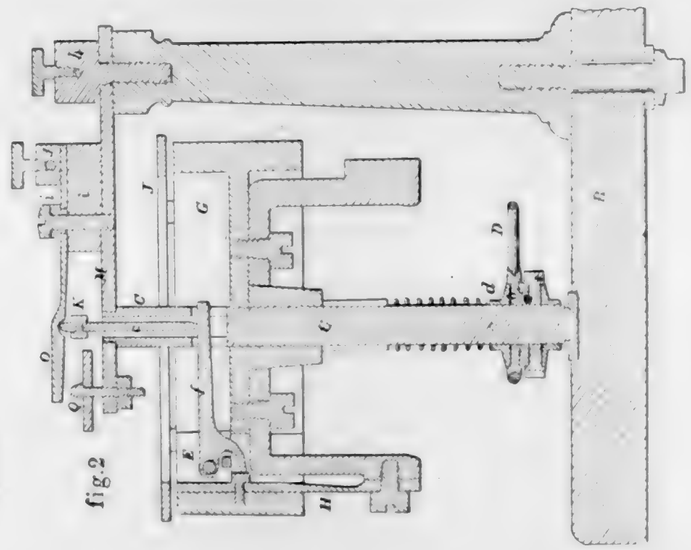




22071

fig. 1





19042

fig. 2

20970

fig. 1

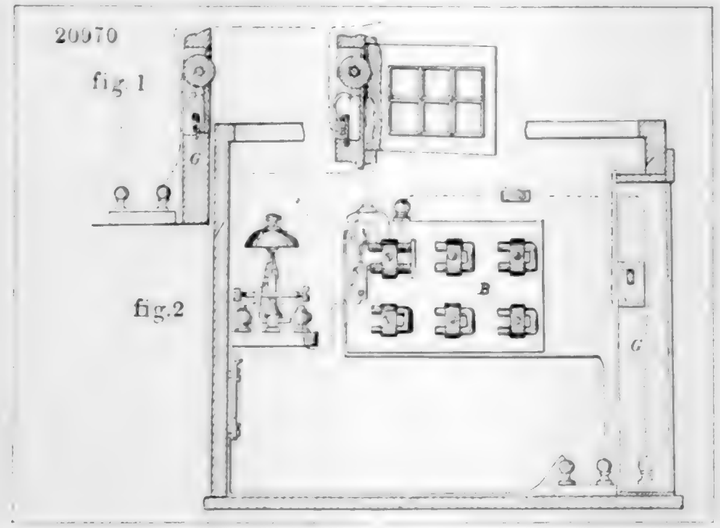


fig.2

21105

fig 2

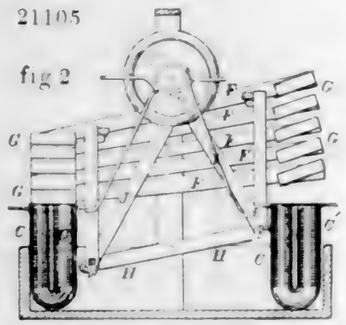
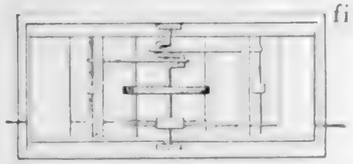
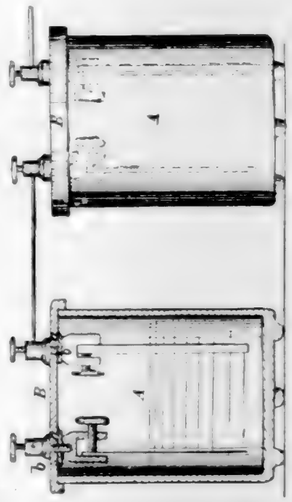


fig. 1



19759



22347

fig. 1

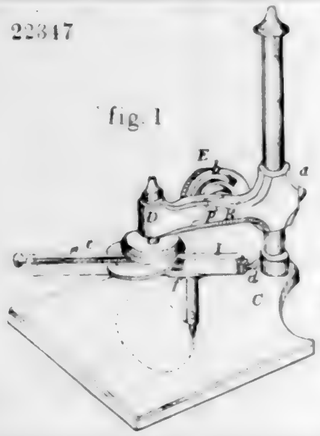
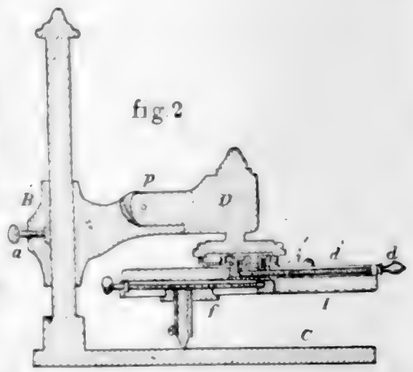


fig 2



19245

fig.2

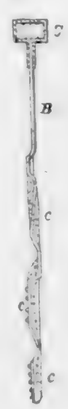
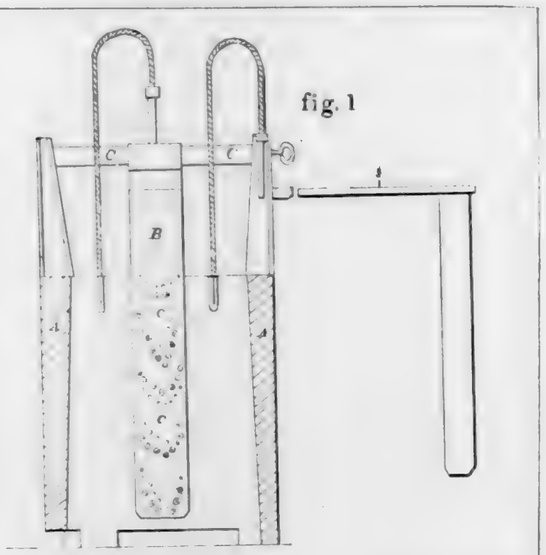
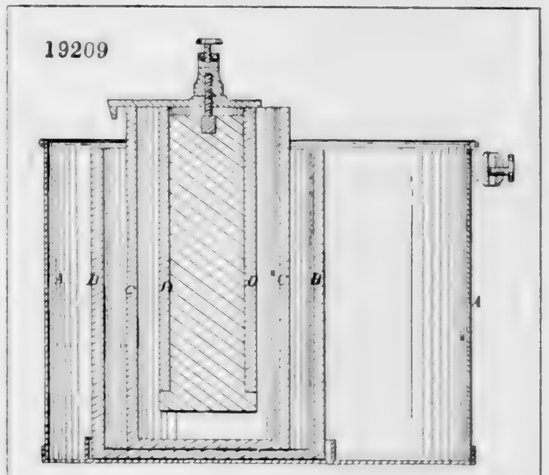


fig. 1



19209



20326



22029

fig. 1

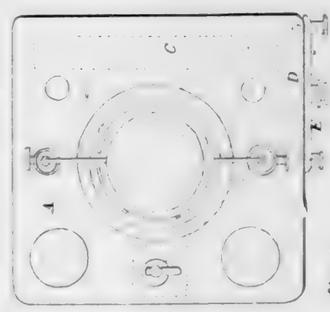
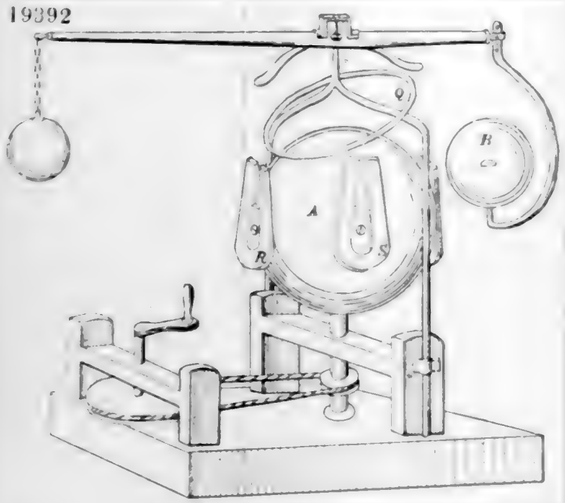


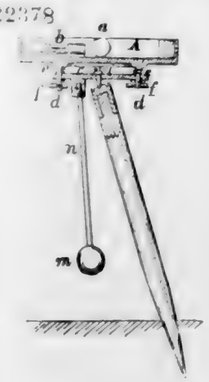
fig.2

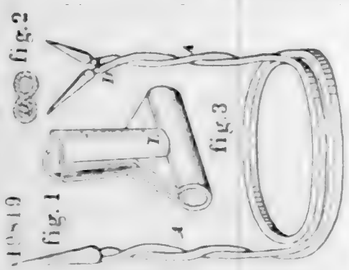


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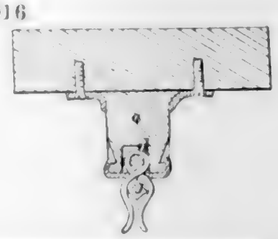


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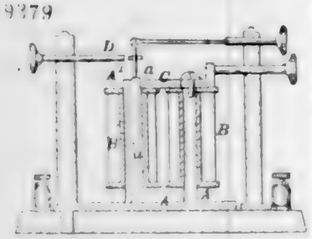




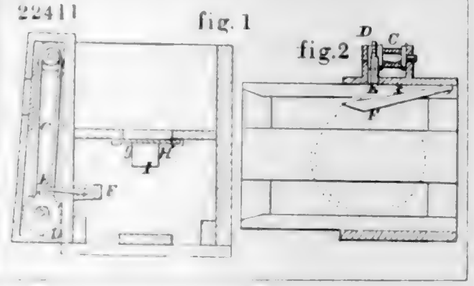
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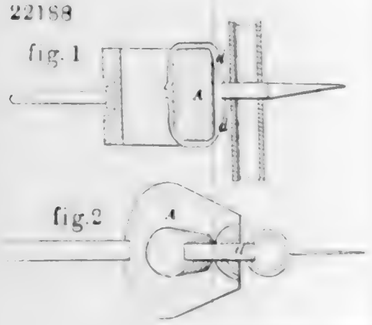
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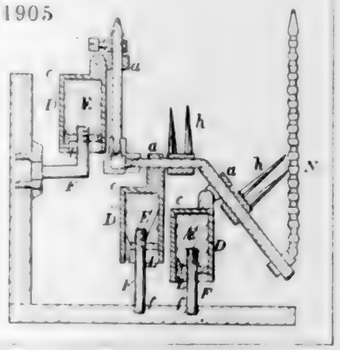
22411 fig. 1 fig. 2



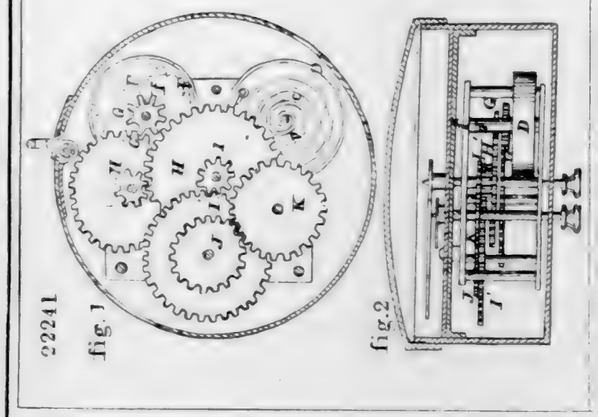
22188 fig. 1 fig. 2



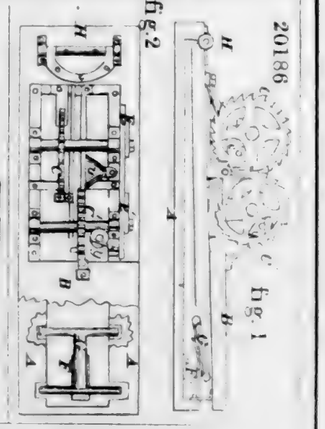
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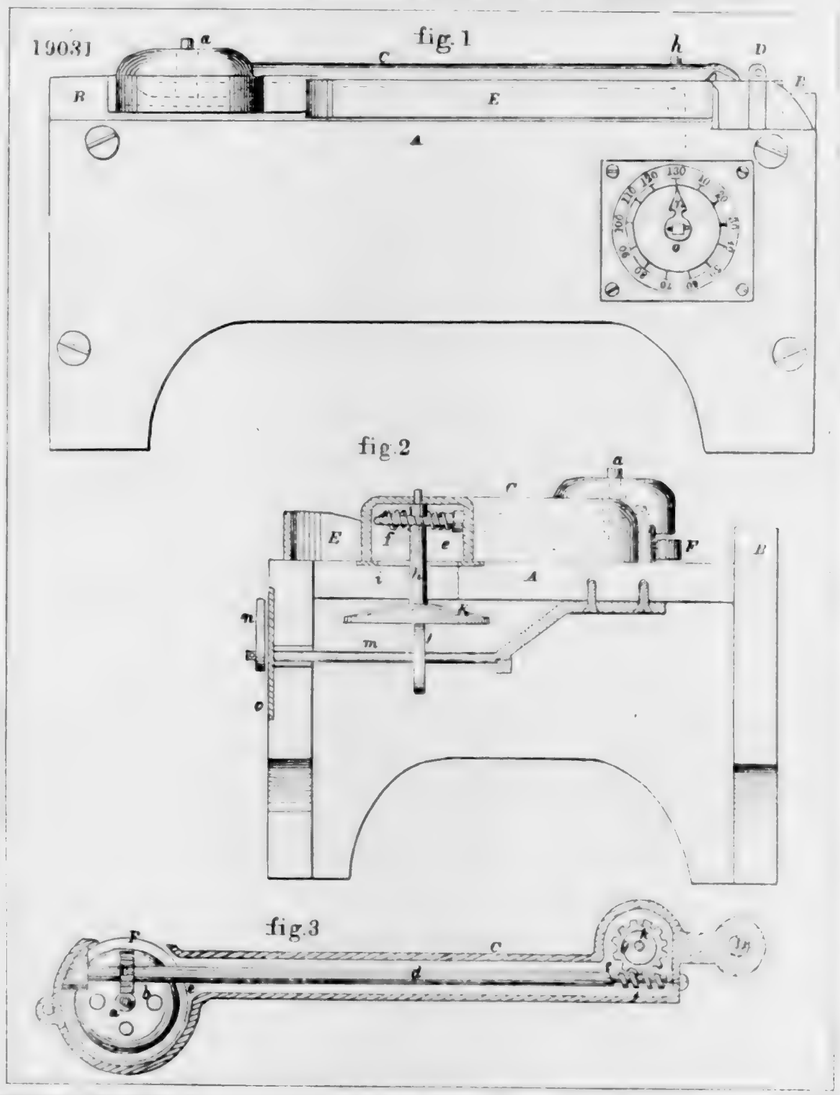
22241 fig. 1 fig. 2



20186 fig. 1 fig. 2



19031 fig. 1 fig. 2 fig. 3



19380

19381

19382

19383

19384

19385

19091

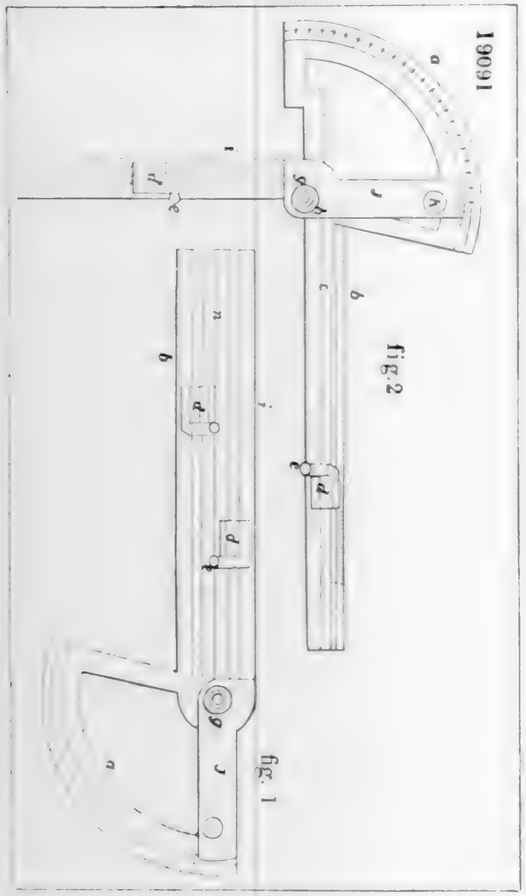


fig. 1

fig. 2

19479 fig. 1

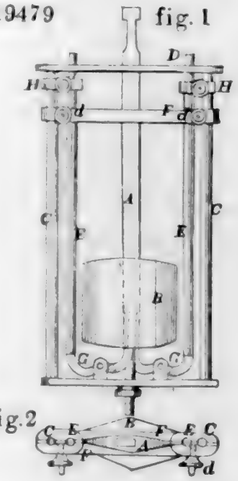
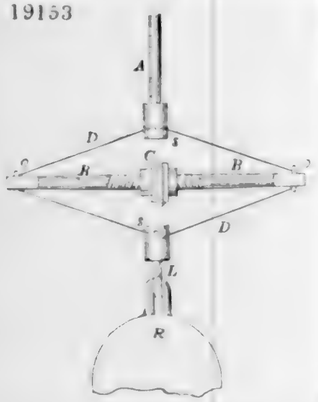


fig. 2

19153



19798 fig. 1

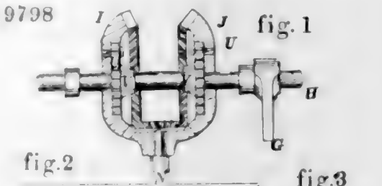


fig. 2

fig. 3



19062

fig. 1

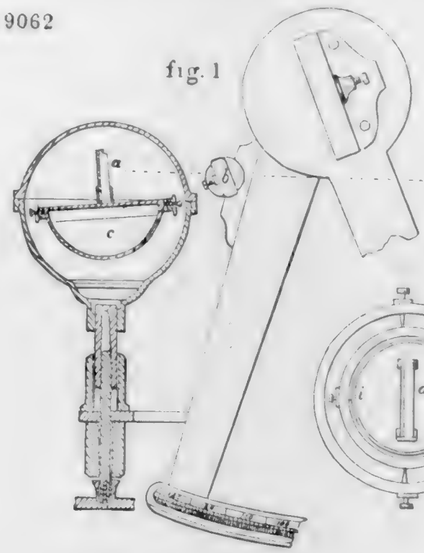


fig. 2

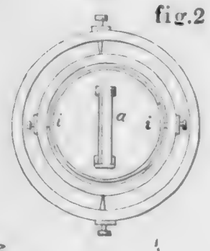
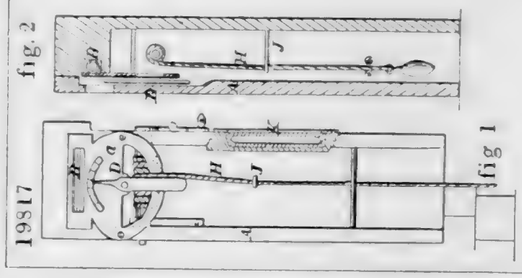


fig. 2



19817 fig. 1

20356

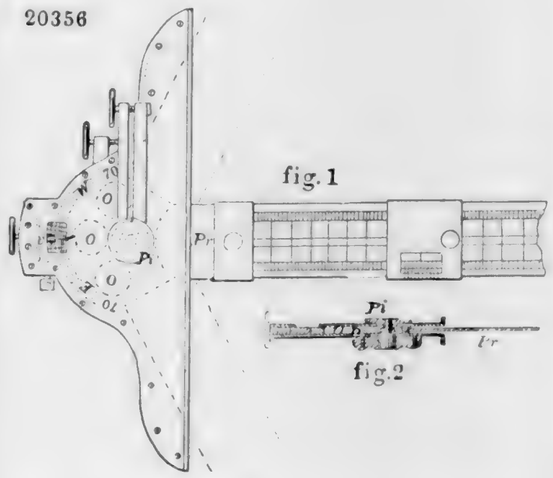


fig. 1

fig. 2

21101

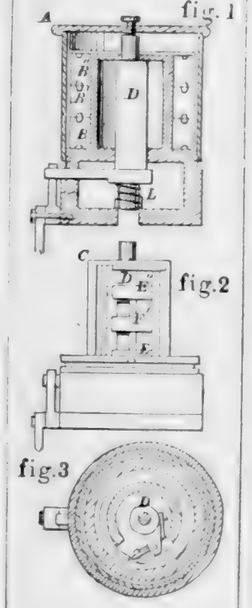


fig. 1

fig. 2

fig. 3

22081

fig. 1

fig. 2

19105 fig. 1

fig. 2

20943

fig. 2

fig. 1

21784

21688 fig. 1

fig. 2

21656

20431

21982

fig. 1

fig. 2

20046

20402

20706 fig. 1 fig. 2

20915

fig. 1

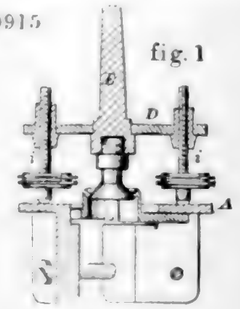
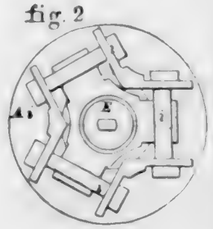
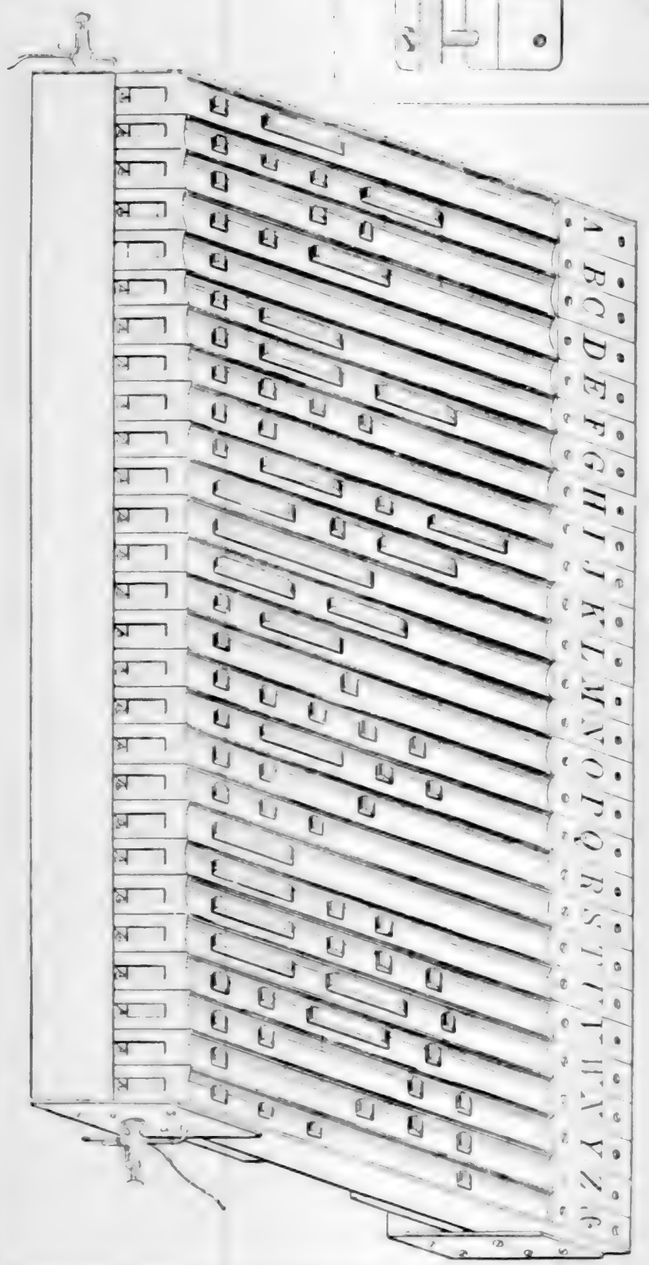


fig. 2



19627



20908

fig. 1

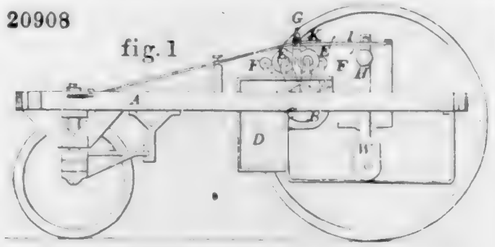
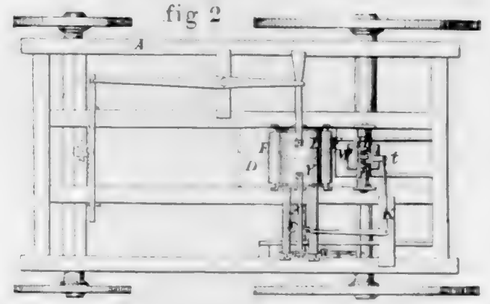
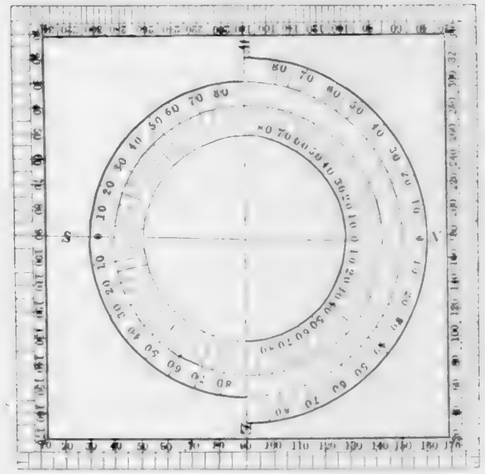


fig 2



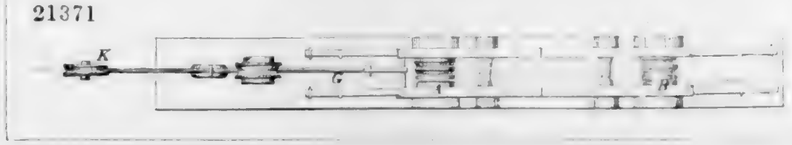
19356



21634



21371



19278

fig. 1

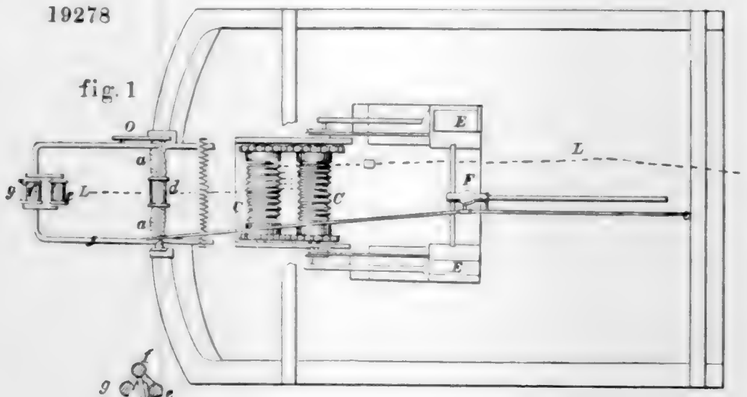
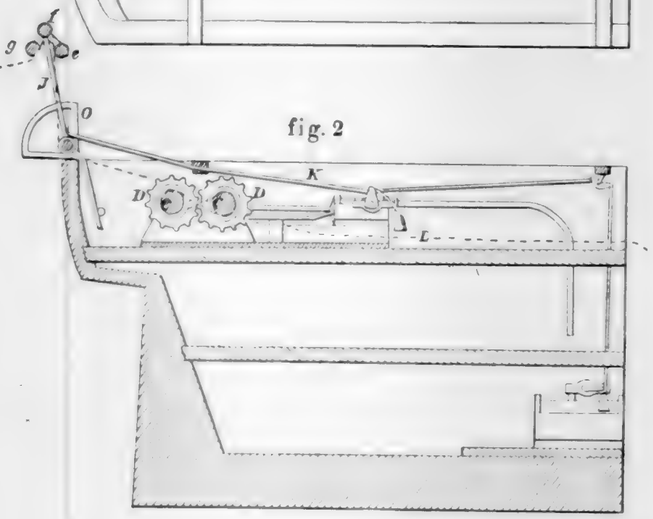
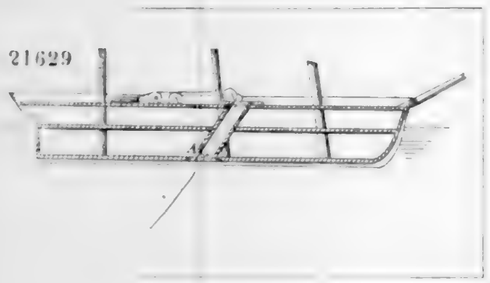


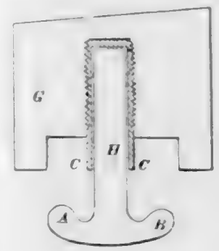
fig. 2



21629



21492



21329

fig. 1

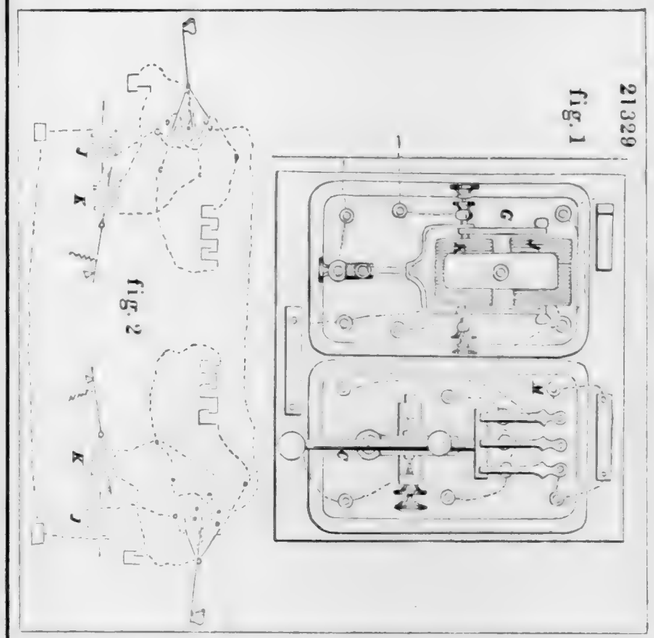


fig. 2

19116

fig. 2

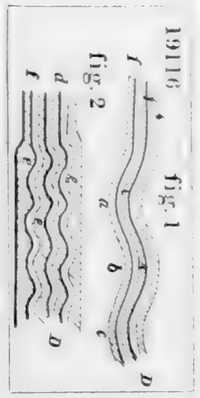


fig. 1

22032

fig. 1

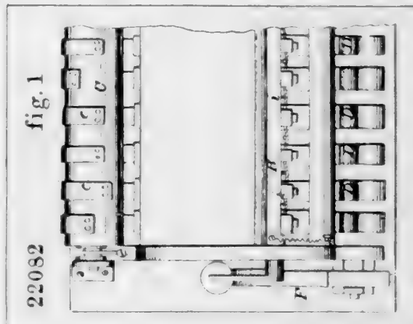


fig. 2

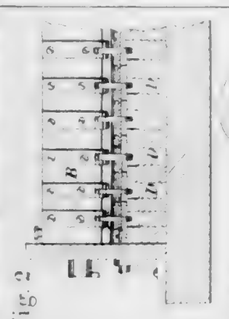
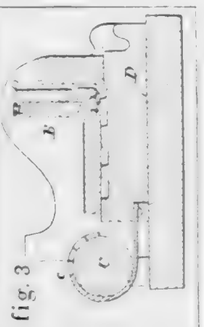
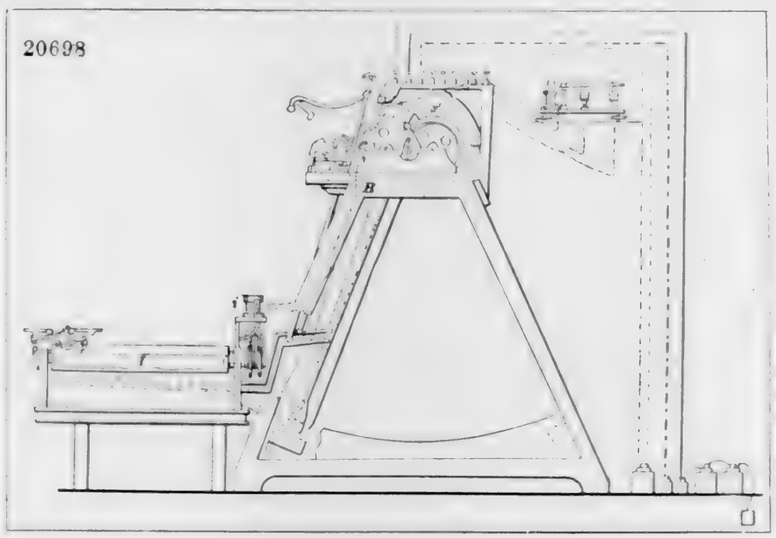


fig. 3



20698



20982

fig. 1

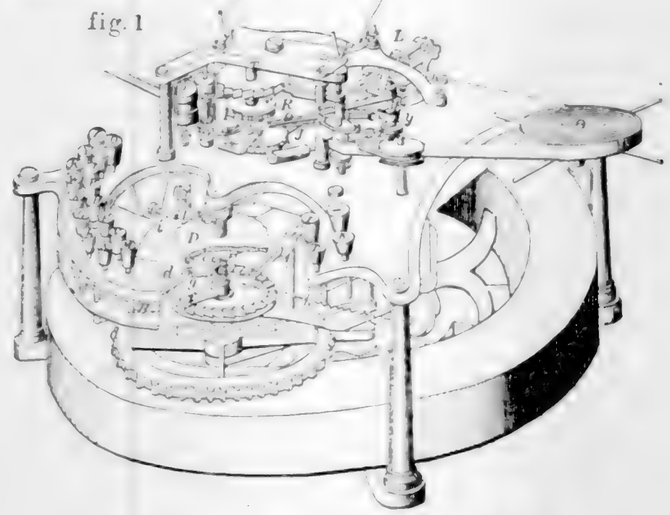
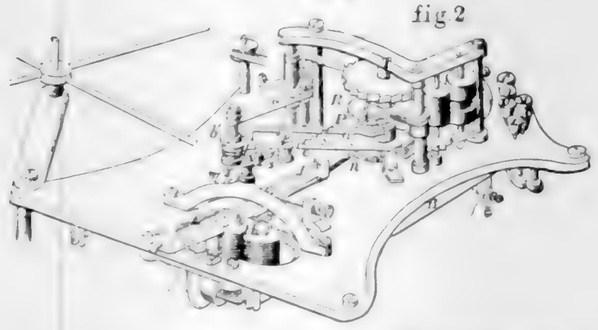


fig. 2



21132

fig. 1

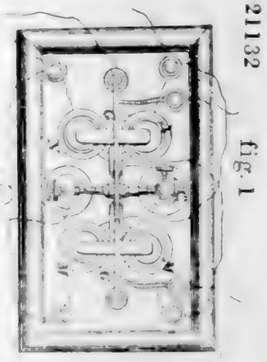


fig. 2

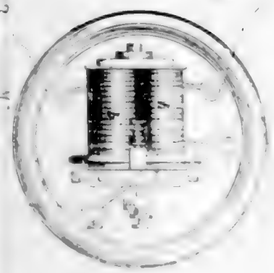
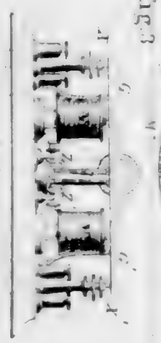
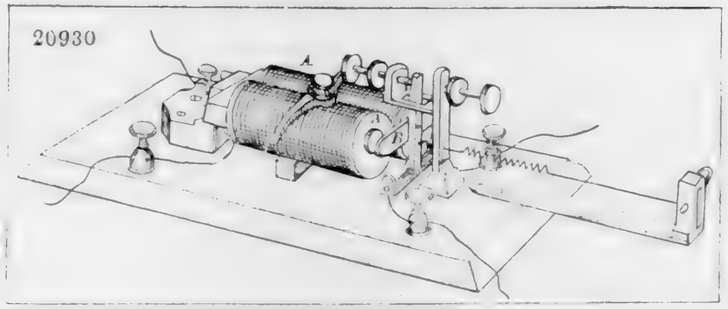


fig. 3



20930



21024

fig 1

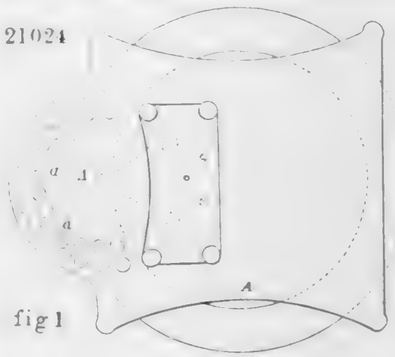
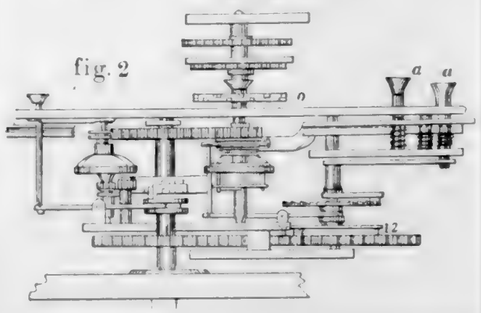


fig. 2



20201

fig 1

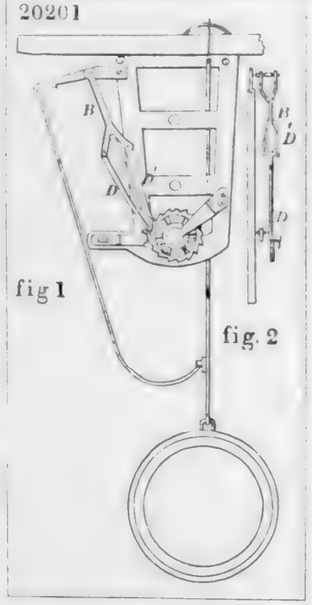


fig. 2

21020



20348

fig 1

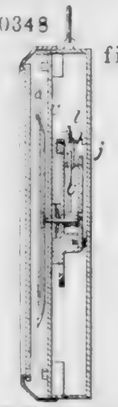
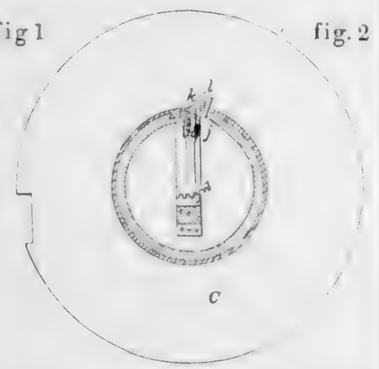
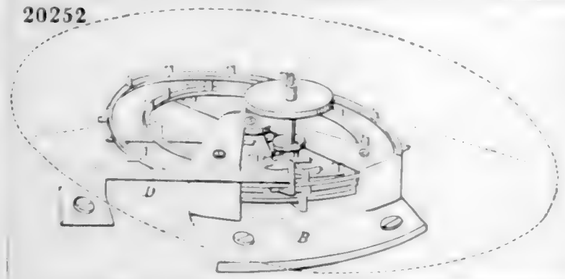


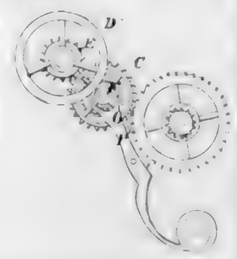
fig. 2



20252



21425



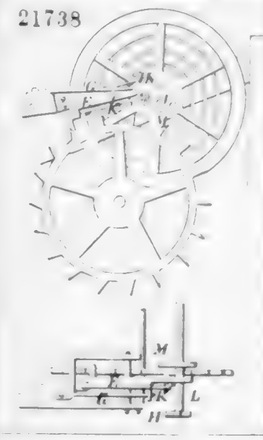
21146



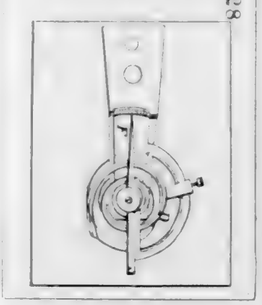
fig. 1

fig. 2

21738



22128



22110

fig. 1

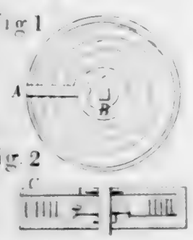
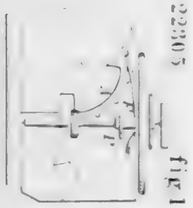


fig. 2



22305

fig. 1

fig. 2

19744

fig. 1

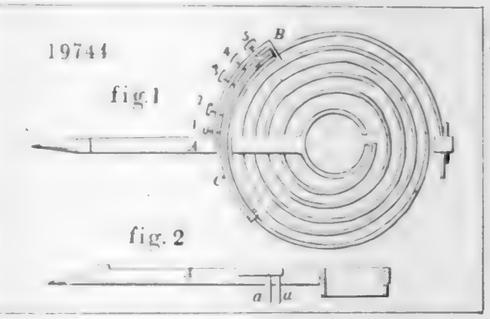
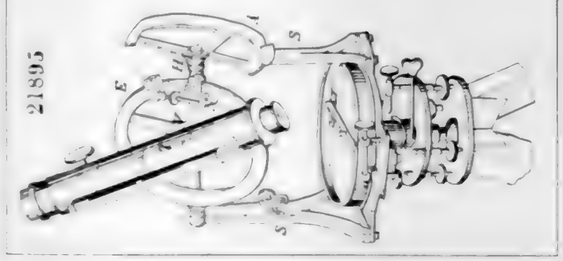


fig. 2

21895



19966

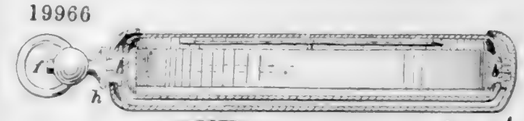


fig. 2

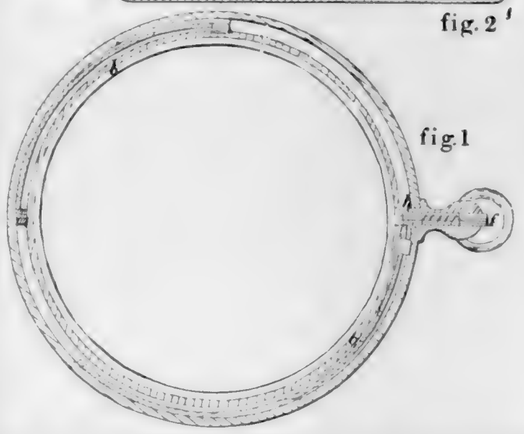


fig. 1

20554 fig. 1

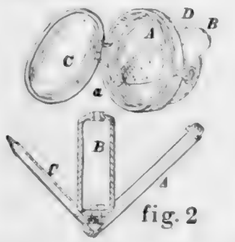
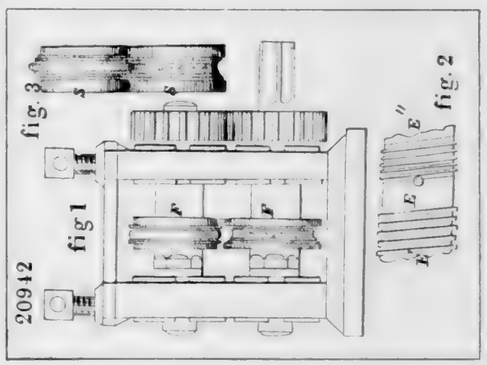


fig. 2

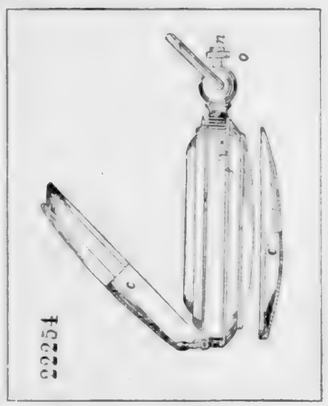


20942

fig. 1

fig. 2

fig. 3



22254

19972

fig. 1

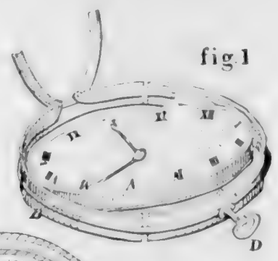


fig. 2

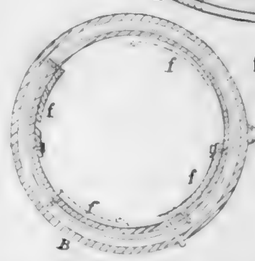
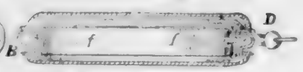


fig. 3



20588

fig 1



fig. 2

fig 3

20403

fig 1

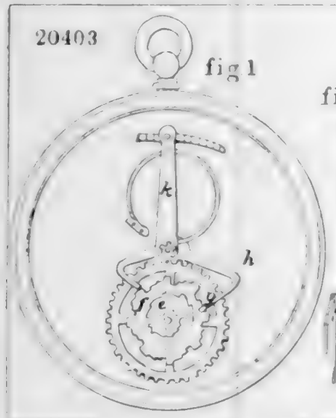


fig. 2



20491

fig 1

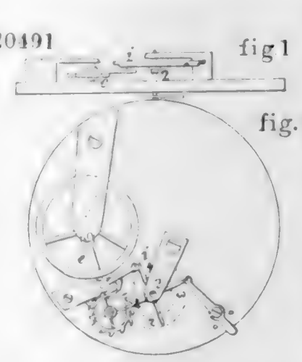


fig. 2

22397

fig 1

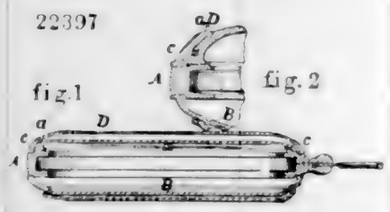


fig. 2

22174

fig 1



fig. 2



19170

fig 1

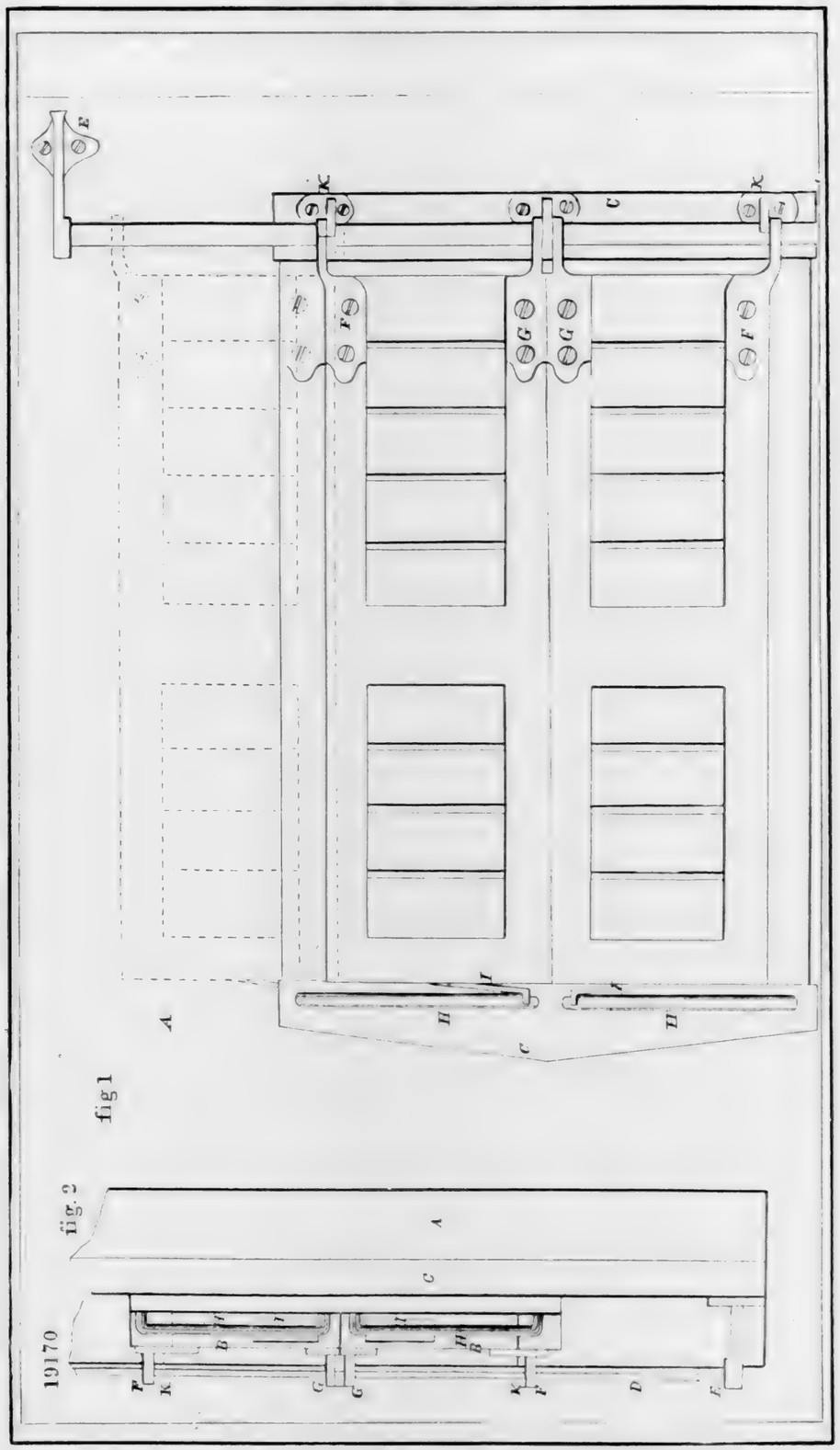


fig. 2

21292

fig. 1

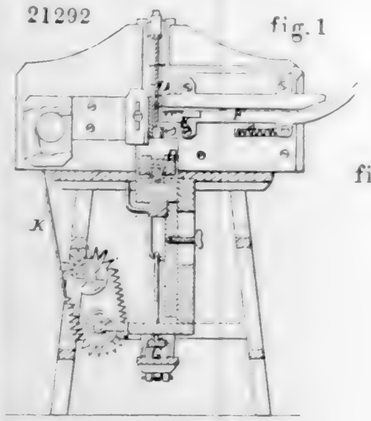


fig. 2

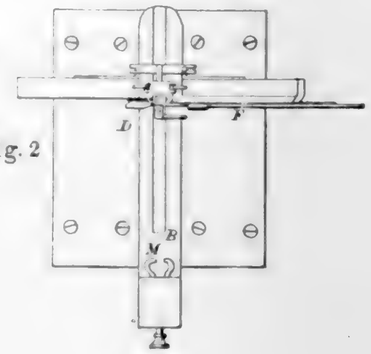
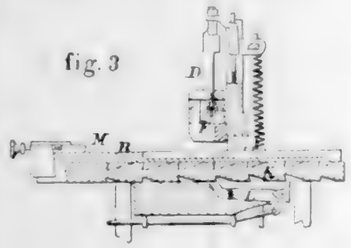
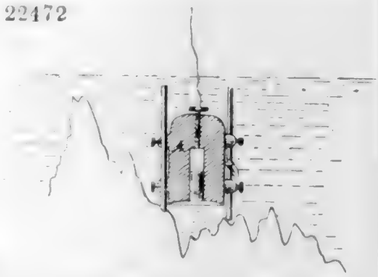


fig. 3



22472



19795 fig. 1

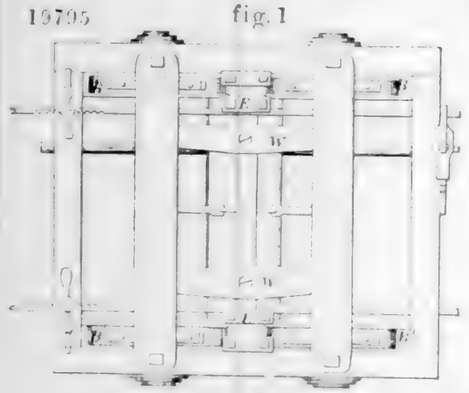
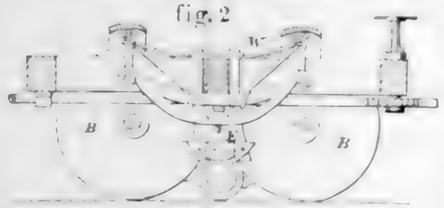
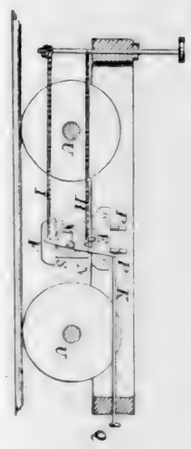


fig. 2



22280



20396

fig. 1

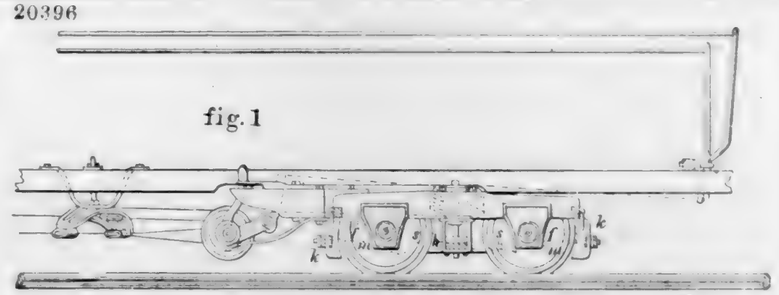
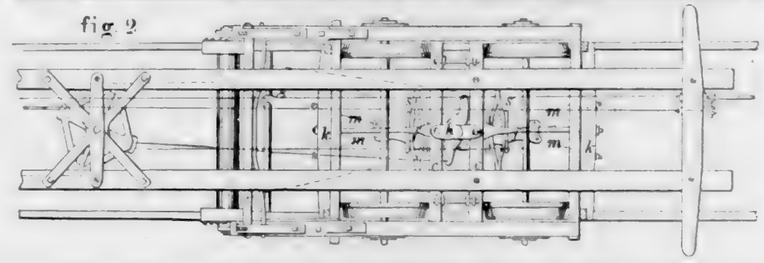


fig. 2



20105 fig. 1

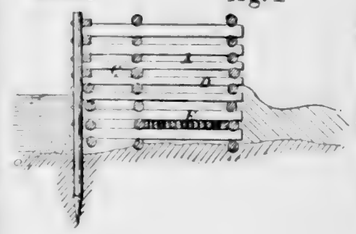
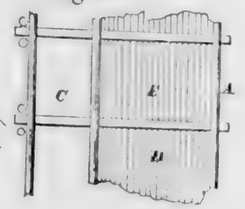
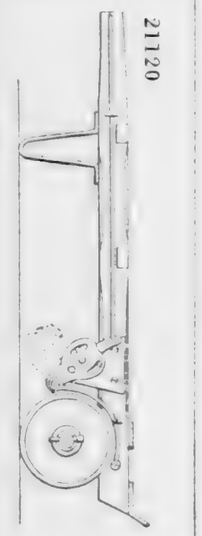


fig. 2



21120



20414 fig. 1

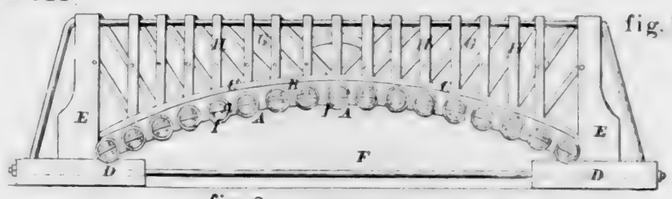


fig. 2

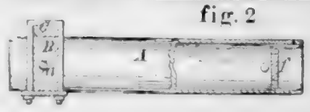


fig 3



21203

fig. 1

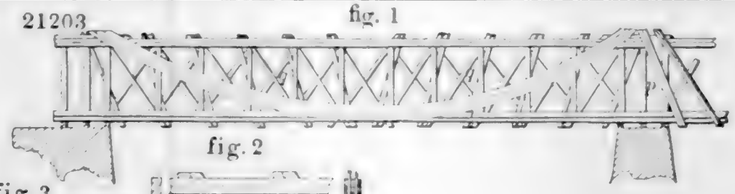


fig. 2

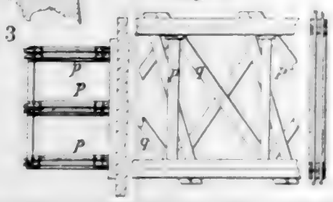


fig. 3

fig. 4

21388

fig. 1

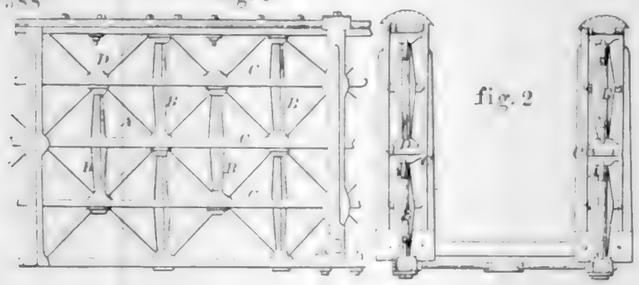
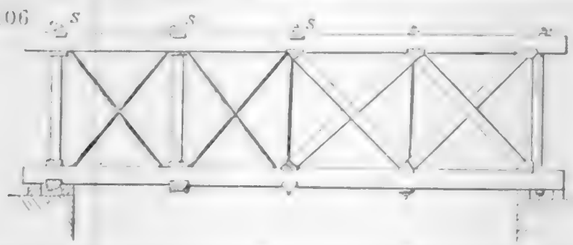
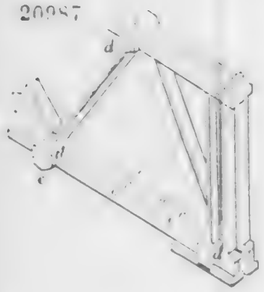


fig. 2

22106



20987



20052

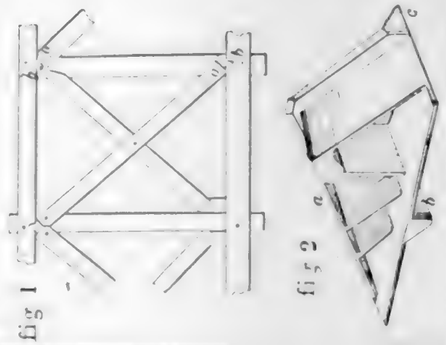
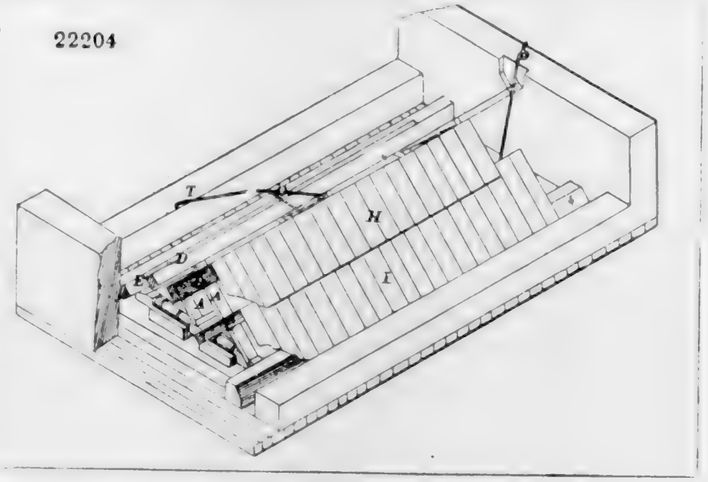


fig. 1

fig. 2

22204



19573

fig. 1

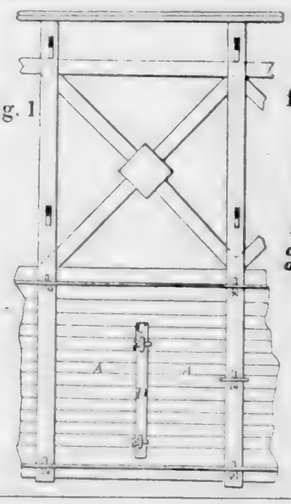
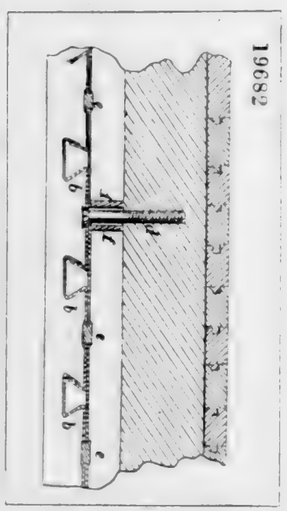


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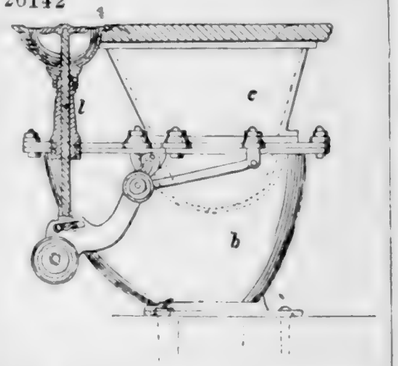


fig. 3

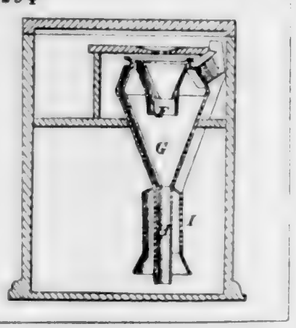
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21294



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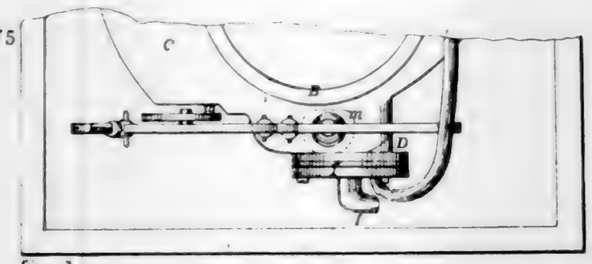
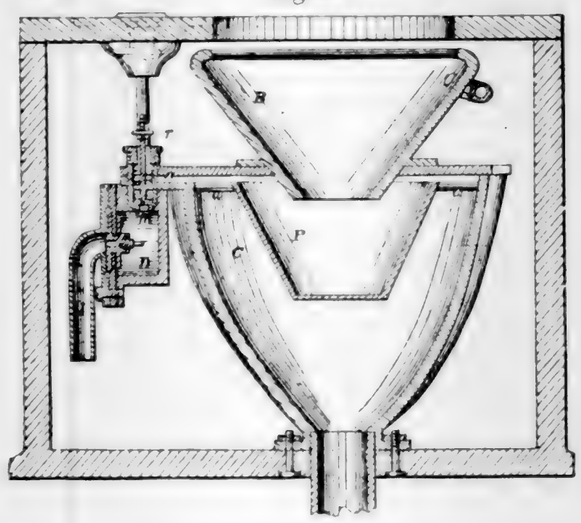
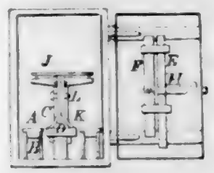


fig. 1

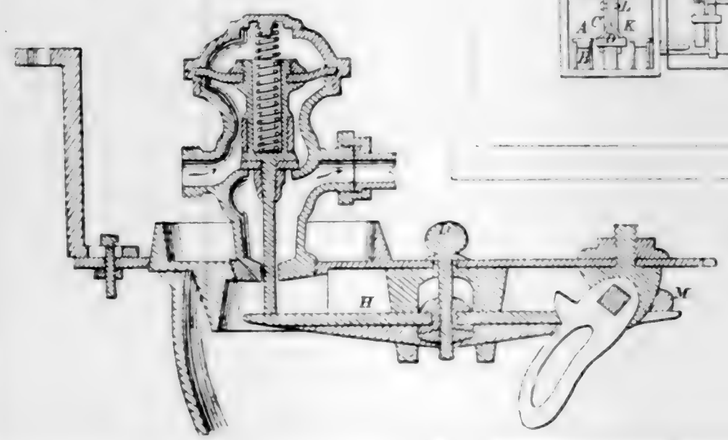
fig. 2



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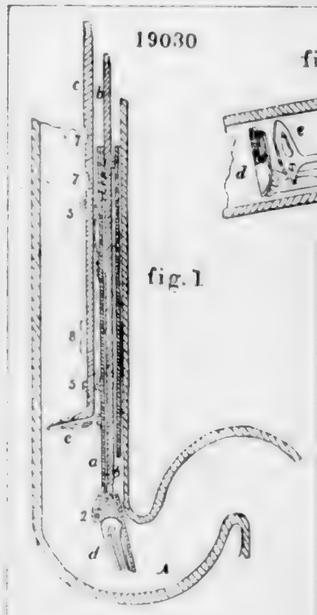
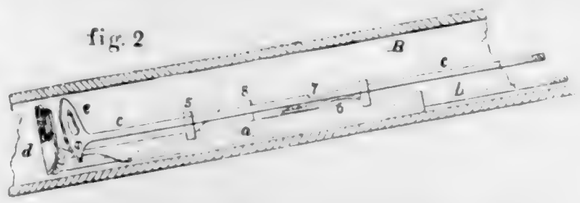


fig. 1

fig. 2



21751

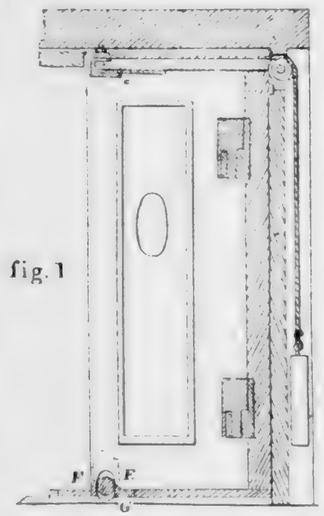
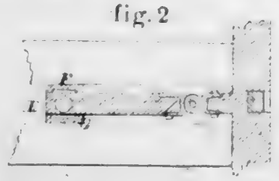
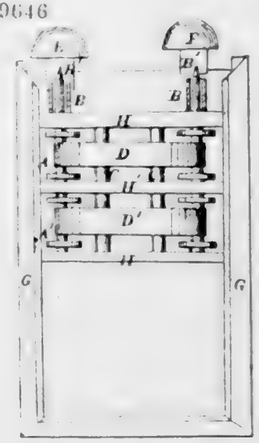


fig. 1

fig. 2



19646



20590

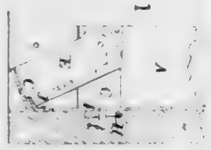
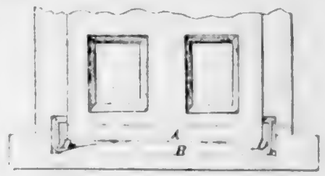


fig. 1



fig. 2

19673



19217

fig. 1

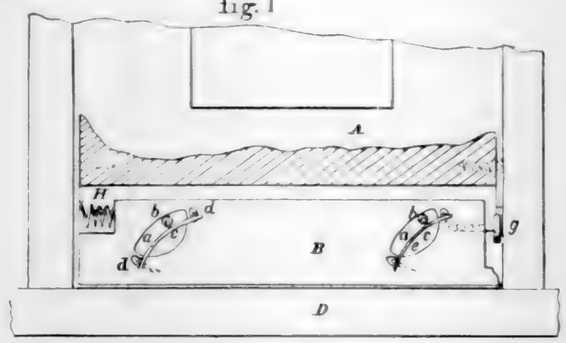
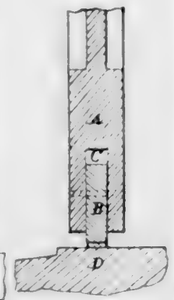


fig. 2

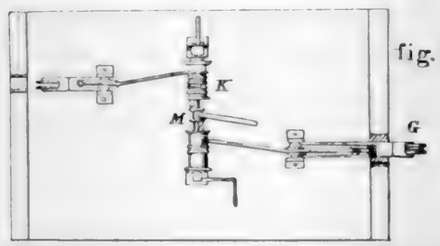


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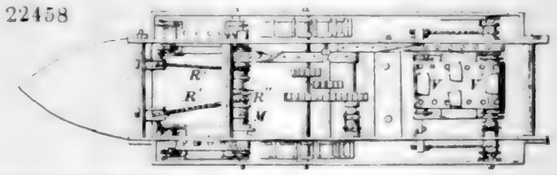
fig. 1



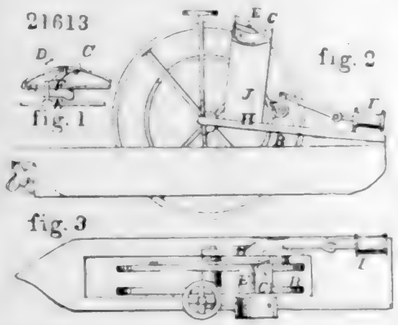
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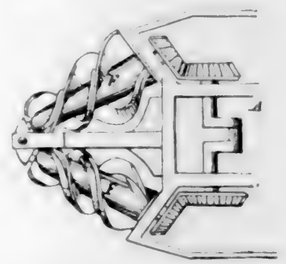
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21613



19908



20912

fig. 1

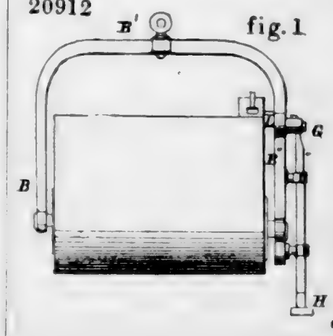


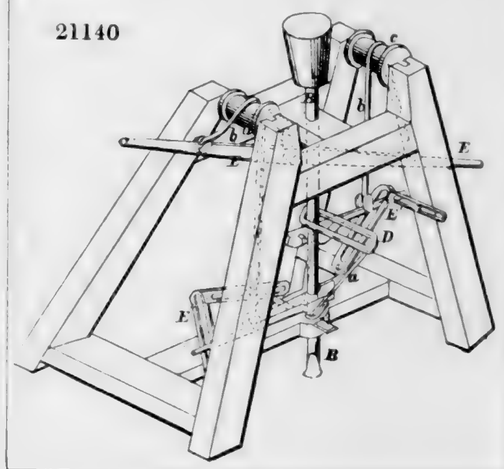
fig. 3



fig. 2



21140



21205

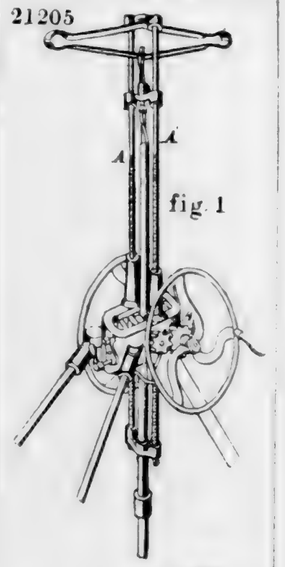
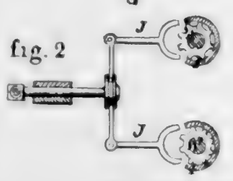
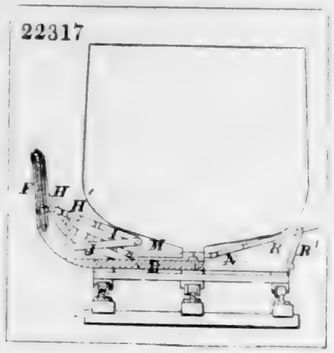


fig. 1

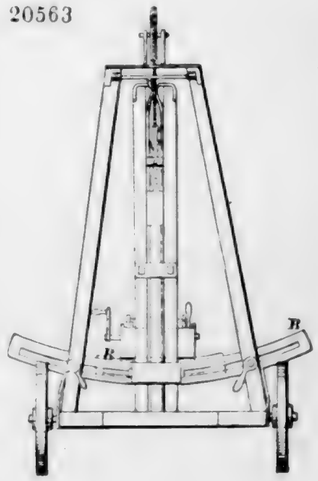
fig. 2



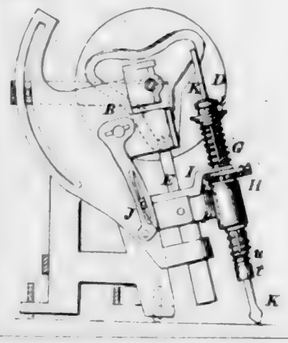
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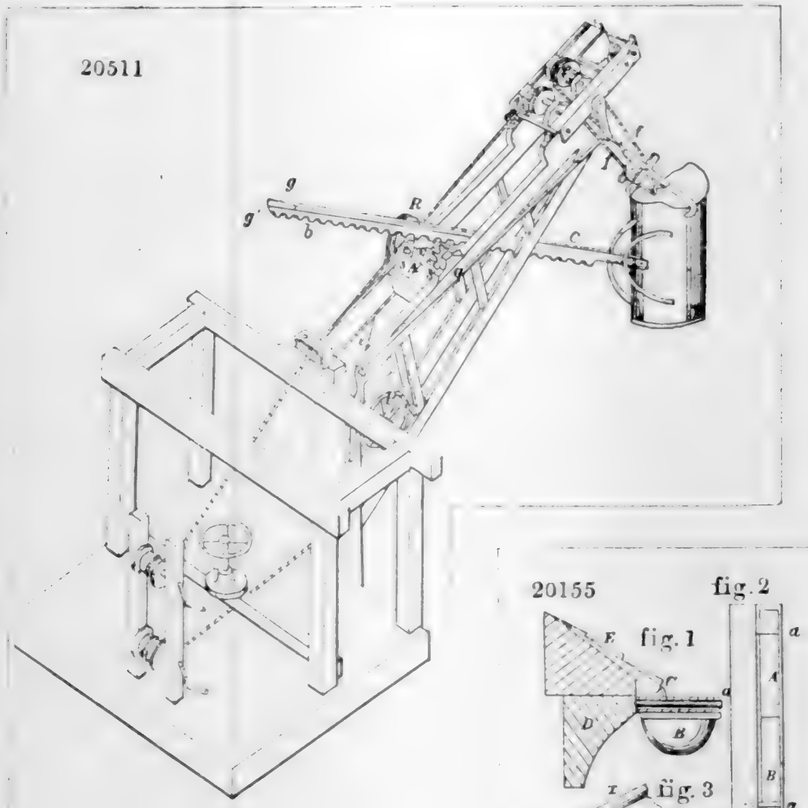
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22046



20511



20155 fig. 2

fig. 1

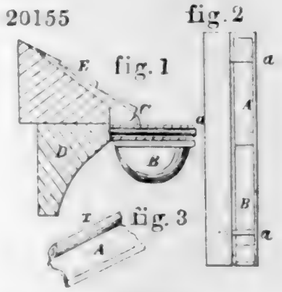
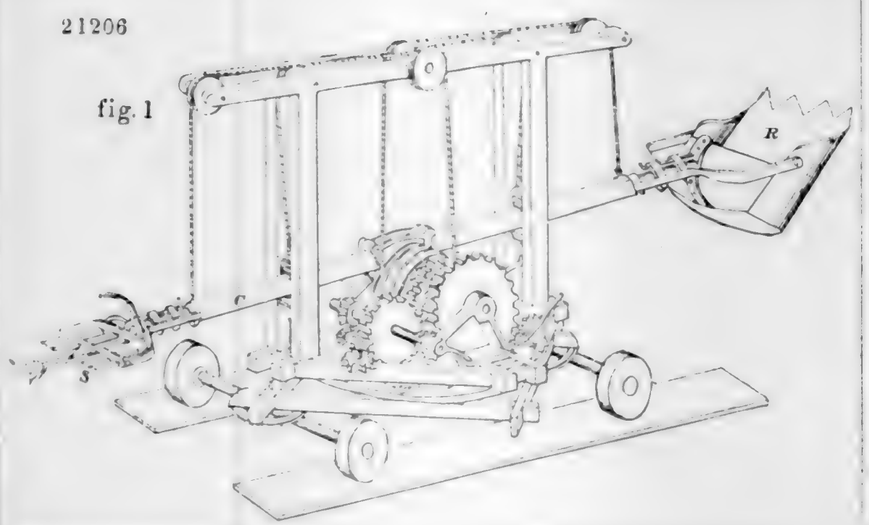


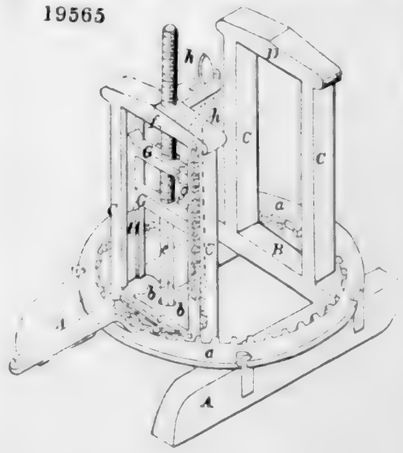
fig. 3

21206

fig. 1



19565



22279 fig. 1

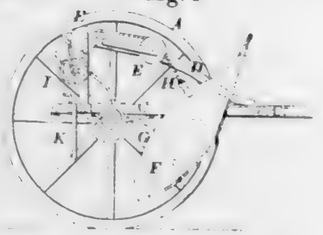
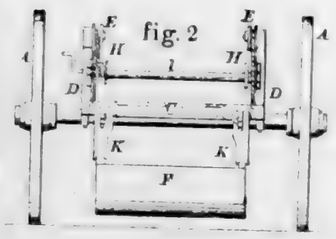


fig. 2



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fig. 1

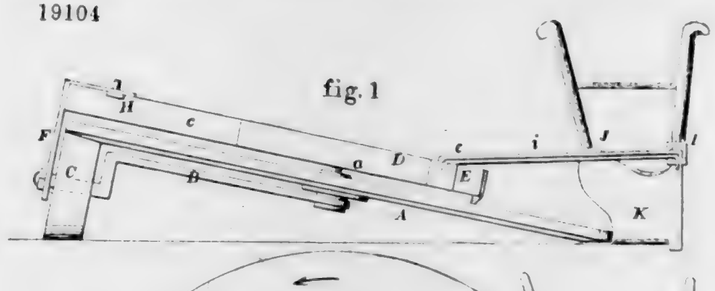
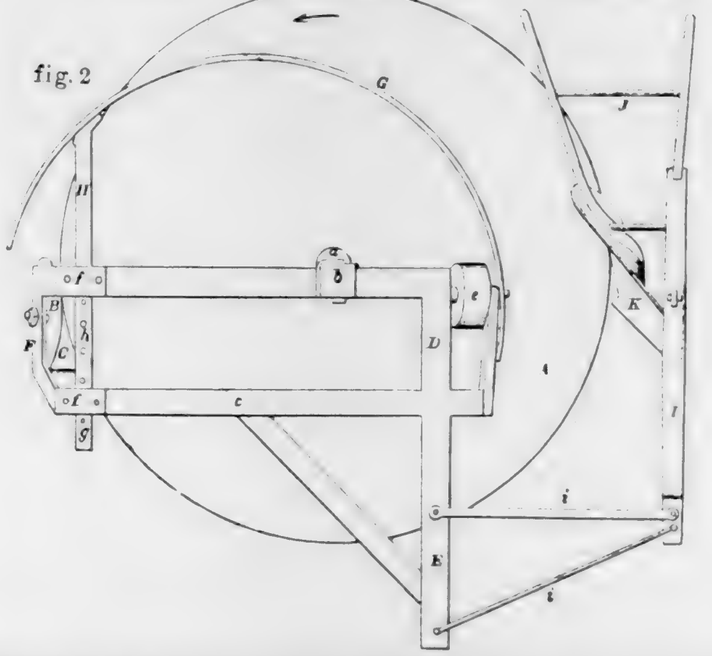
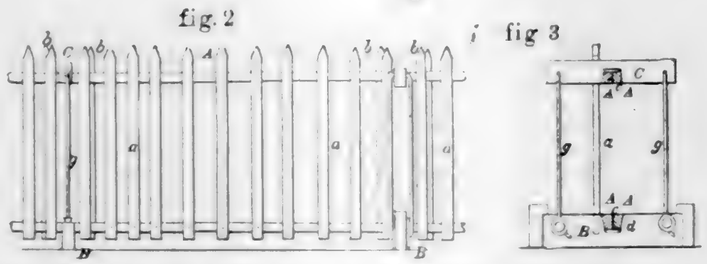


fig. 2

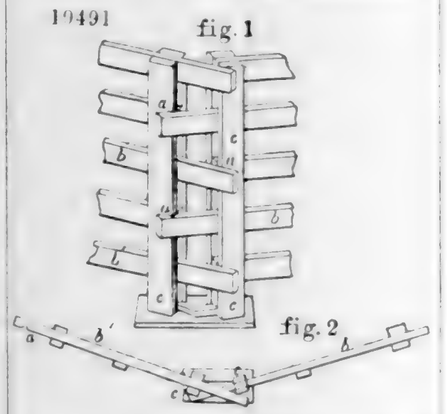


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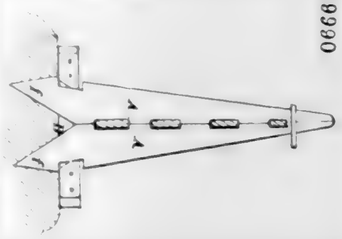




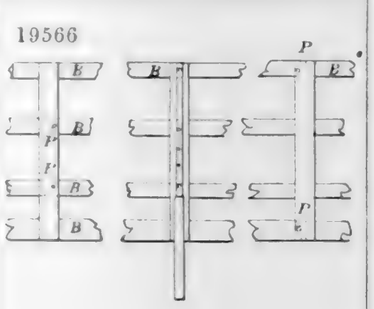
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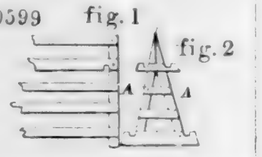
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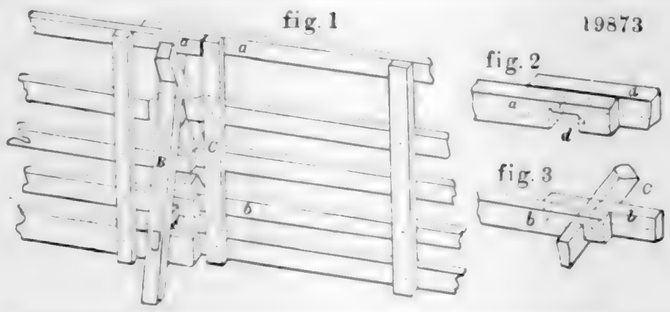
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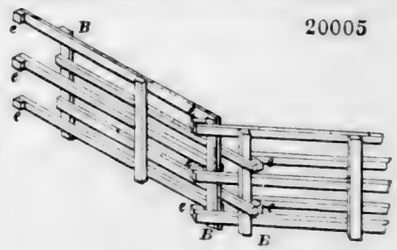
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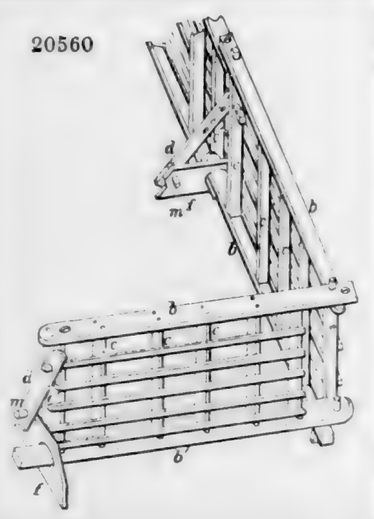
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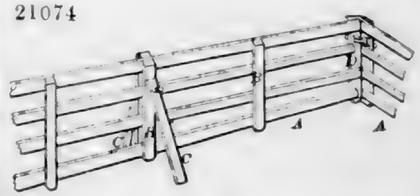
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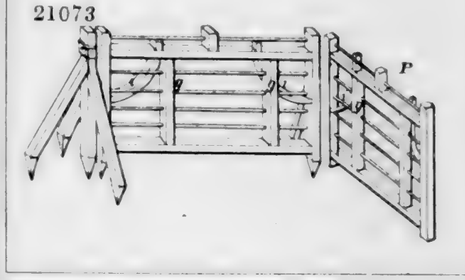
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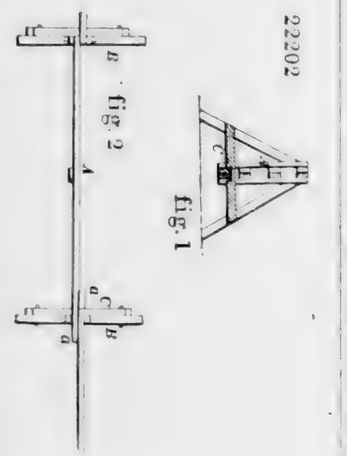
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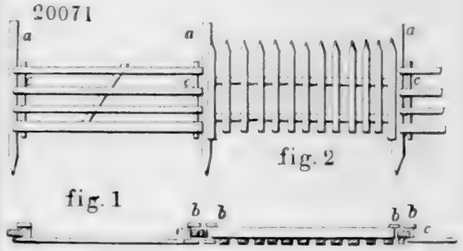
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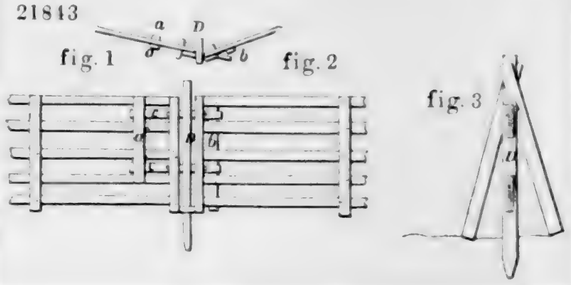
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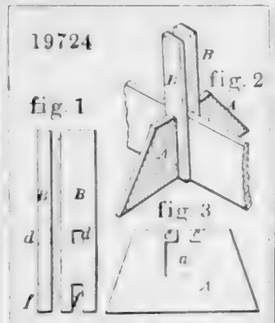
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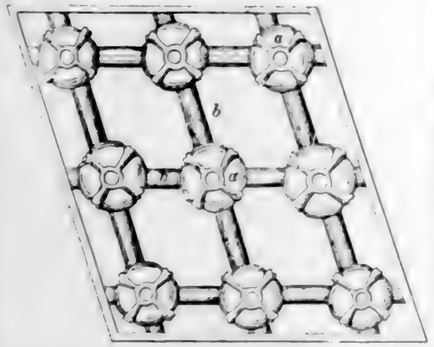
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19724

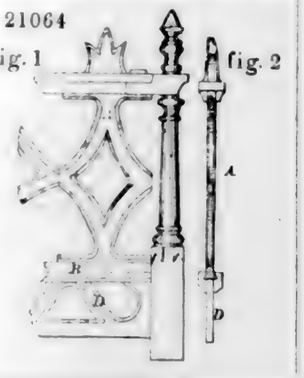


20400



21064

fig. 1 fig. 2



21315 fig. 1

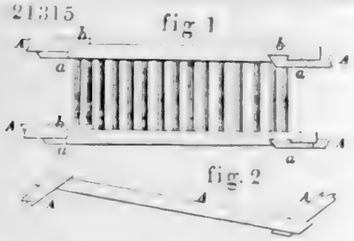


fig. 2

21260

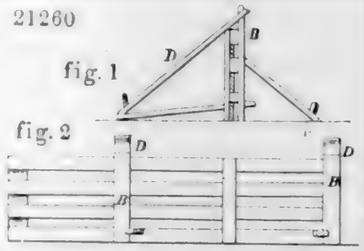


fig. 1

fig. 2

21519 fig. 1

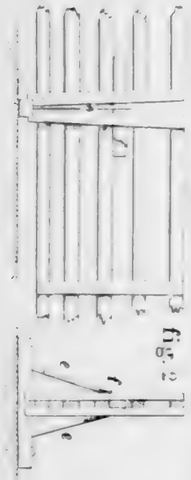


fig. 2

fig. 3

19484

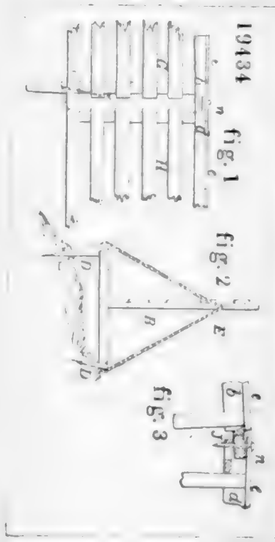


fig. 1

fig. 2

fig. 3

19863

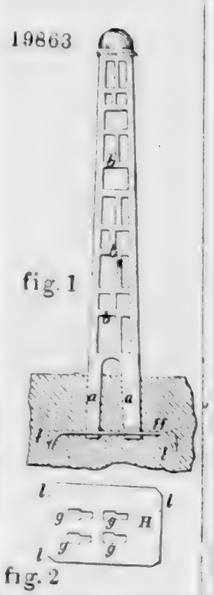
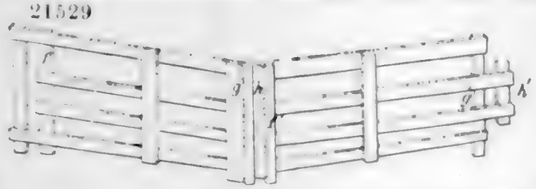


fig. 1

fig. 2

21529



19159

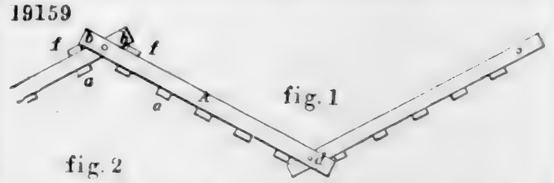
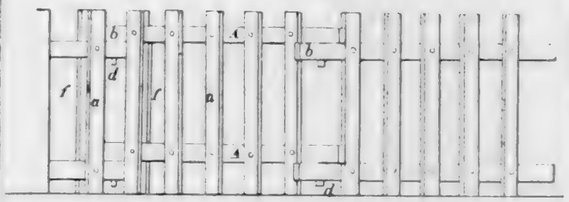


fig. 1

fig. 2



21037

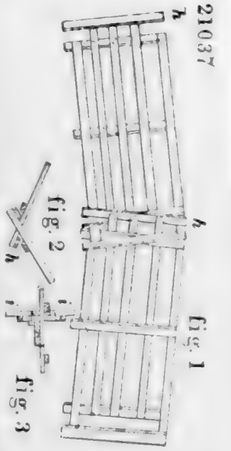


fig. 2

fig. 3

fig. 1

21459

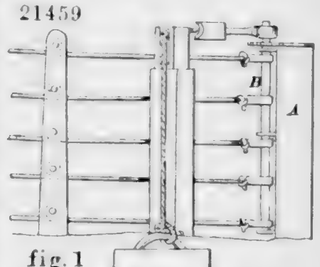


fig. 1

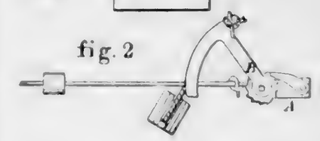


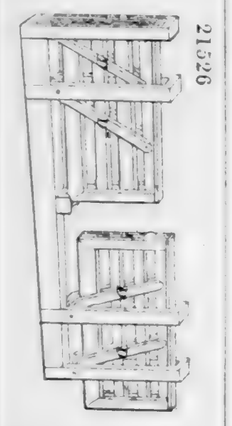
fig. 2

19174 fig. 1

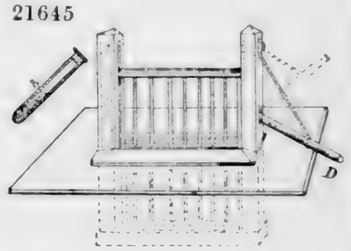


fig. 2

21526



21645



21785

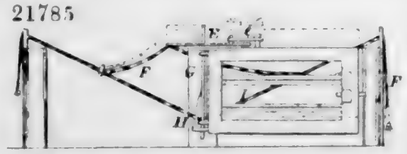


fig. 1

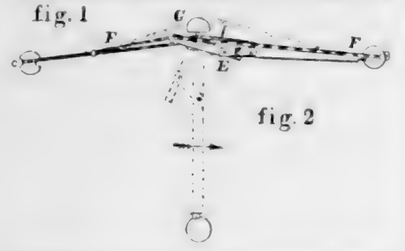


fig. 2

19499

fig. 1

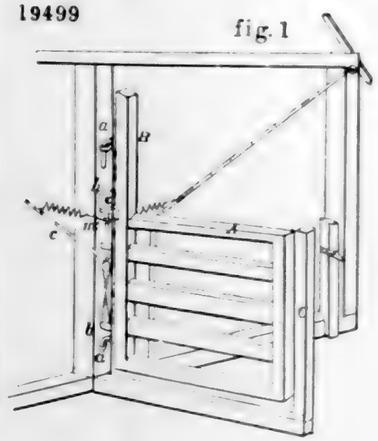
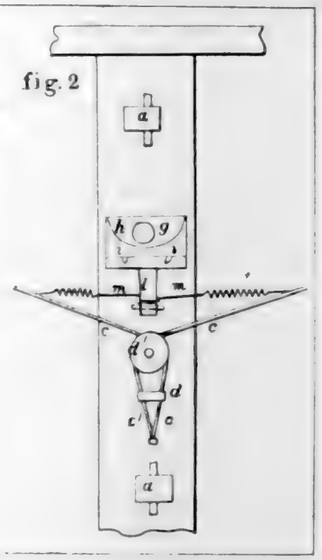
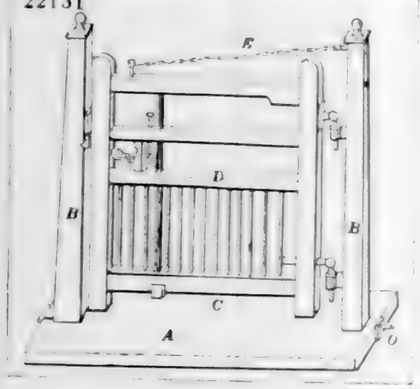


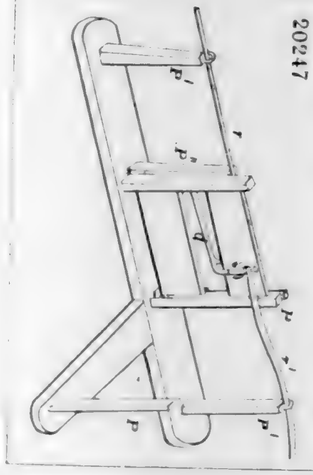
fig. 2



22131



20247



20008

fig. 1 fig. 2

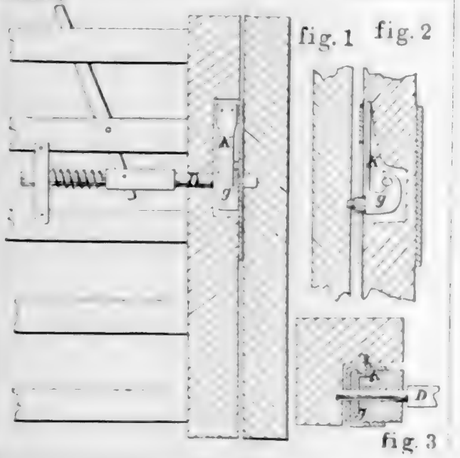
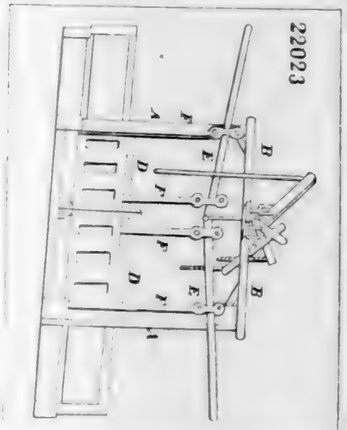
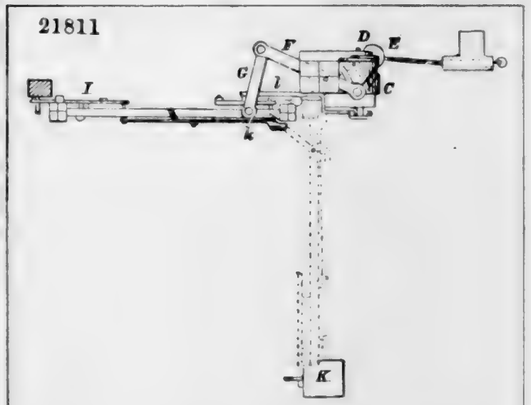


fig. 3

22023



21811



20011

fig. 1

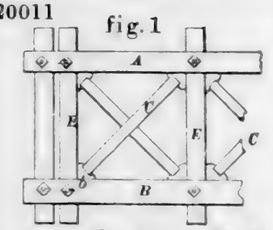


fig. 2

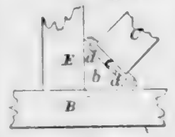


fig. 3

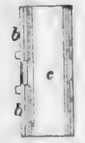
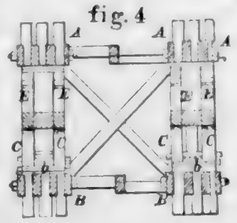


fig. 4



19690

fig. 1

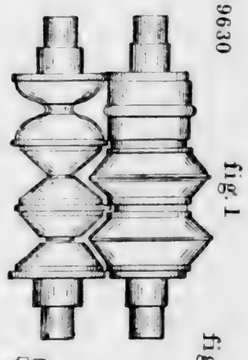
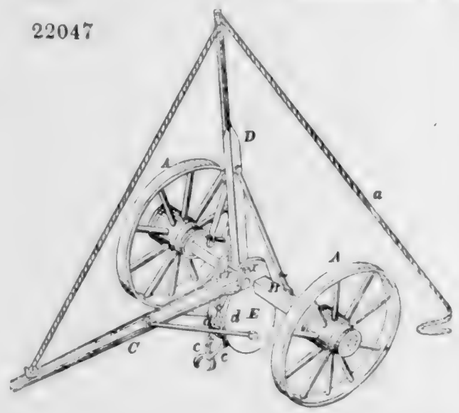


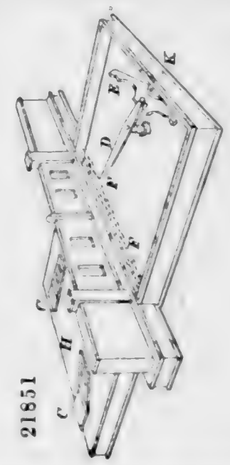
fig. 2



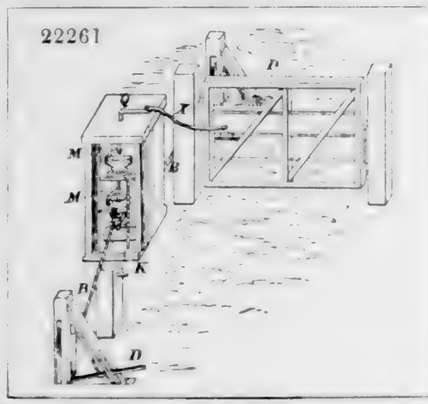
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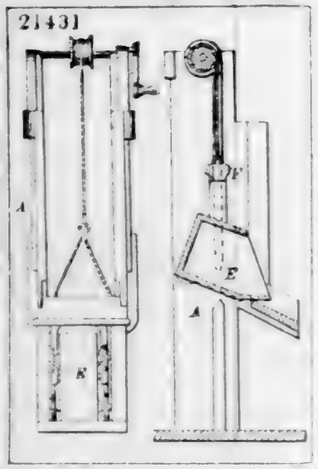
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22261



21431

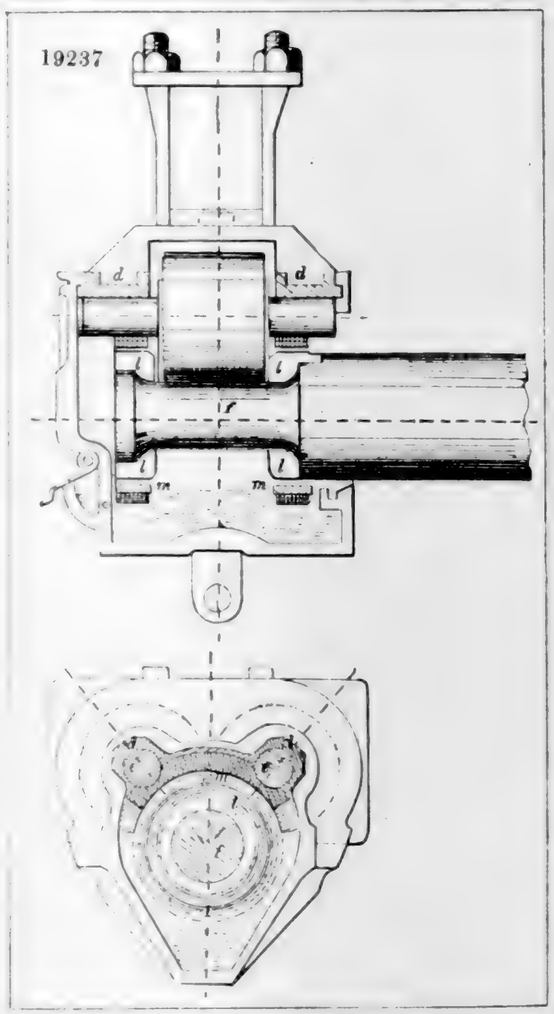


21119 fig. 1



fig. 2

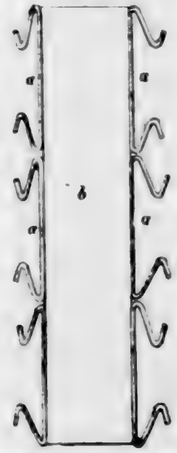
19237



20629 fig. 1



fig. 2



21908

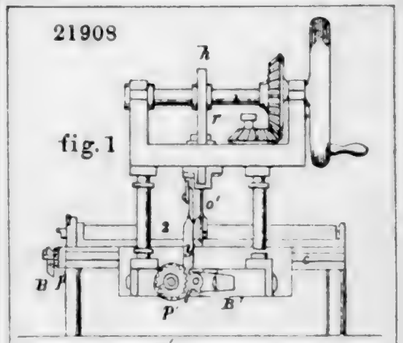


fig. 1

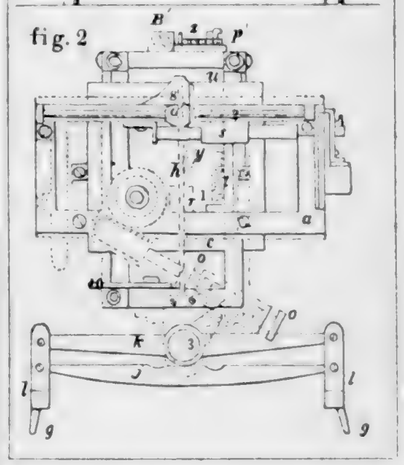
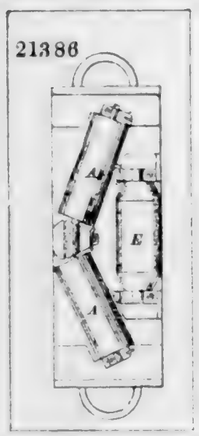


fig. 2

21386



19487 fig. 1



fig. 2



fig. 3

22444

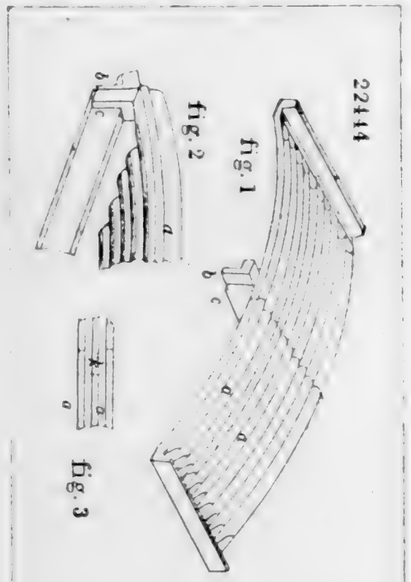


fig. 1

fig. 2

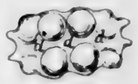
fig. 3

19592



fig. 1

fig. 2



19543

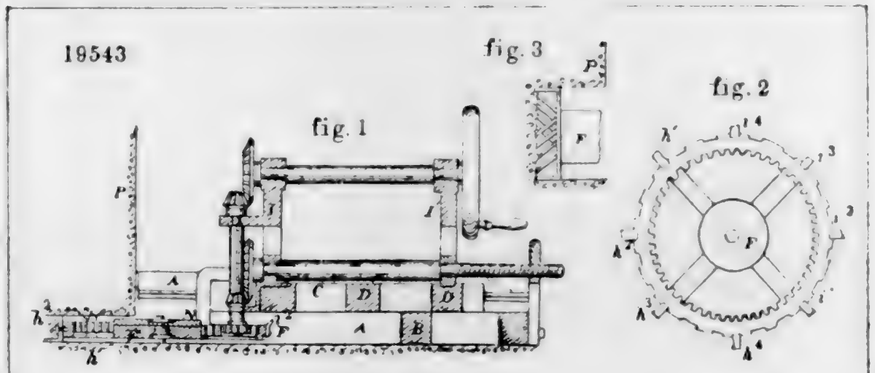


fig. 1

fig. 3

fig. 2

20883

fig. 1

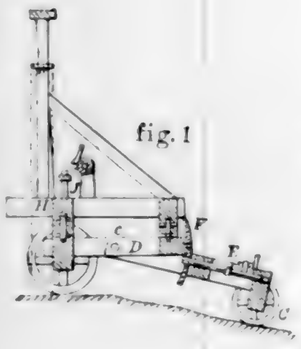
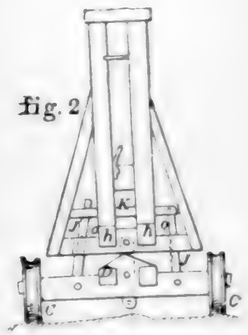
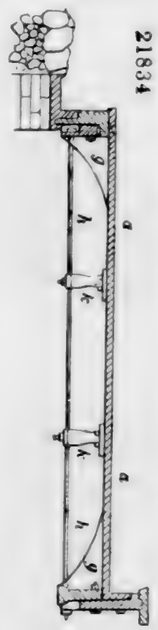


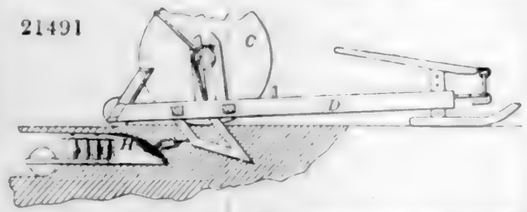
fig. 2



21834



21491



22194

fig. 1

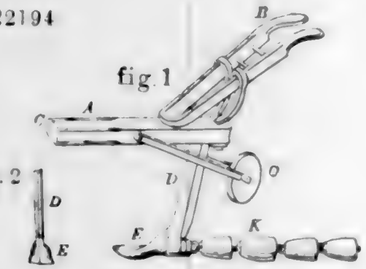


fig. 2

20352

fig. 2

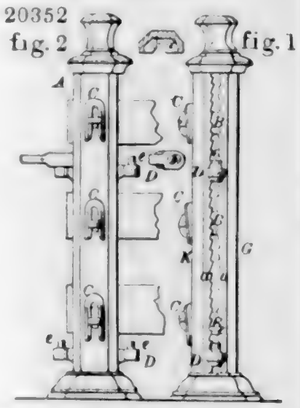


fig. 1

21750

fig. 1

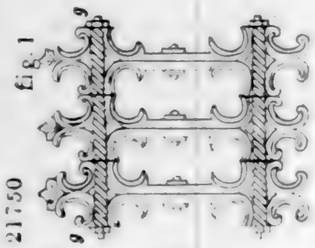


fig. 2



22448

fig. 1

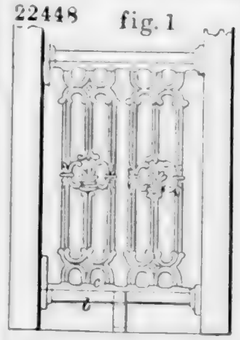
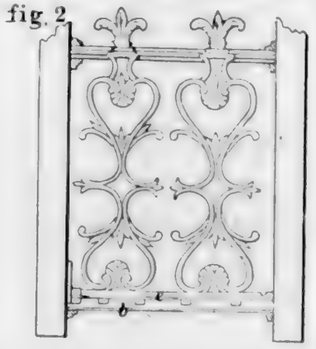
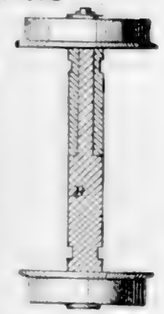


fig. 2



21604



20797

fig. 1

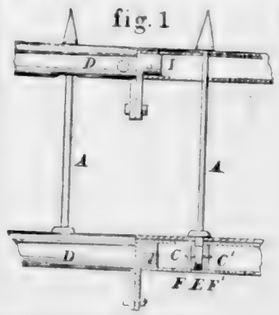
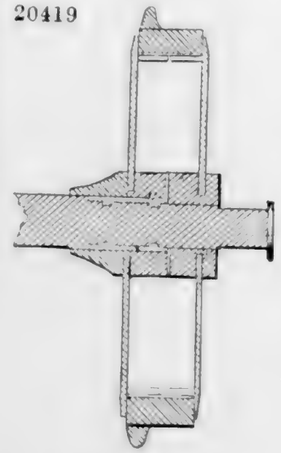


fig. 2



20419

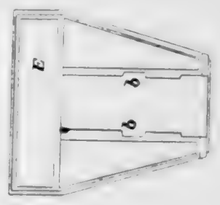


20871

fig. 1



fig. 2



19705

fig. 1

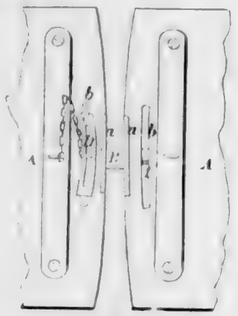
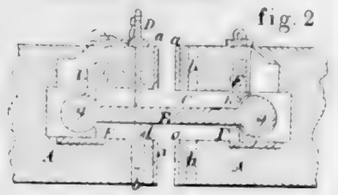


fig. 2



19124

fig. 1

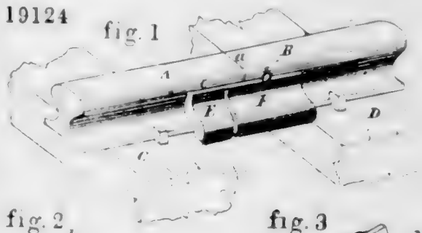


fig. 2

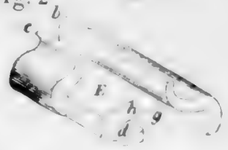
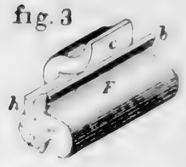
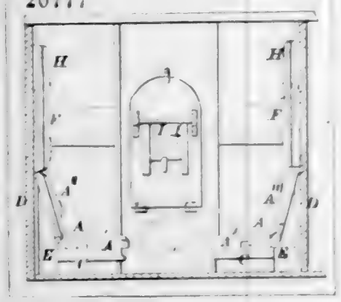


fig. 3

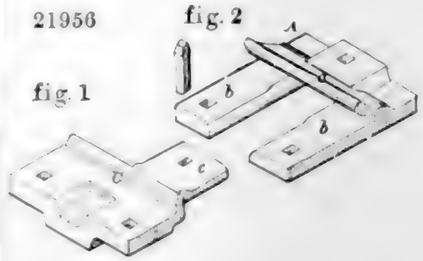


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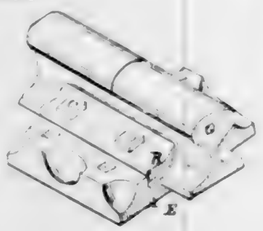


21956 fig. 2

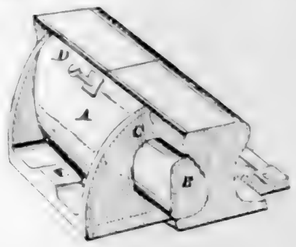
fig. 1



20464



21471



20617

fig. 1

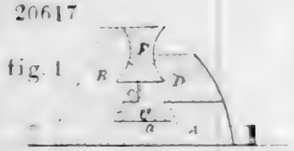


fig. 2

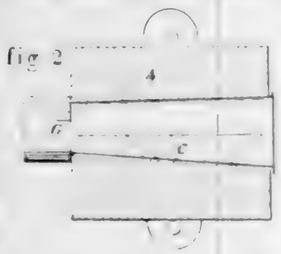
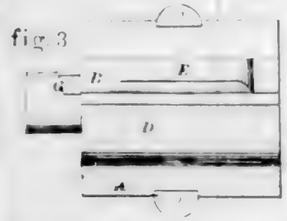
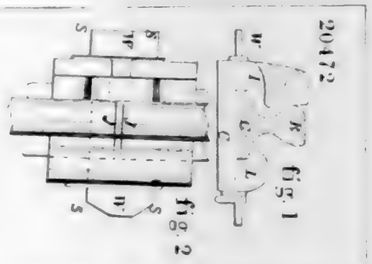


fig. 3



20472



21986

fig. 1

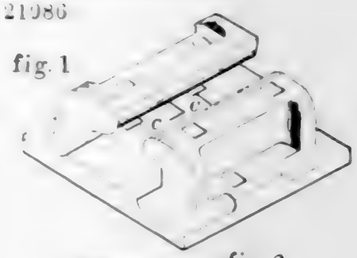
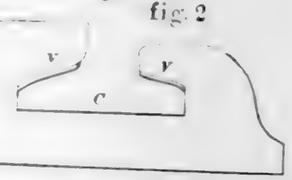


fig. 2



19306

fig. 2

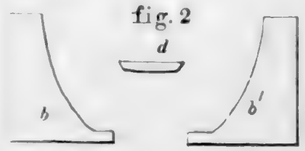


fig. 3



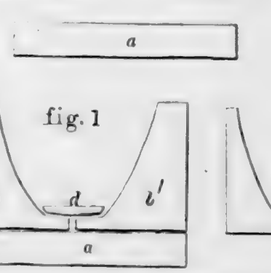


fig. 4

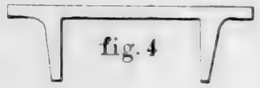
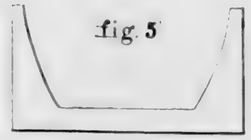


fig. 1

fig. 5



20040

fig. 1

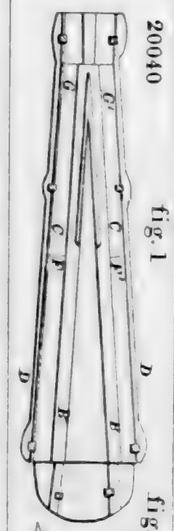
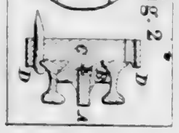


fig. 2



20057

fig. 2

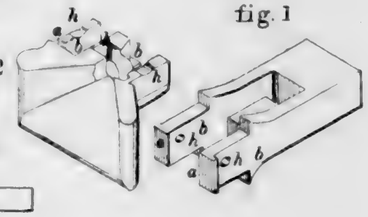
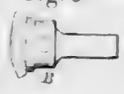


fig. 1

fig. 3



21426



21942

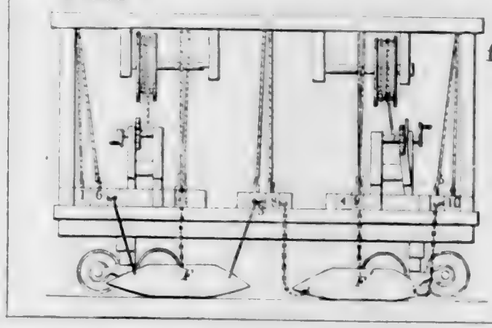
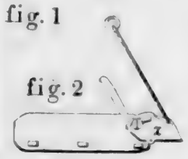


fig. 1

fig. 2

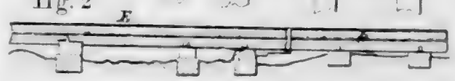


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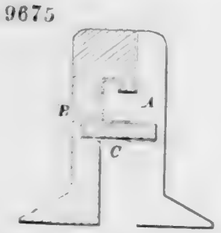
fig. 1



fig. 2



19675



20007



21097 fig. 1

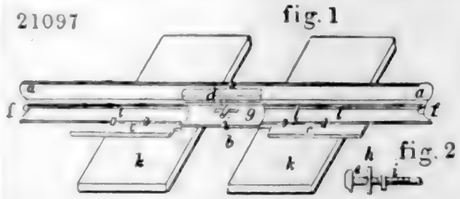
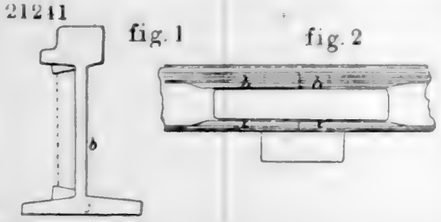


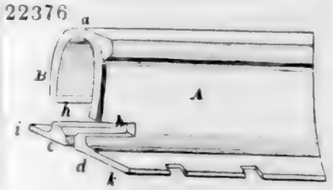
fig. 2



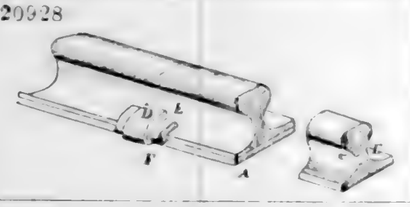
21241 fig. 1 fig. 2



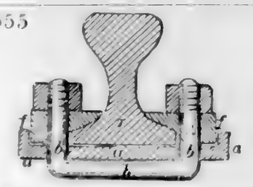
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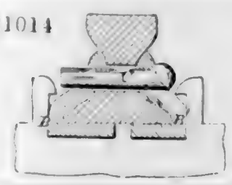
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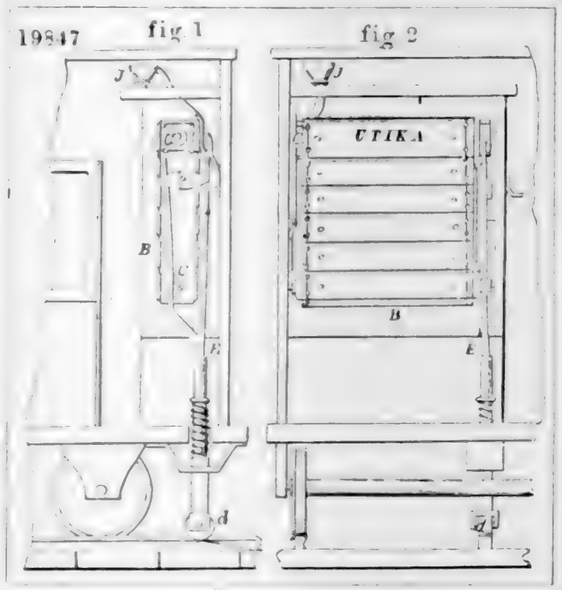
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19561



19347 fig. 1 fig. 2



19880

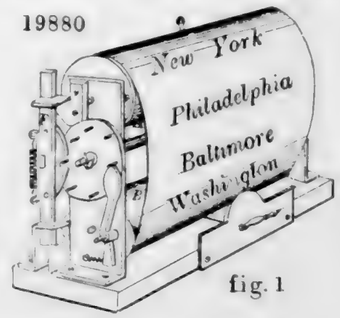


fig. 1

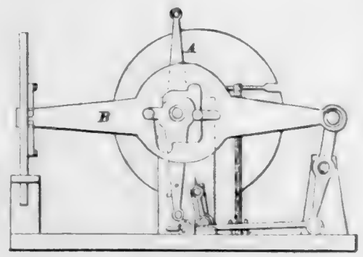


fig. 2

19339

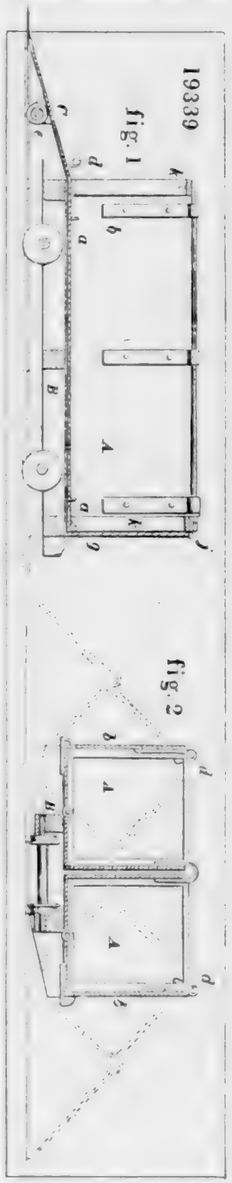
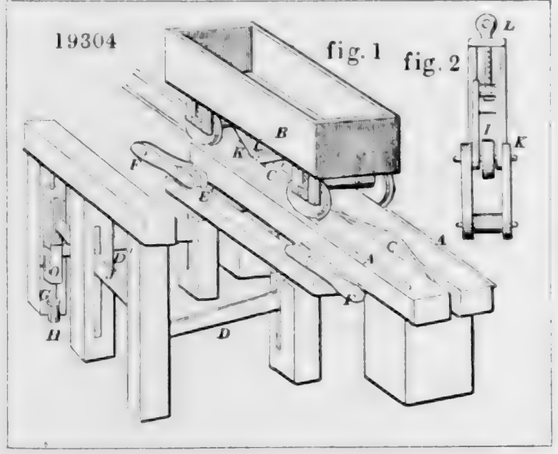


fig. 1 fig. 2

19304



21006 fig. 1

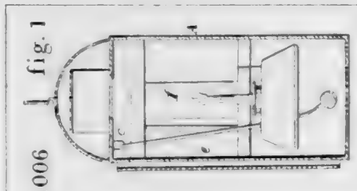
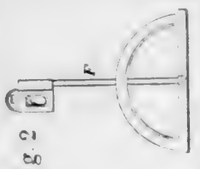
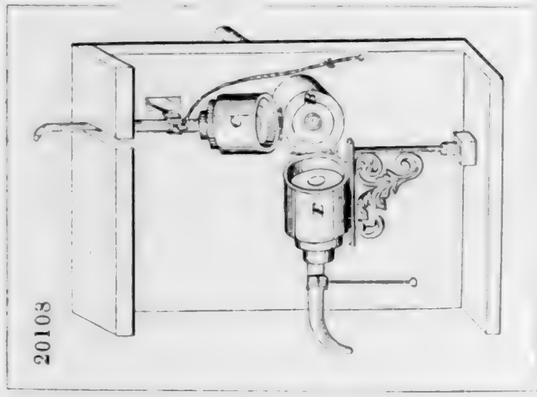


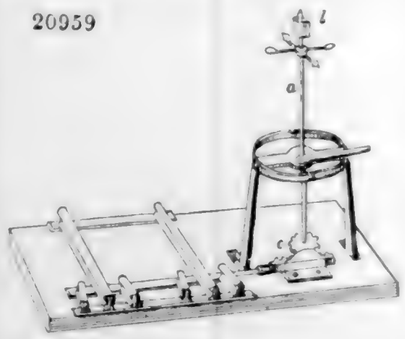
fig. 2



20103



20959



19165

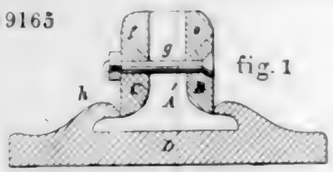


fig. 1

fig. 2

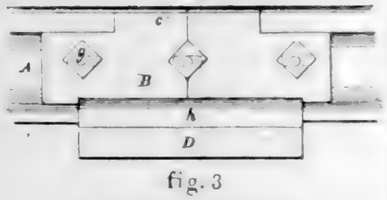
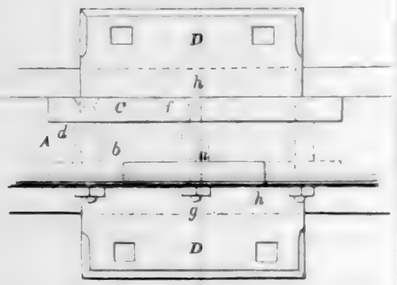


fig. 3



20620

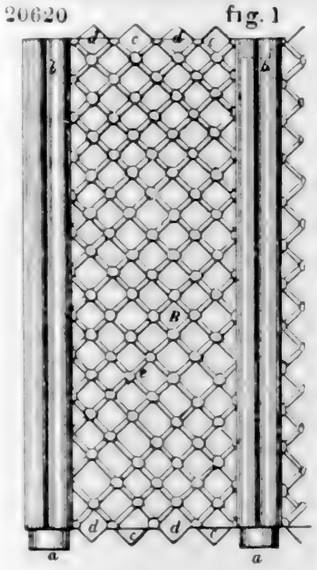


fig. 1



fig 2

19241

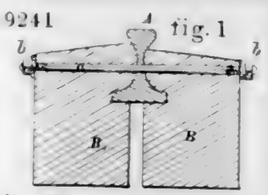


fig. 1

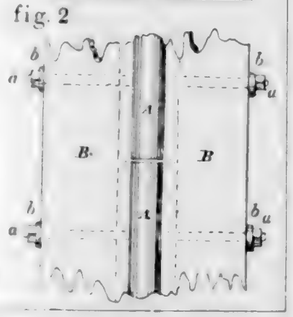


fig. 2

19440

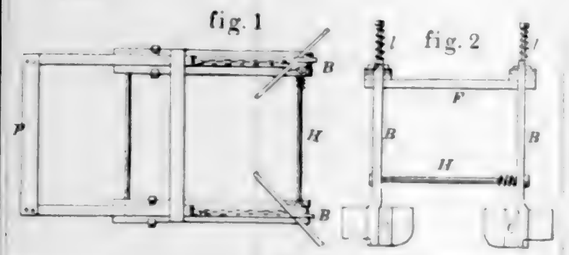
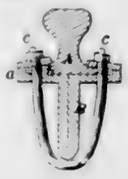


fig. 1

fig. 2

21406



19433

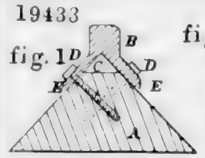


fig. 1

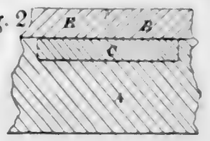


fig. 2

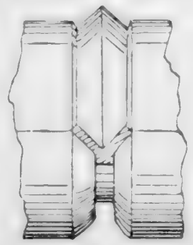


fig. 3

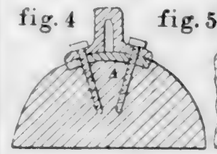


fig. 4

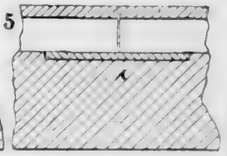
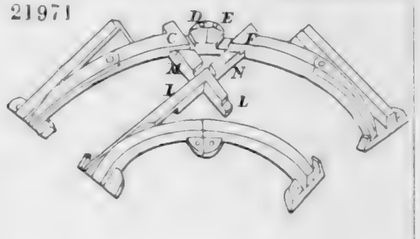


fig. 5

21971



21007

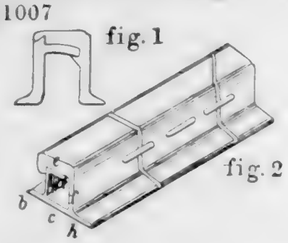


fig. 1

fig. 2

19992



fig. 1

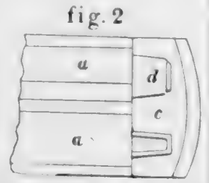
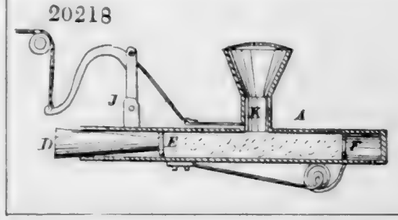


fig. 2

20218



20828

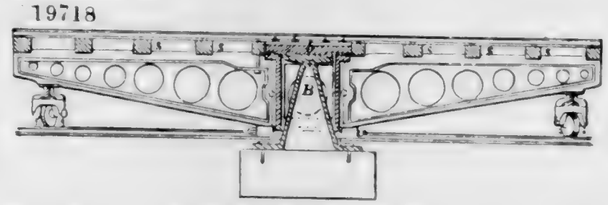


fig. 1

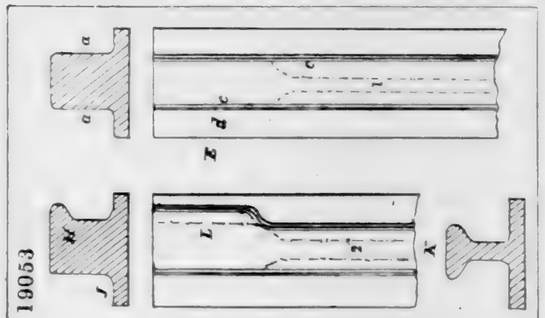


fig. 2

19718



19053



22103

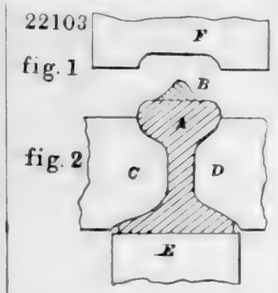


fig. 1

fig. 2

20281 fig. 1

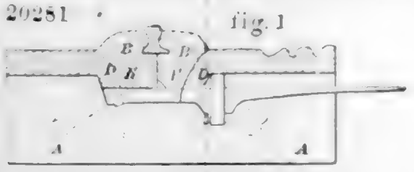
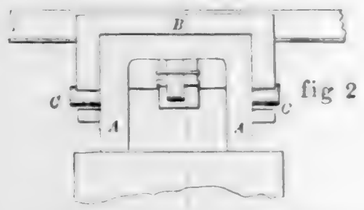


fig 2



20248 fig. 2

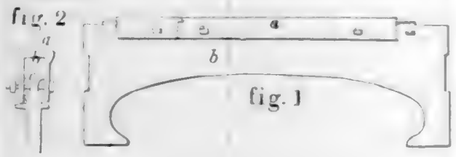


fig. 1

22168



fig. 1



fig 2

21266

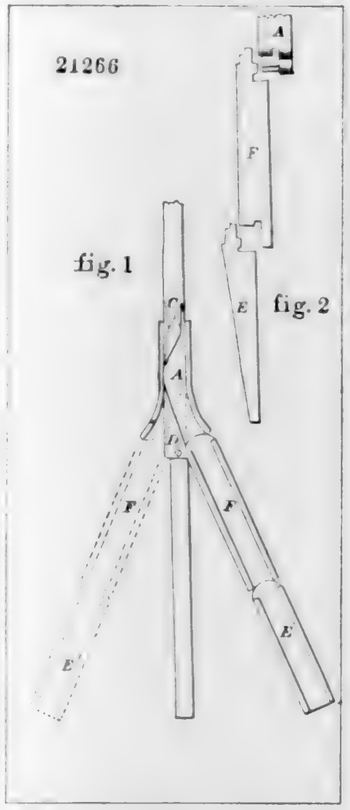


fig. 1 fig. 2

21480

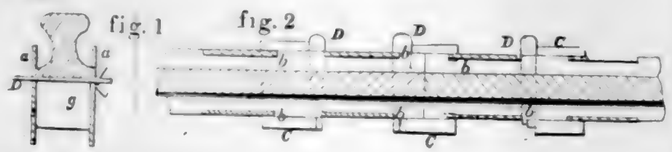


fig. 1 fig. 2

21957

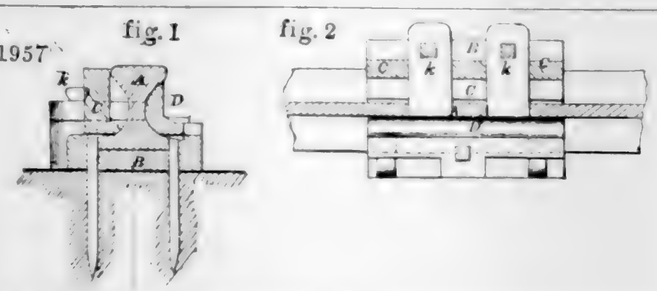
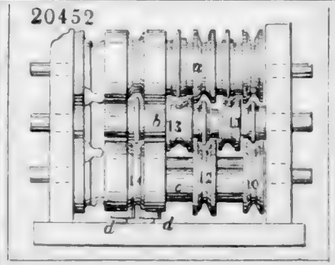


fig. 1 fig. 2

20452



22031

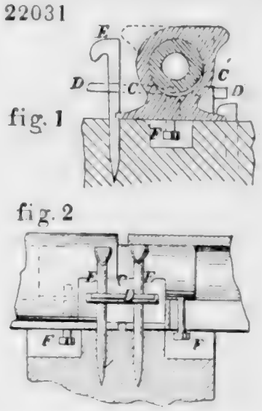


fig. 1 fig. 2

21380

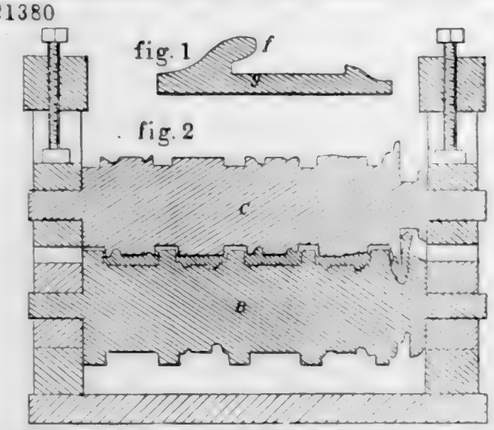


fig. 1 fig. 2

20793

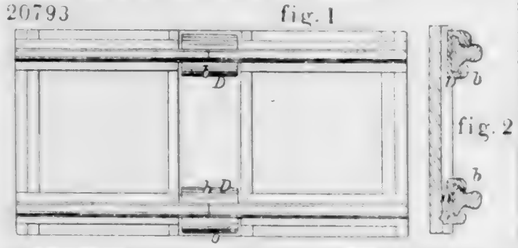
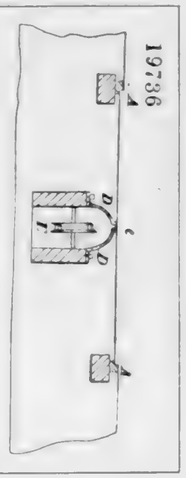


fig. 1 fig. 2

19736



22196

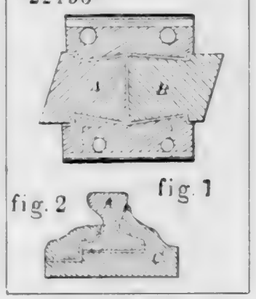
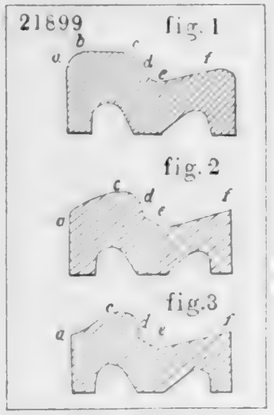
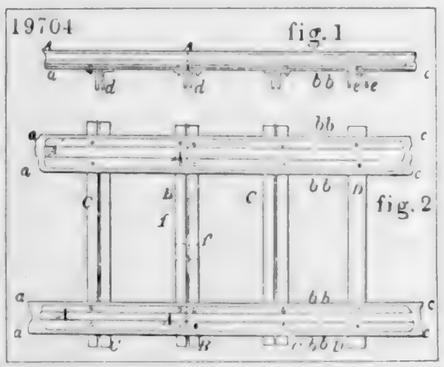


fig. 1 fig. 2

21899 fig. 1 fig. 2 fig. 3



19704 fig. 1 fig. 2



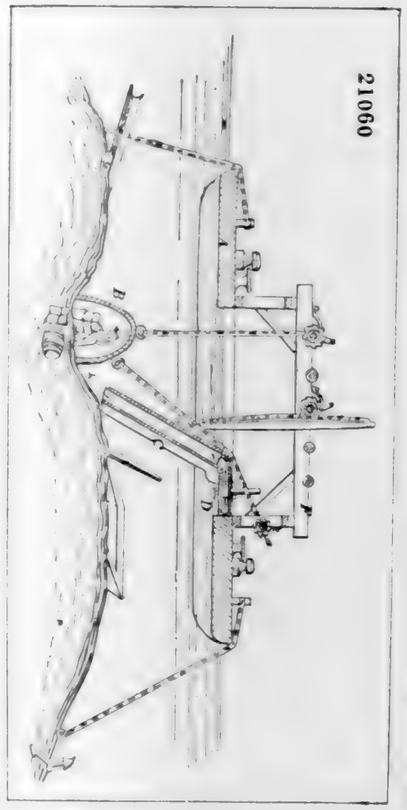
20811 fig 1 fig. 2



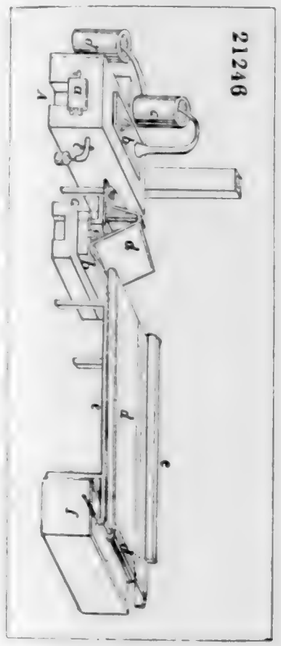
19269



21060



21246



21643

fig. 1

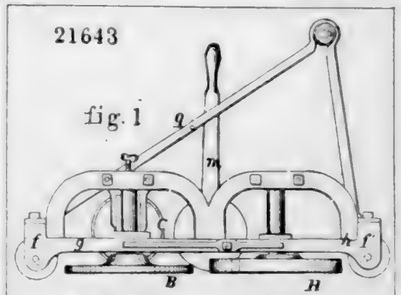
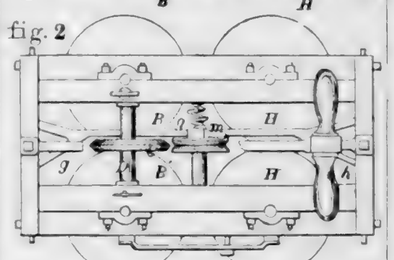


fig. 2



20059

fig. 1

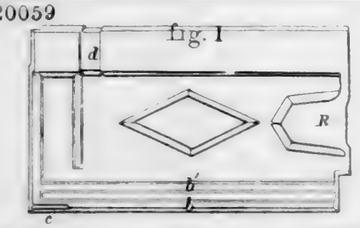


fig. 2

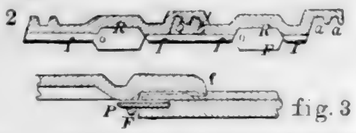


fig. 3

19661

fig. 1

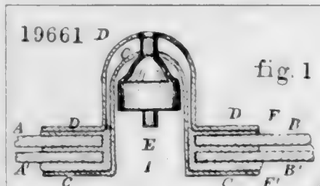
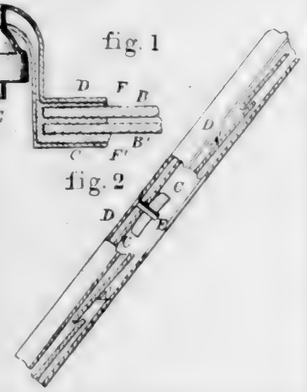


fig. 2



20636

fig. 1

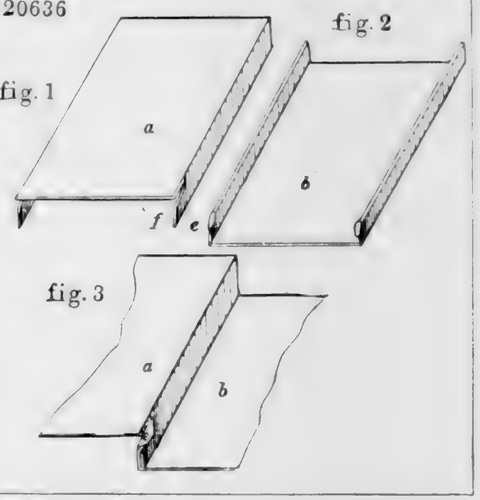


fig. 2

fig. 3

19941

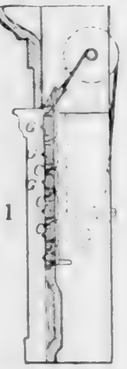


fig. 1

fig. 2



19314

fig. 1

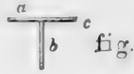
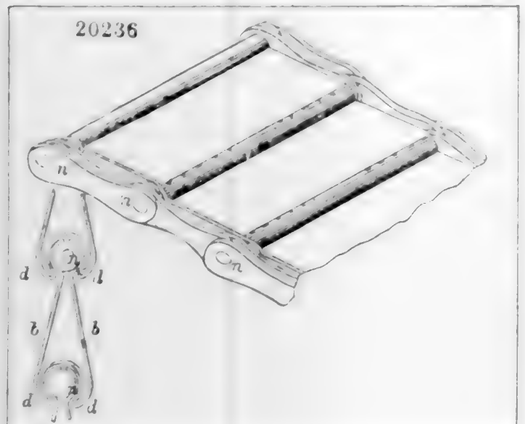


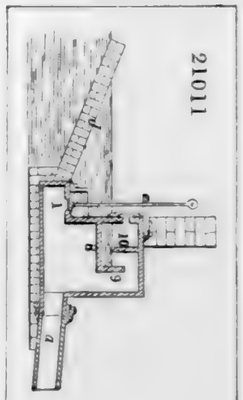
fig. 2



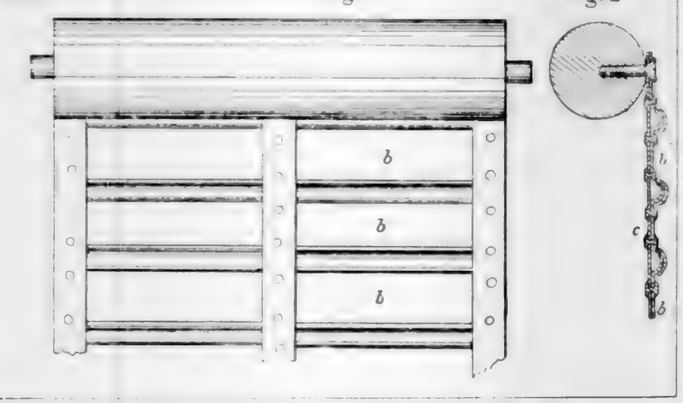
20236



21011



20630 fig. 1 fig. 2



19426 fig. 1

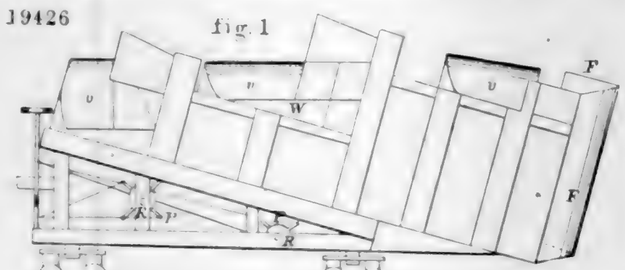
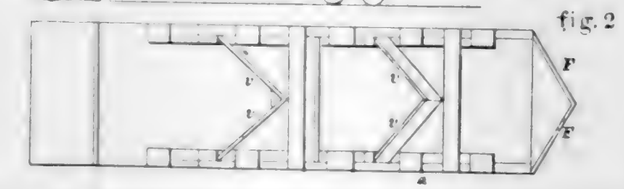


fig. 2



19577 fig. 1

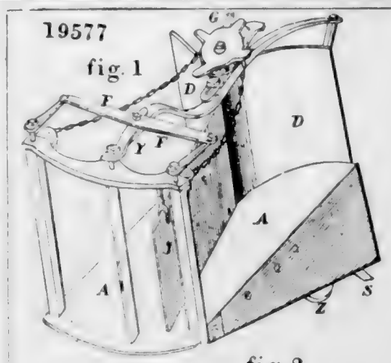
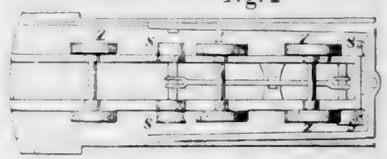


fig. 2



19950 fig. 1

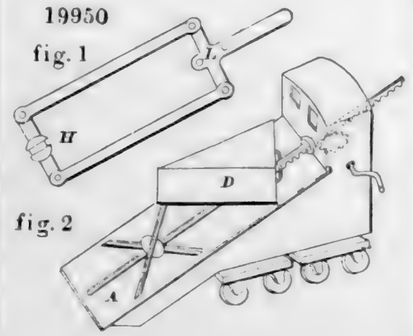
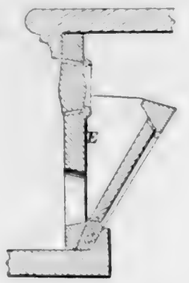


fig. 2

20484



19070 fig. 2

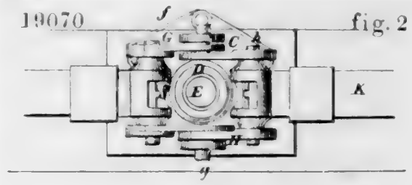
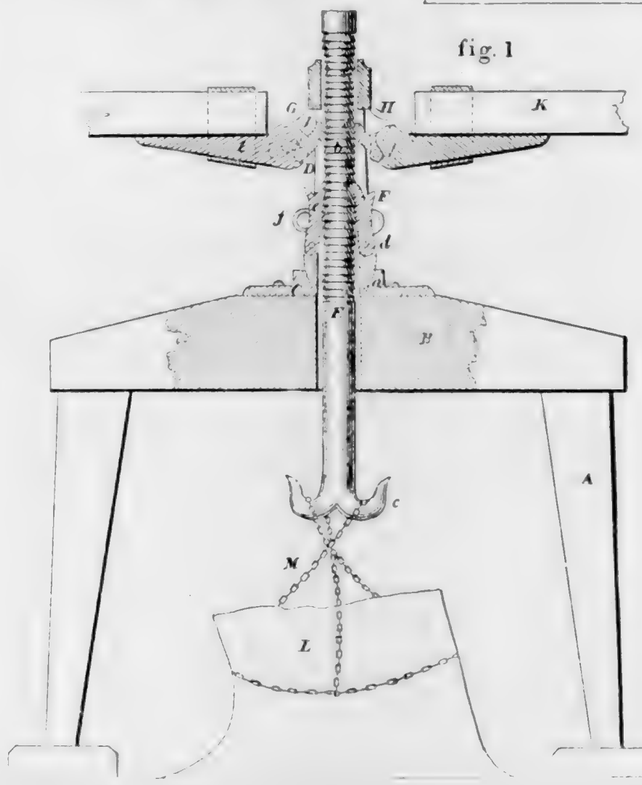


fig. 1



19562

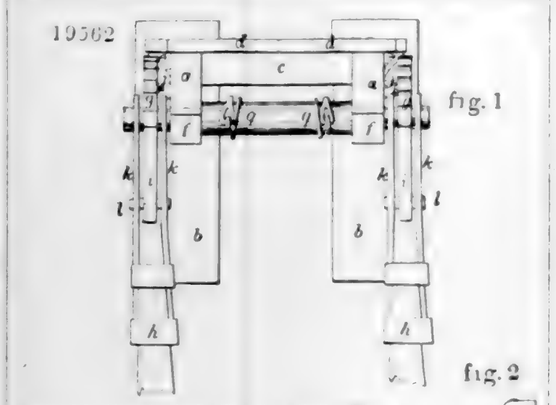


fig. 1

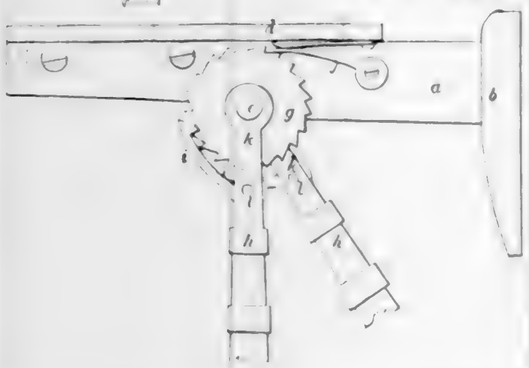


fig. 2

20494

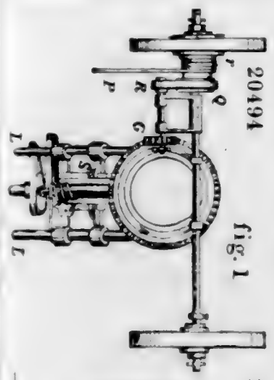


fig. 1

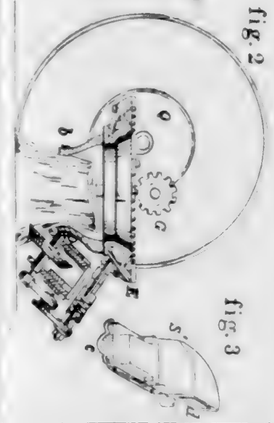
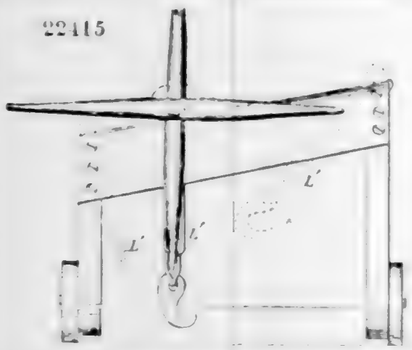


fig. 2

fig. 3

22415



20307

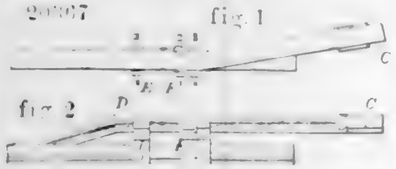


fig. 1

fig. 2

19146

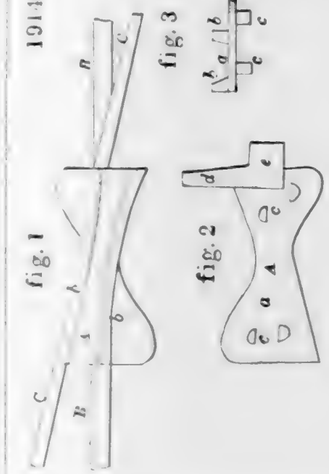


fig. 3

fig. 1

fig. 2

19397

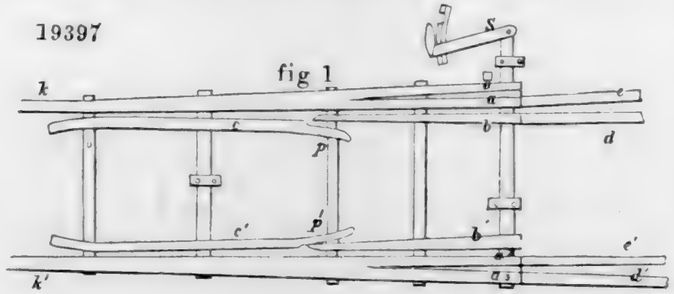


fig. 1

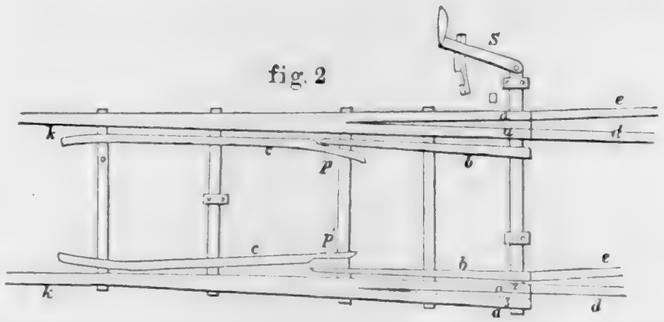
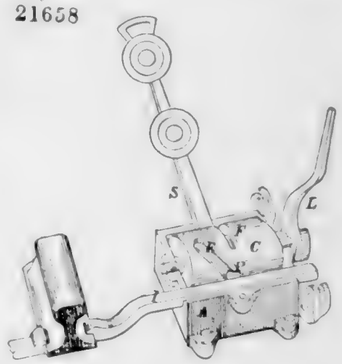


fig. 2

21658



21631

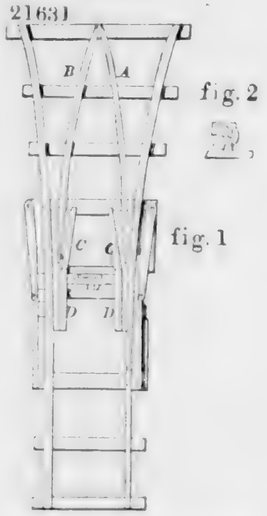


fig. 2

fig. 1

21880

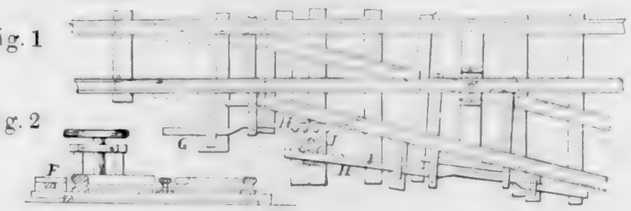
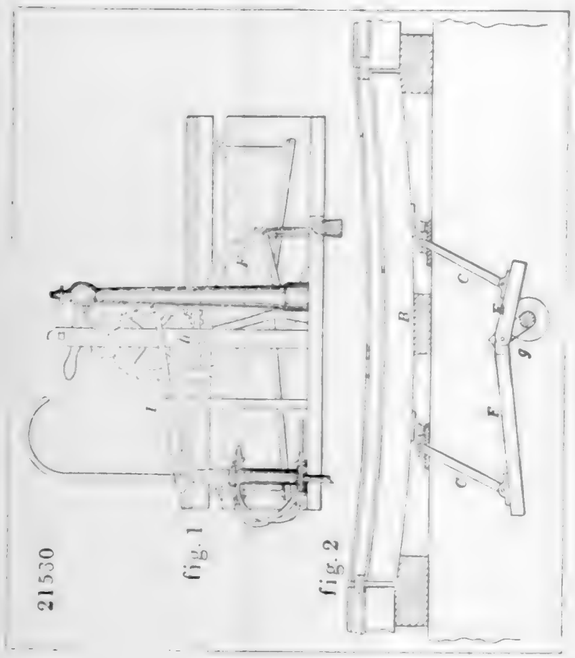


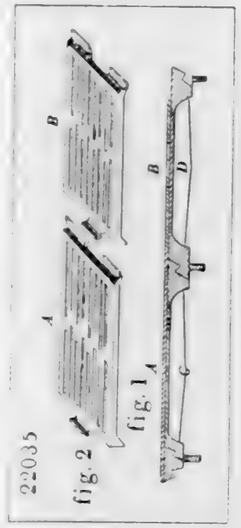
fig. 1

fig. 2

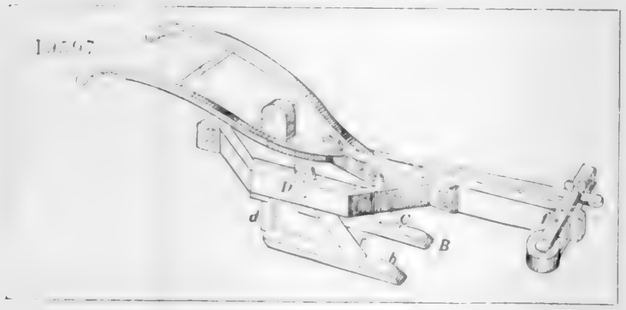
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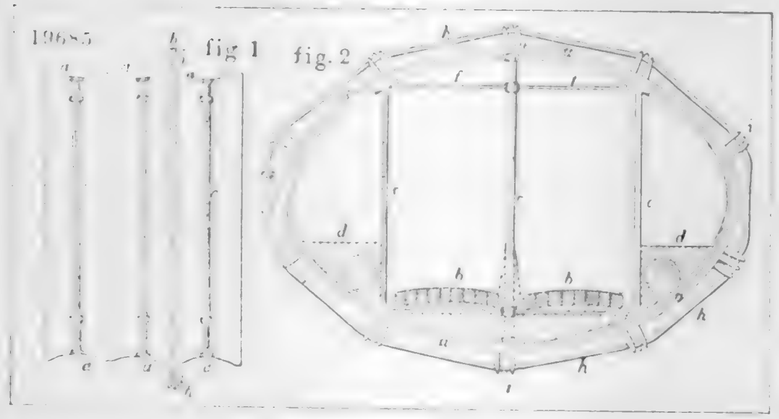
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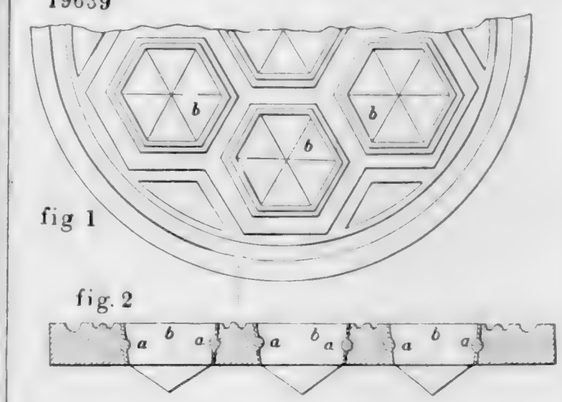
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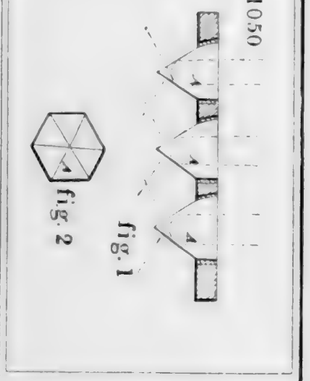
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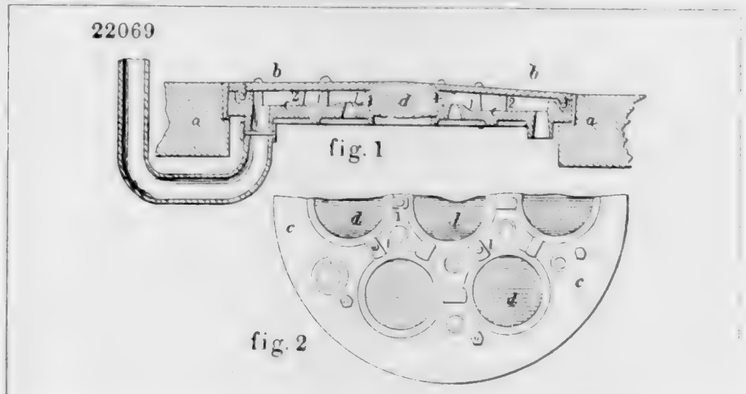
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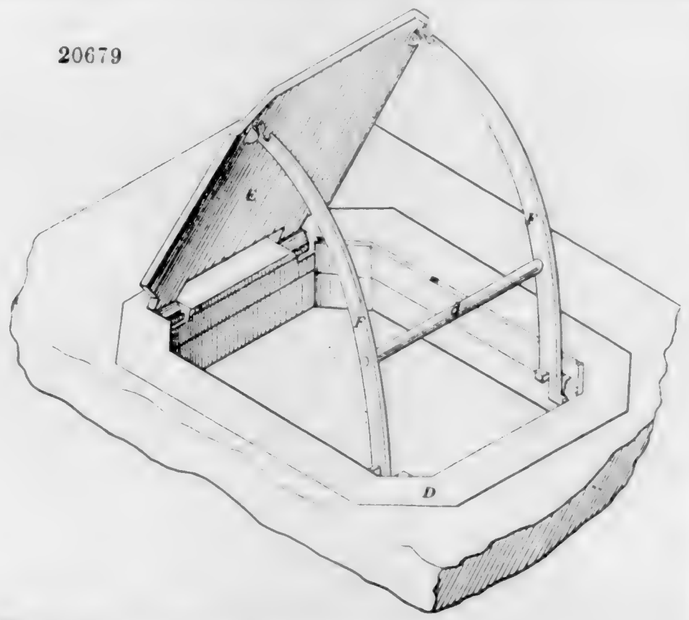
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22069



20679



21498

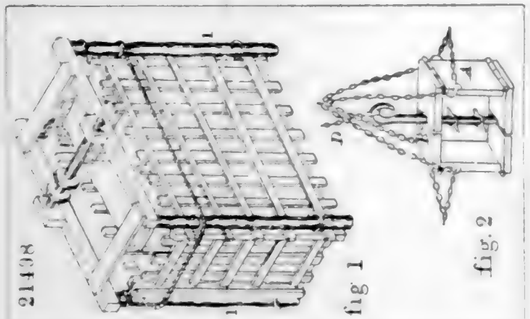
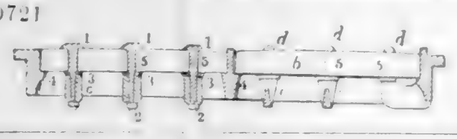


fig. 1

fig. 2

20721



21605

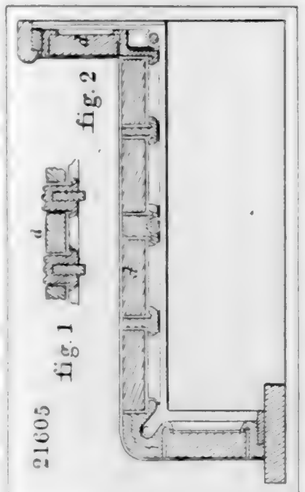


fig. 1

fig. 2

20611

fig. 1

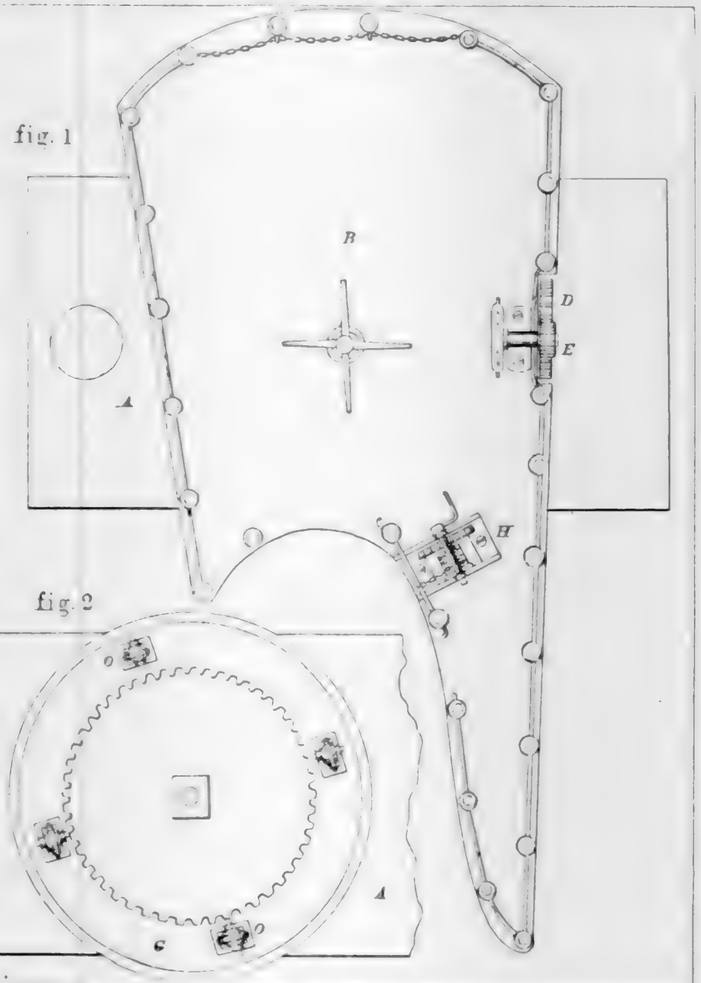
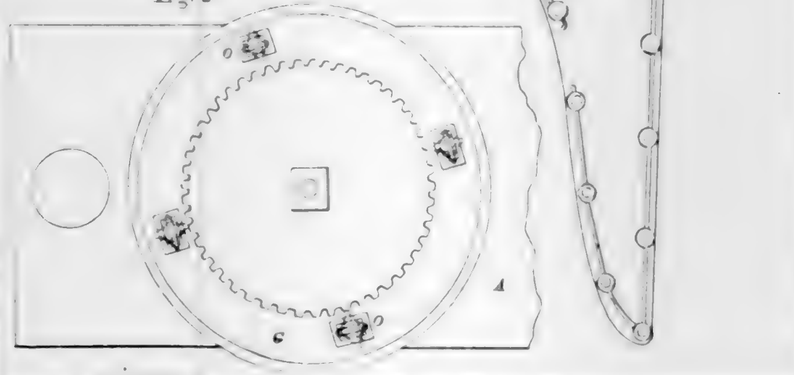


fig. 2



22151

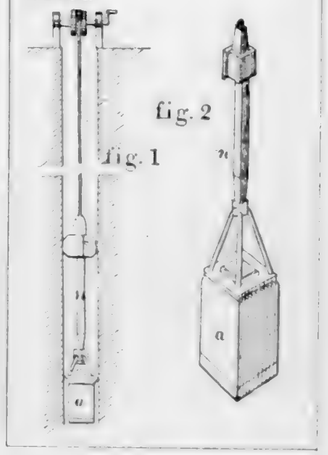
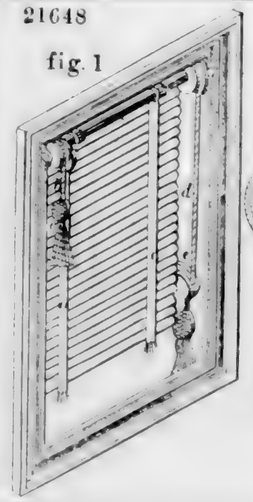


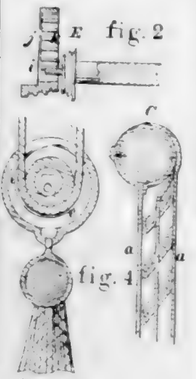
fig. 1

fig. 2

21648

fig. 1

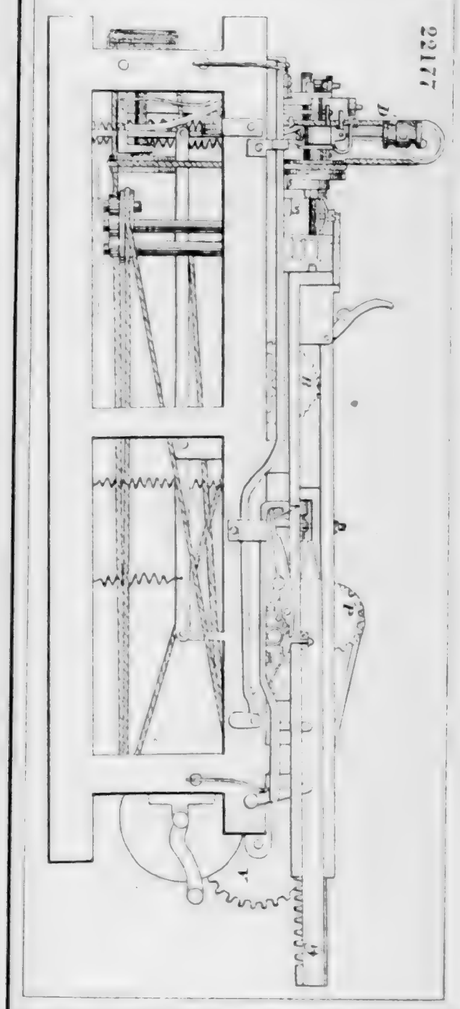




x fig. 2

fig. 3

fig. 4



22122



21417

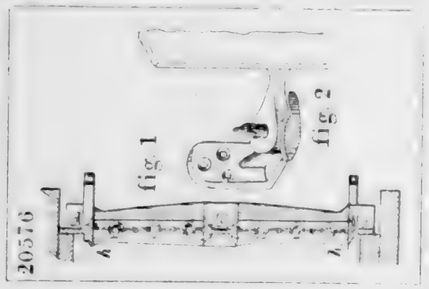


fig. 1

fig. 2

20576

19488

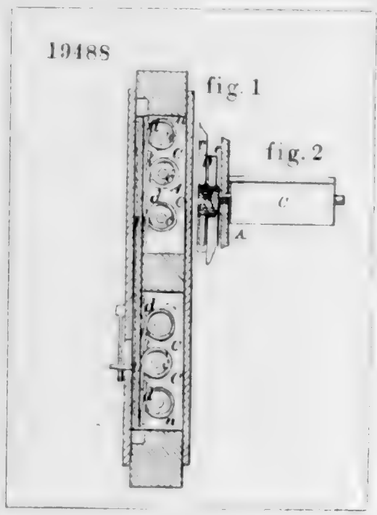
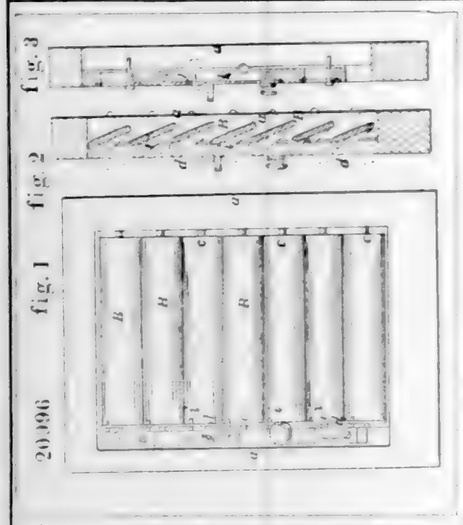


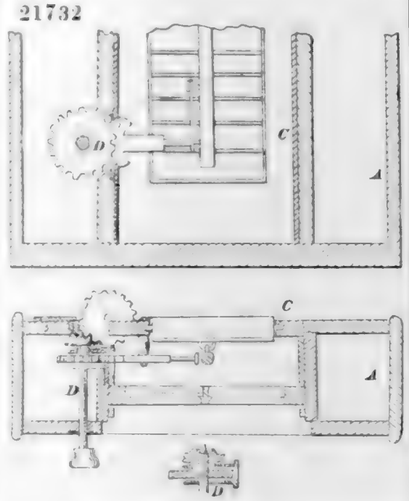
fig. 1

fig. 2

20096 fig. 1 fig. 2 fig. 3



21732



22365 fig. 1 fig. 2

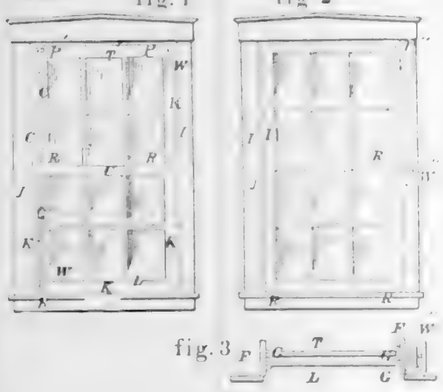
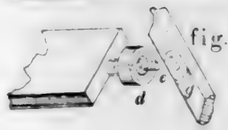


fig. 3

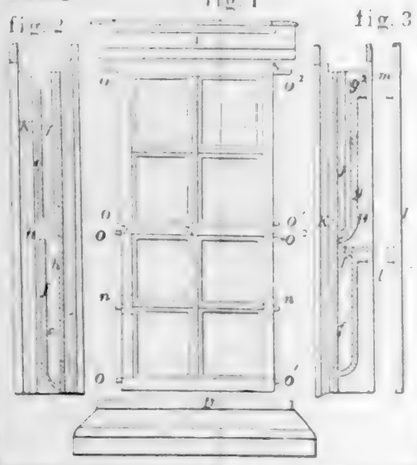
21408 fig. 1



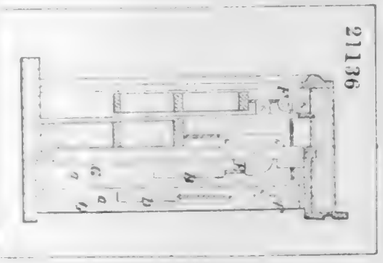
fig. 2



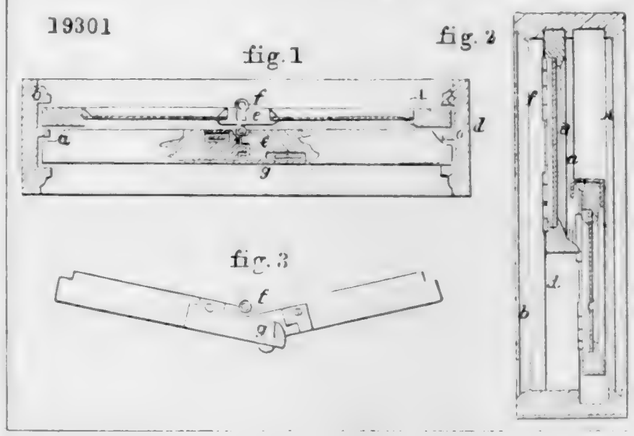
19362 fig. 1 fig. 2 fig. 3



21136



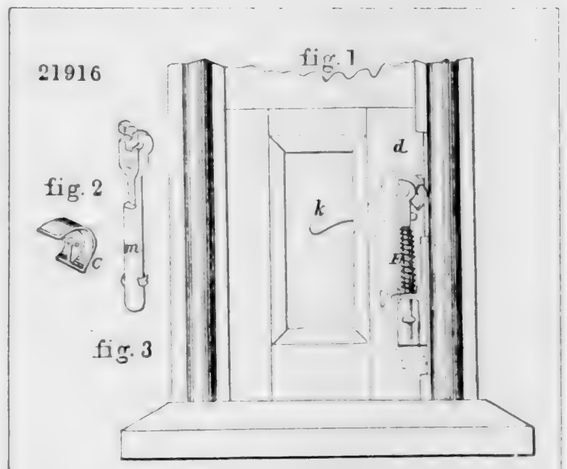
19301 fig. 1 fig. 2 fig. 3



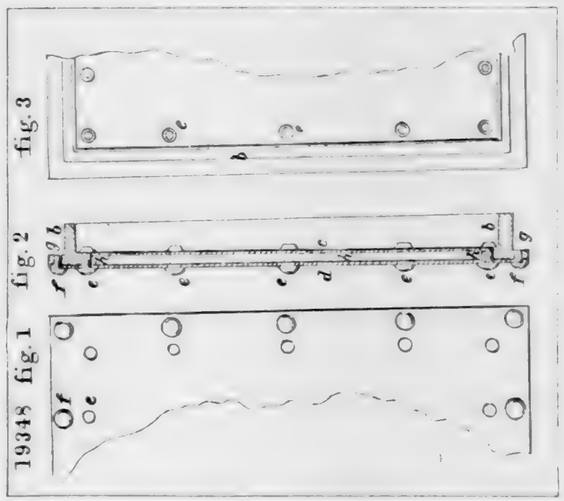
19267



21916 fig. 1 fig. 2 fig. 3



19348 fig. 1 fig. 2 fig. 3



20857



20535 fig. 1

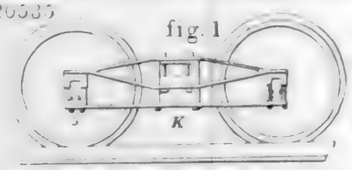


fig. 2

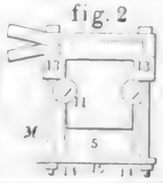
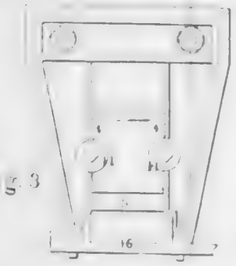


fig. 3



21943 fig. 1

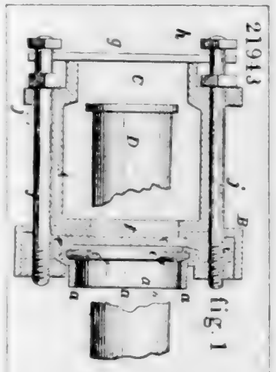


fig. 2

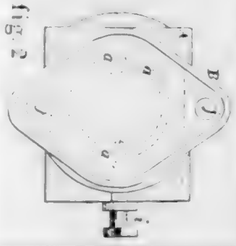


fig. 2

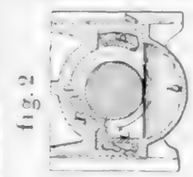
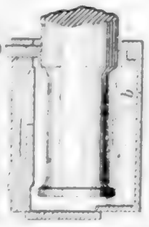


fig. 1



21908

21652 fig. 1

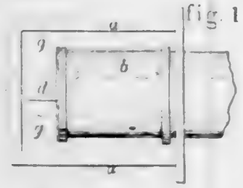
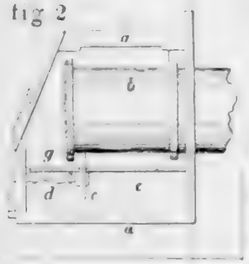


fig. 2



19762



fig. 1

fig. 2



20991

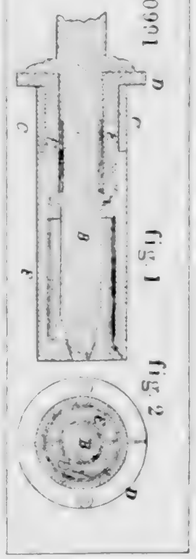


fig. 1

fig. 2

19290

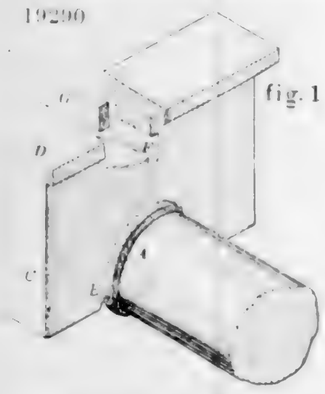
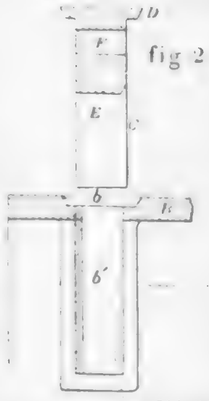


fig. 1

fig. 2



19741

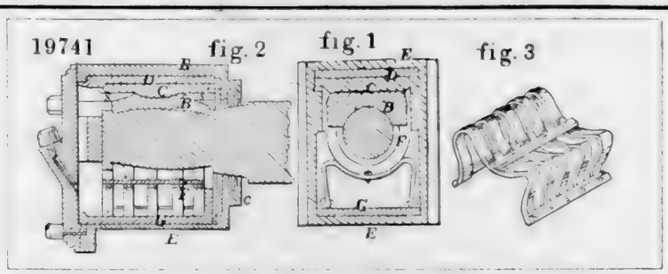


fig. 2

fig. 1

fig. 3

19840 fig. 1

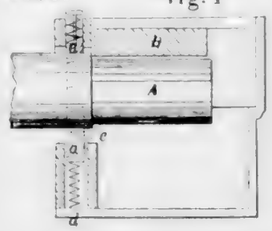
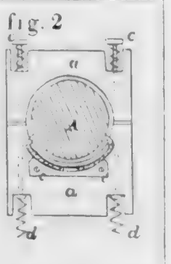
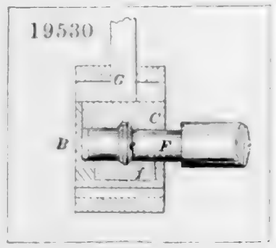


fig. 2



19530



19995 fig. 1

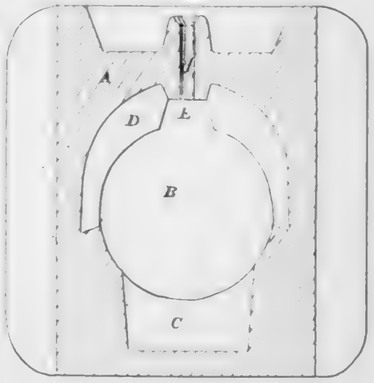
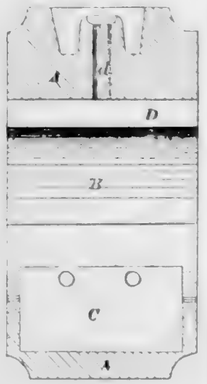
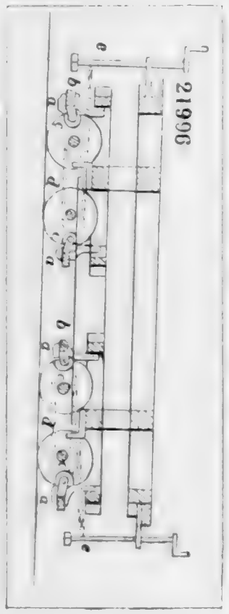


fig. 2



21996



22291 fig. 1

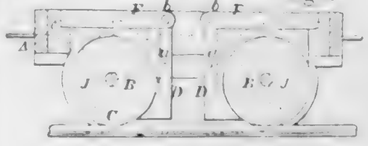
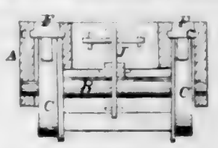


fig. 2



19012

fig. 1

fig. 2

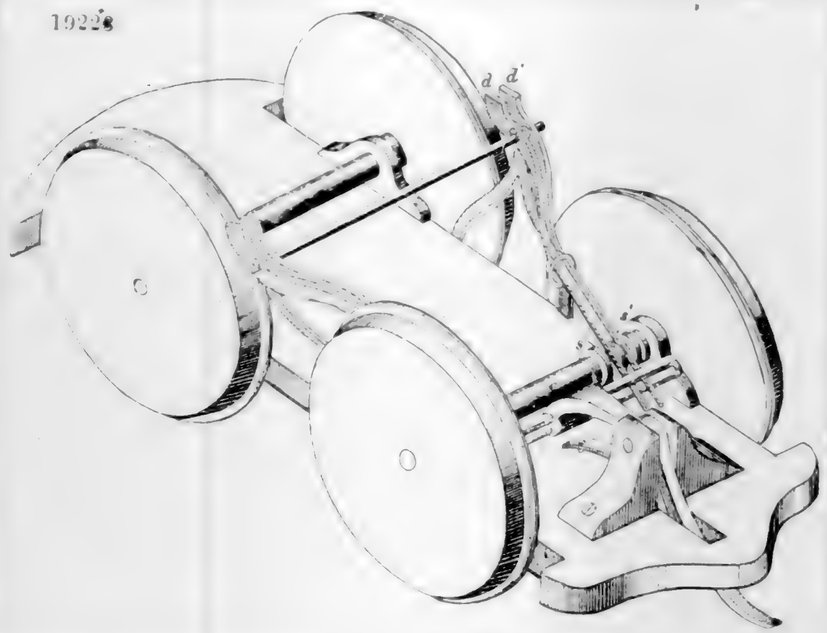
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19157

19734

19917

19228



19599

fig. 1

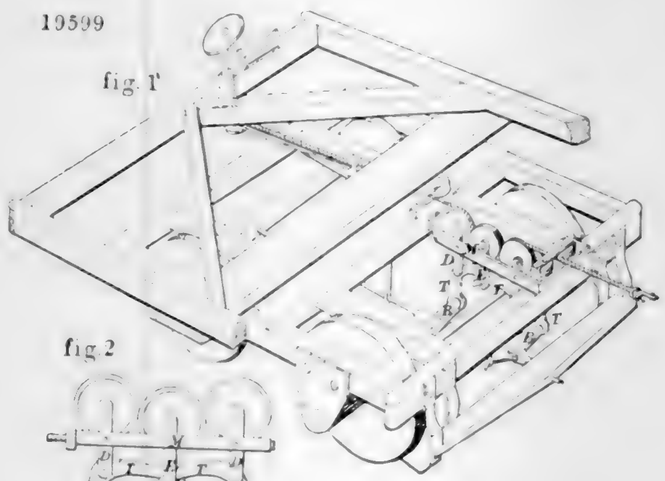


fig. 2

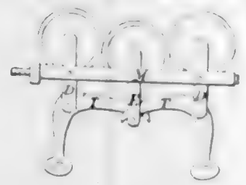
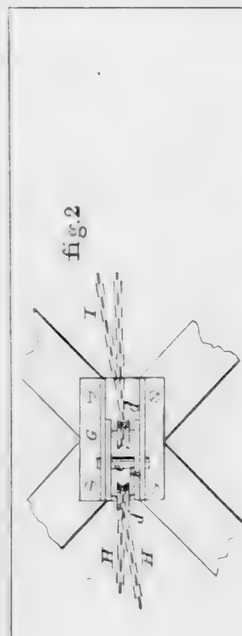
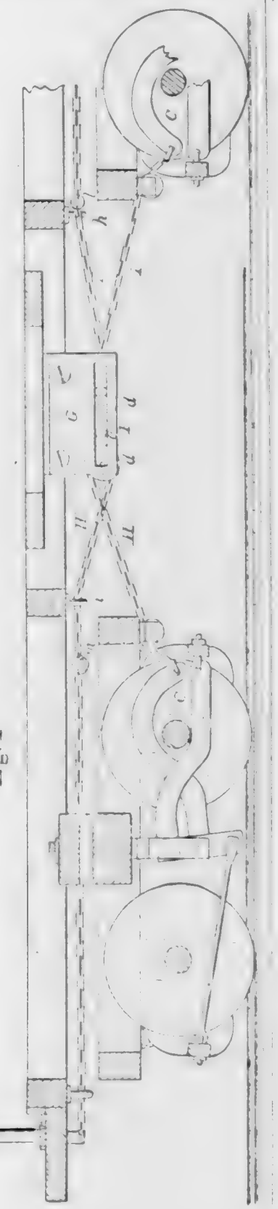


fig. 2



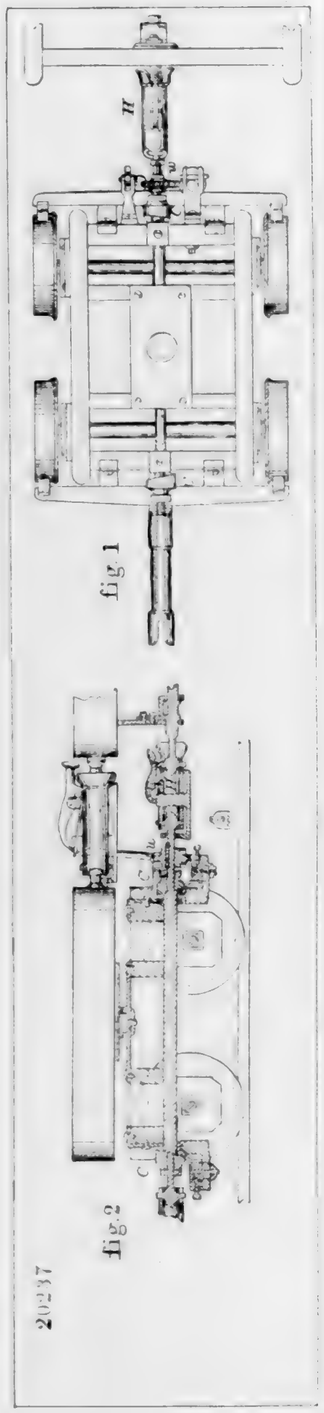
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fig. 1



20237

fig. 2



20339

fig. 1

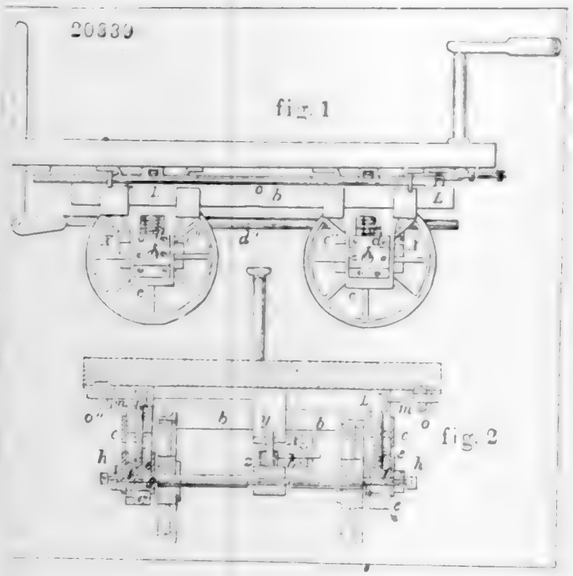


fig. 2

21038

fig. 1

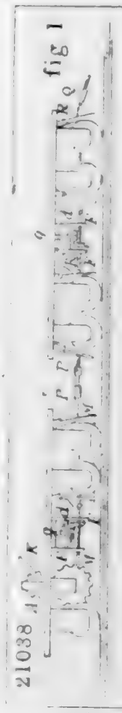
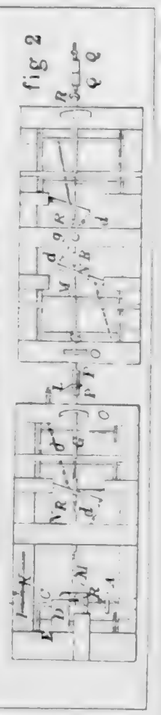


fig. 2



20120

fig. 1

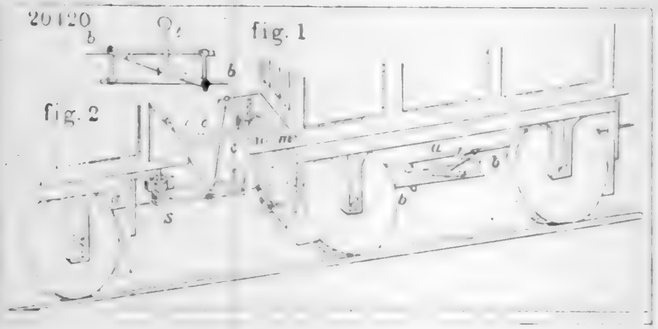


fig. 2

20468

fig 2

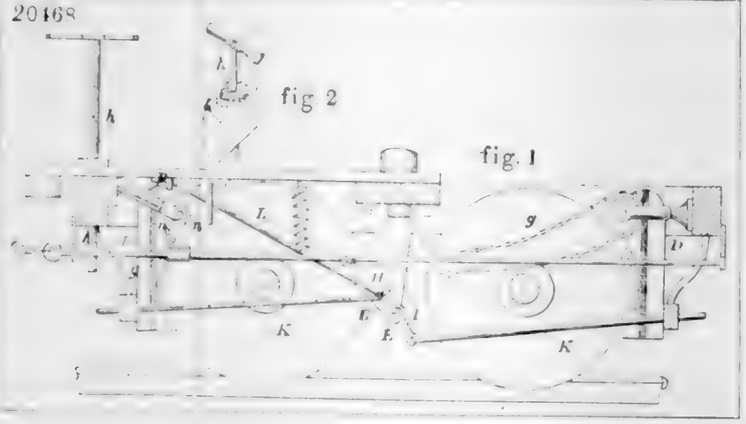


fig. 1

20769

fig. 1

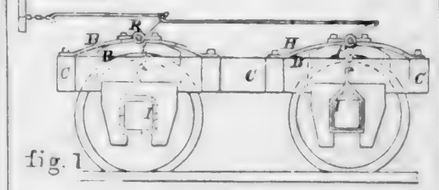
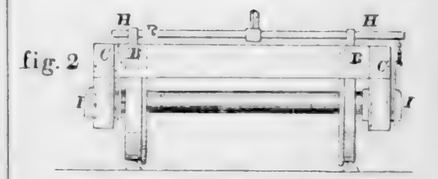


fig. 2



22213

fig. 1

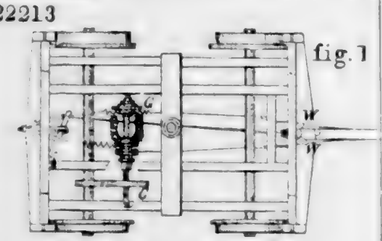
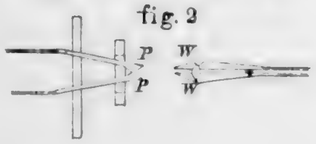


fig. 2



22229

fig. 1

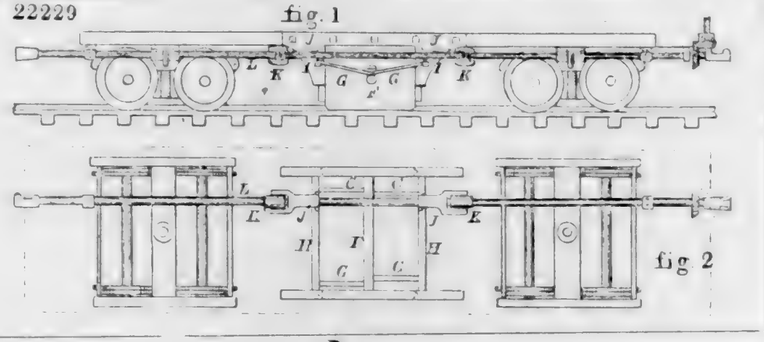


fig 2

22455

fig. 1

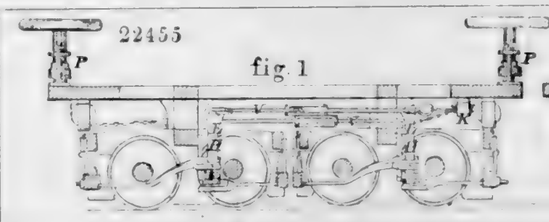
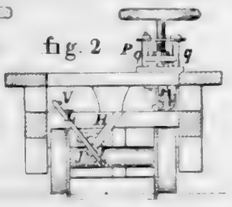


fig. 2

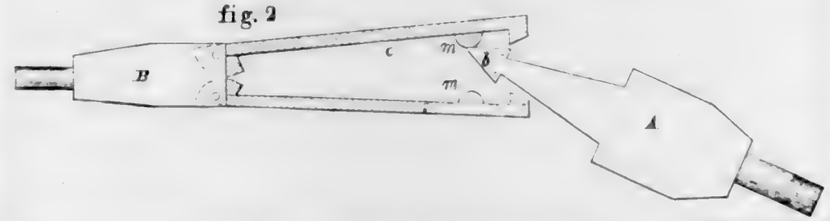


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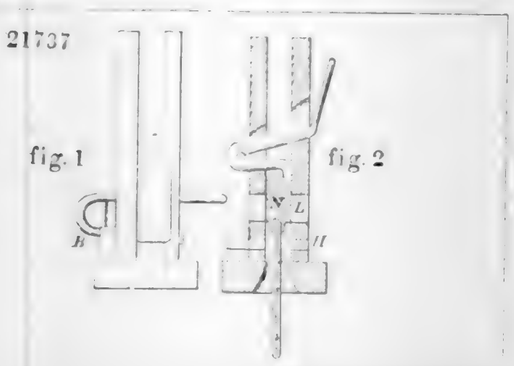
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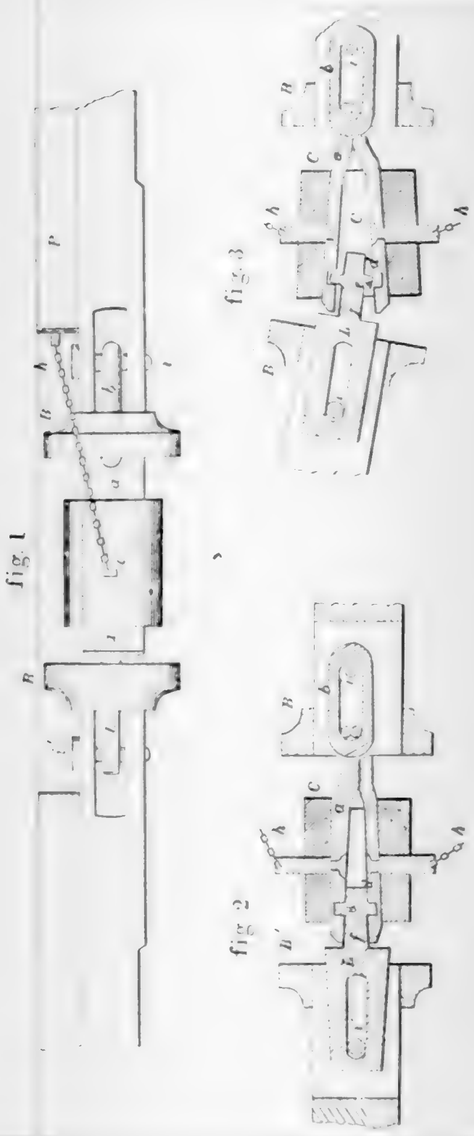


fig. 2



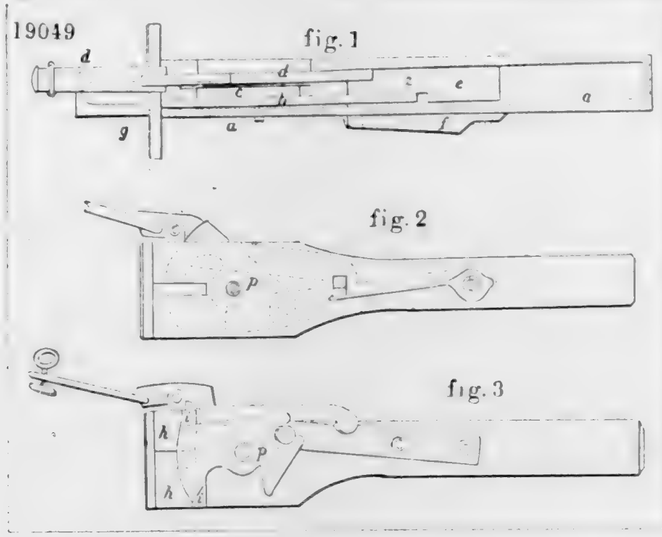
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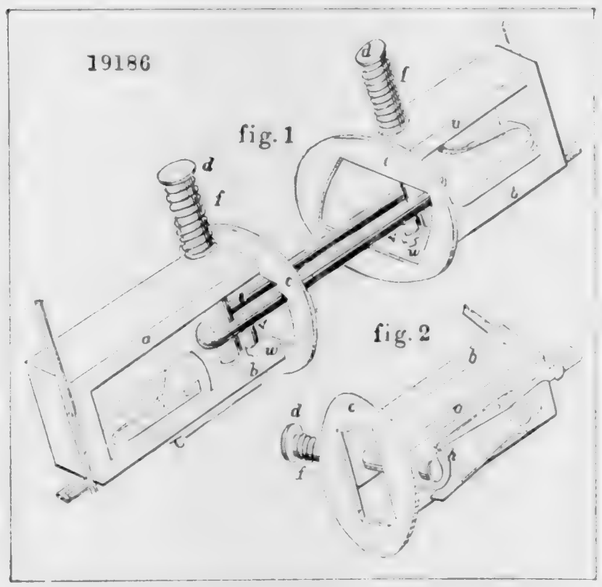


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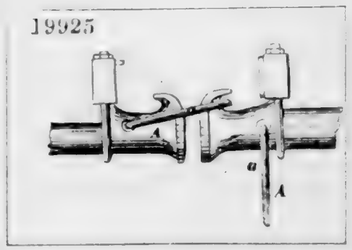
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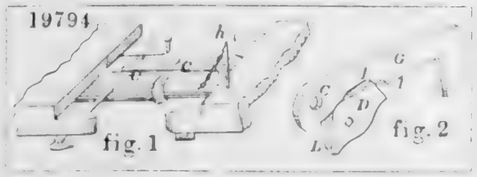
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19925



19794



19204

fig. 1

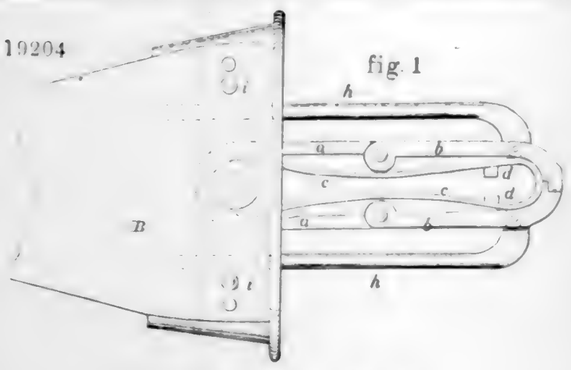
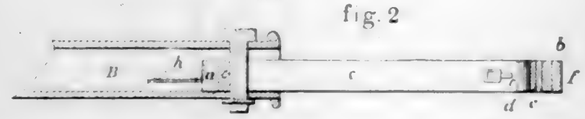
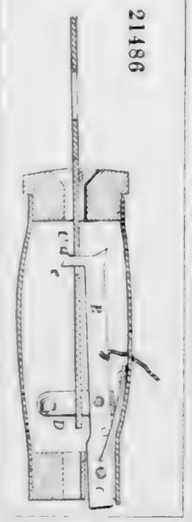


fig. 2



21486



20264

fig. 1

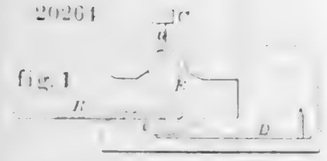
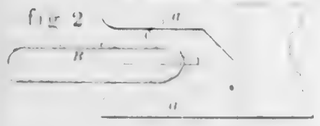


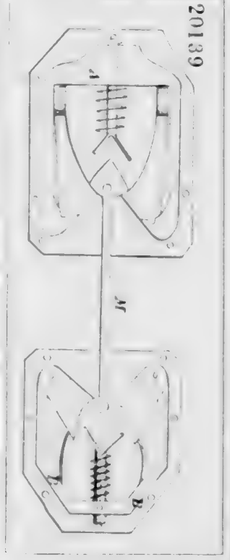
fig. 2



20392



20139



21502

fig. 1
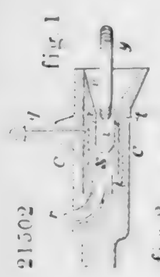


fig. 2



20817

fig. 1

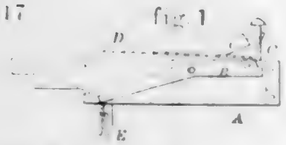
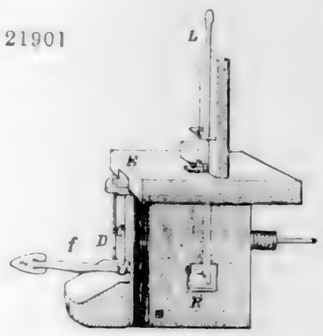


fig. 2



21901



21870

fig. 1

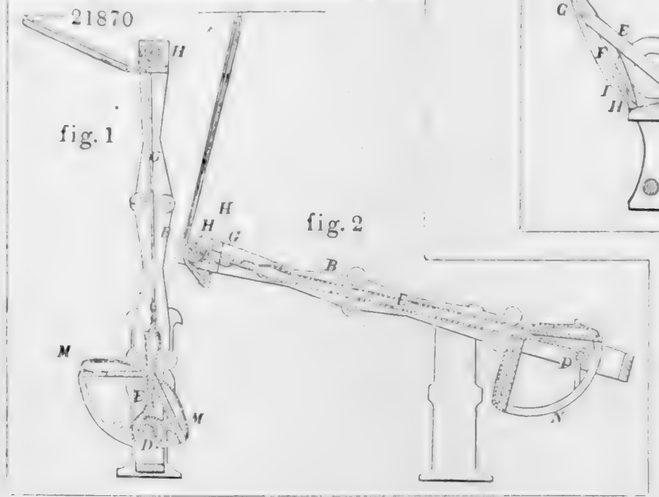
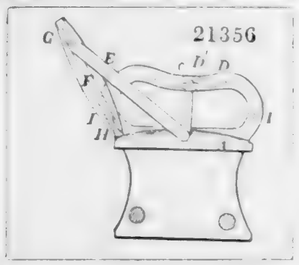


fig. 2

21356



21967

fig. 1

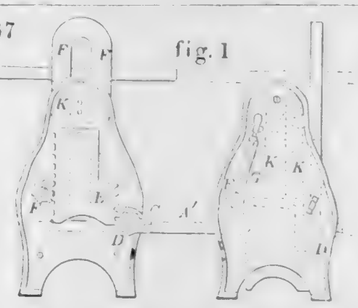
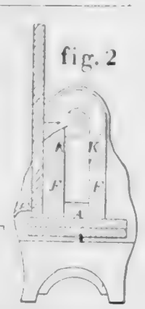


fig. 2



21985

fig. 1

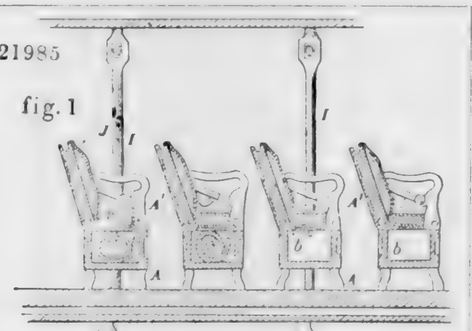
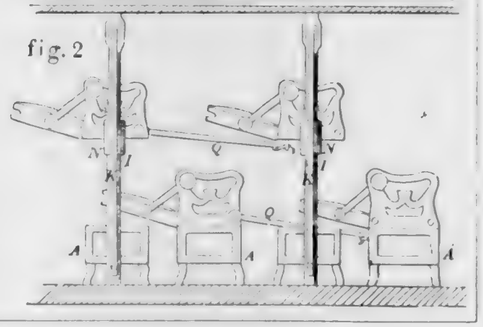


fig. 2



19079

fig. 1

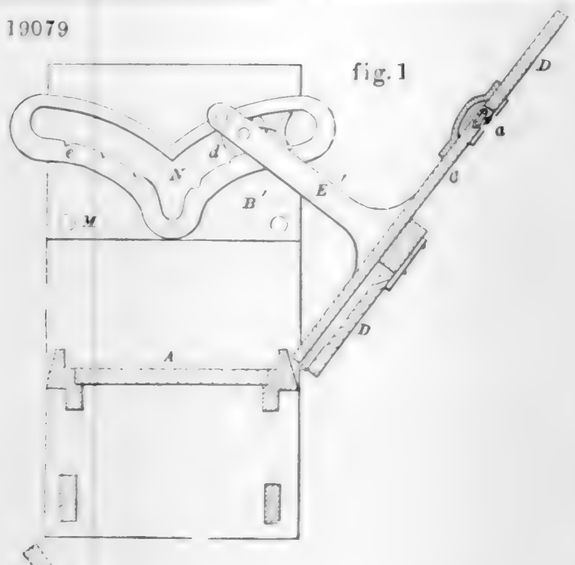
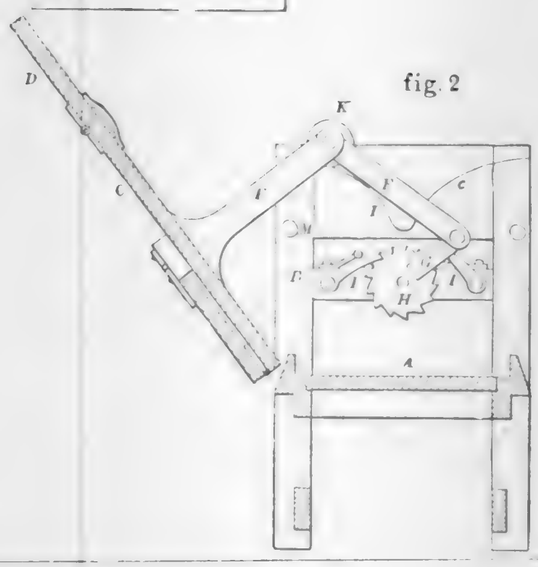
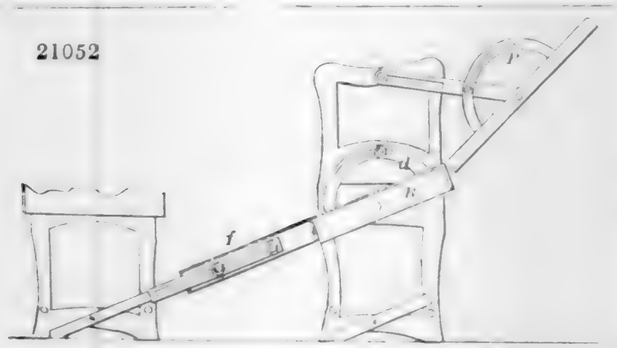


fig. 2



21052



20654

fig. 1

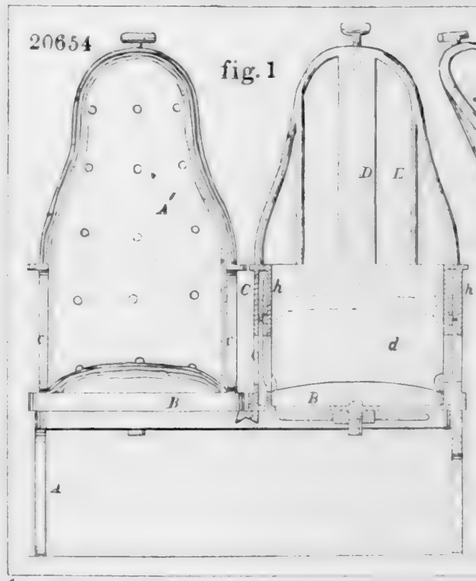
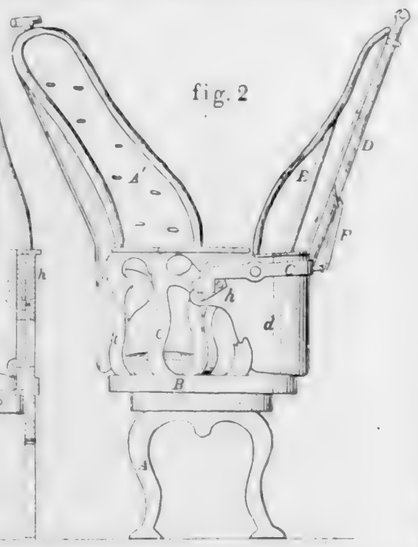
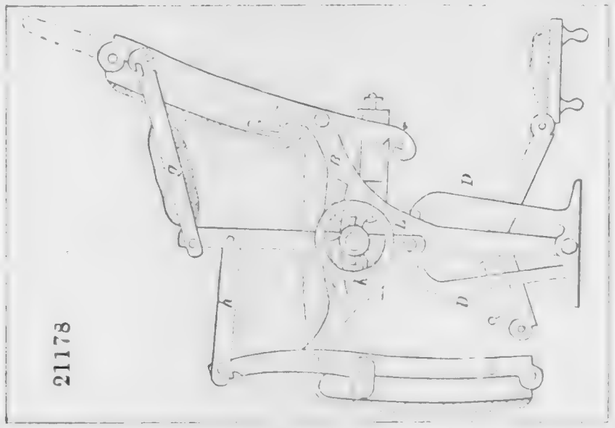


fig. 2





21178

18910



21727

fig. 1

fig. 2

21326

21352

22171

fig. 1

fig. 2

20622

fig. 1

fig. 2

fig. 3

21536

21251

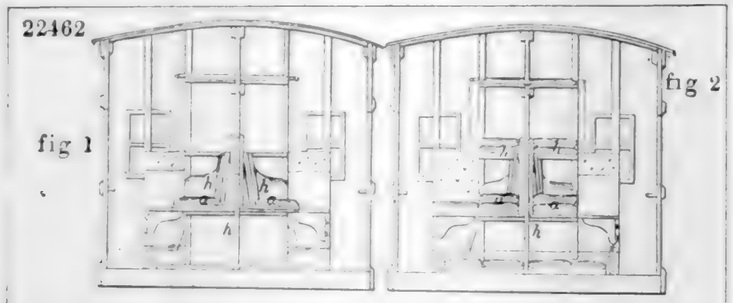
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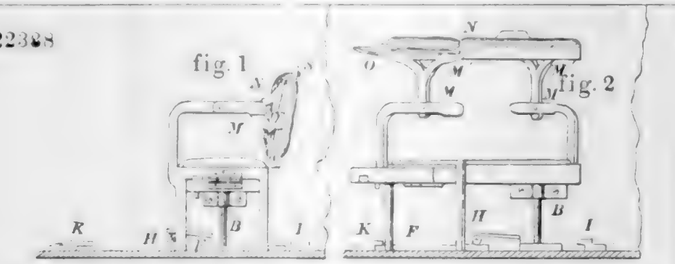
fig. 1

fig. 2

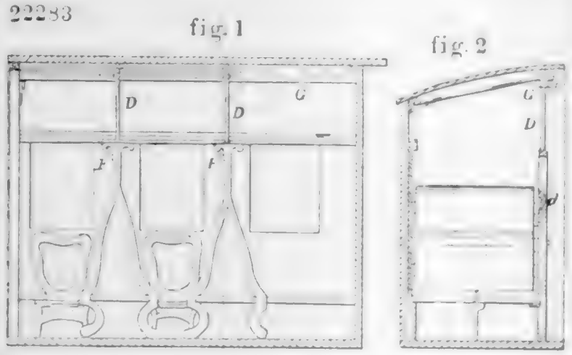
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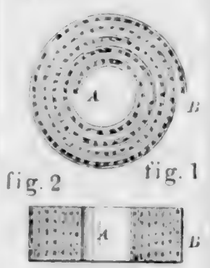
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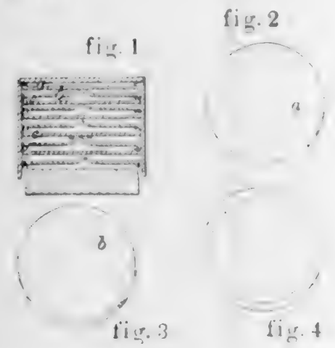


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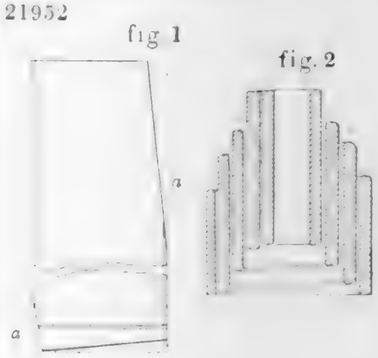
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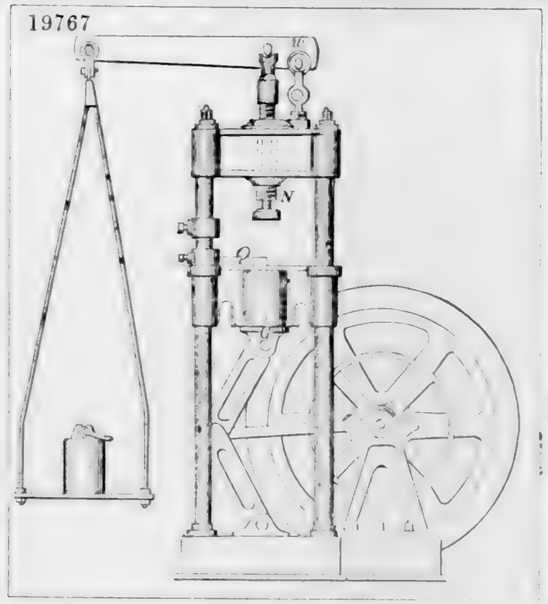
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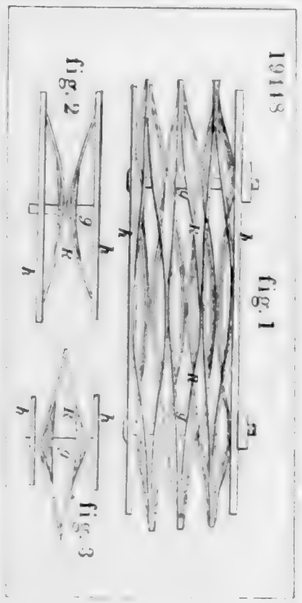
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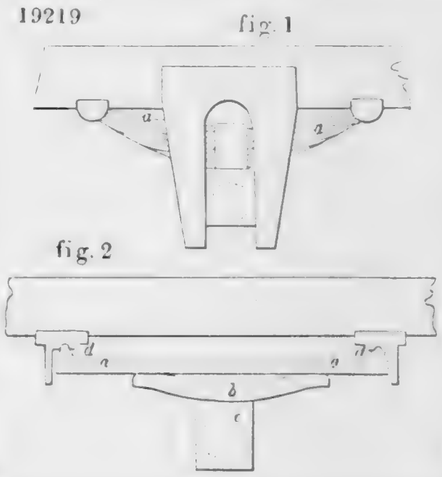
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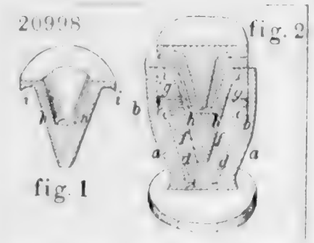
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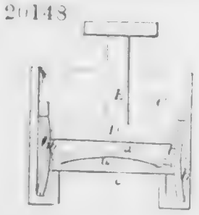
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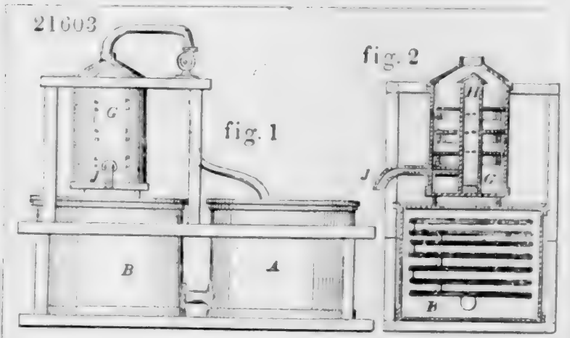
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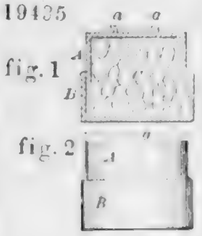
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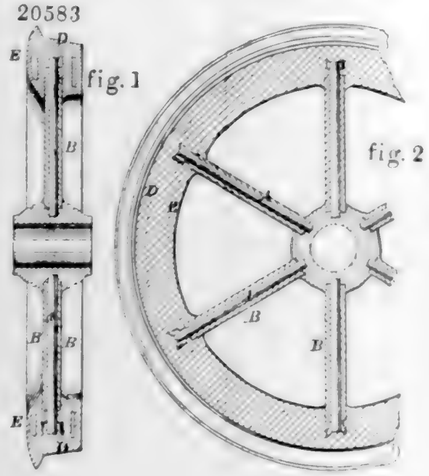
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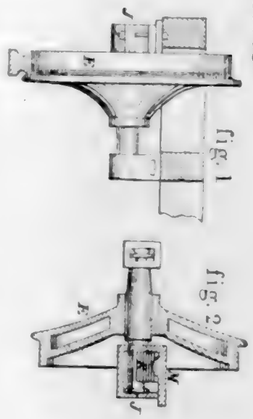
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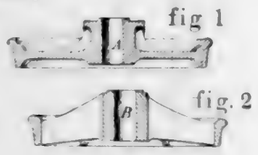
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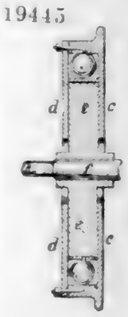
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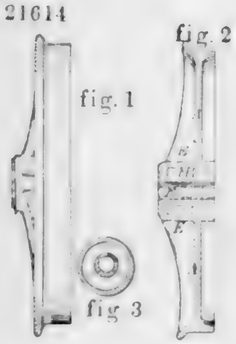
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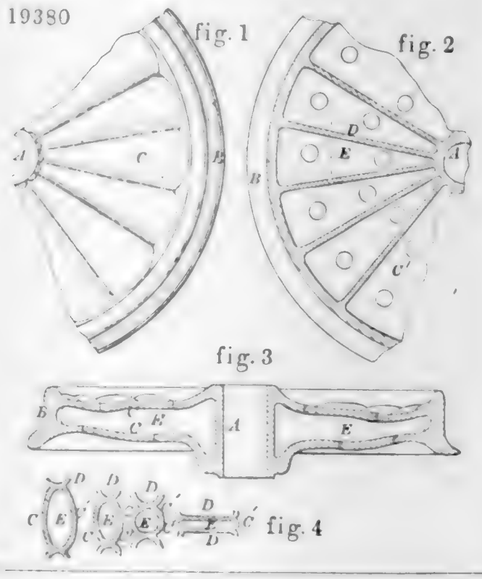
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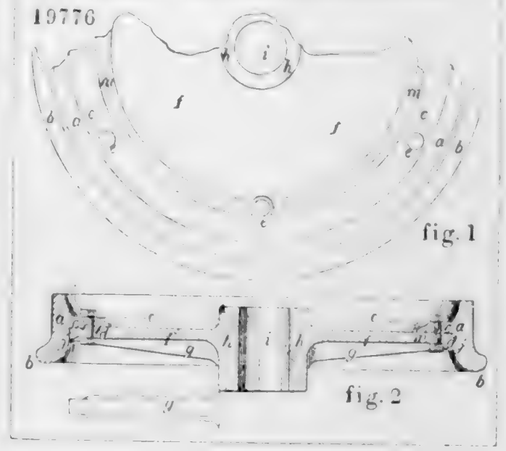
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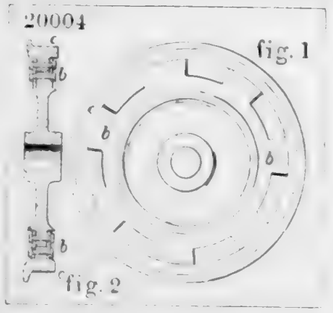
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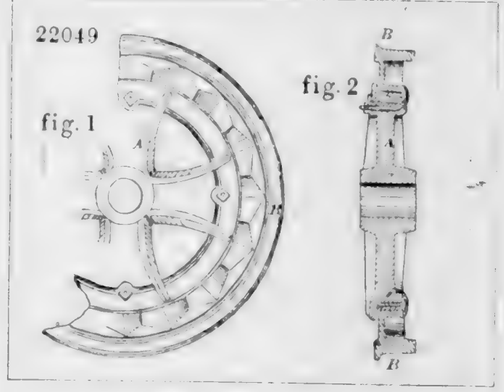
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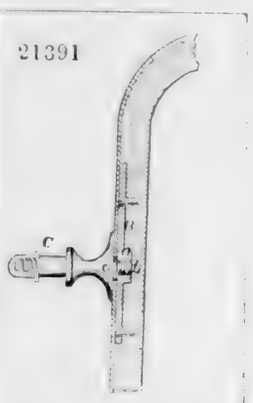
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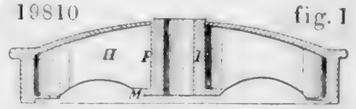
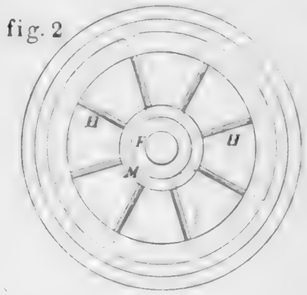
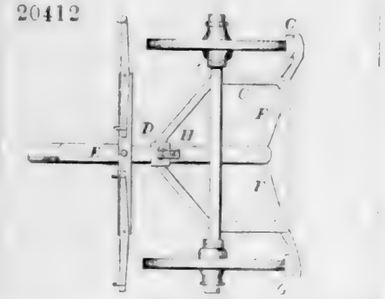


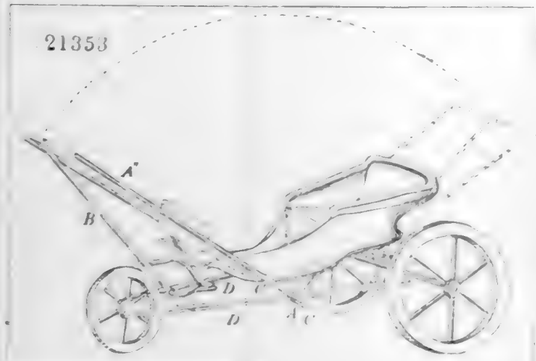
fig. 2



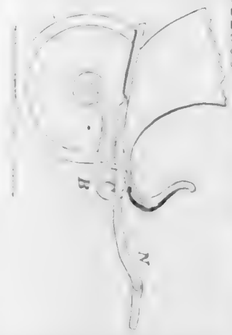
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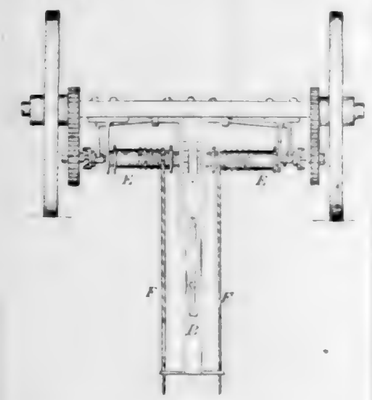
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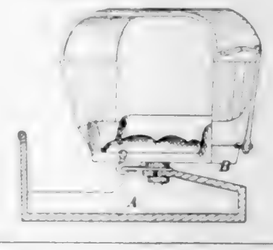
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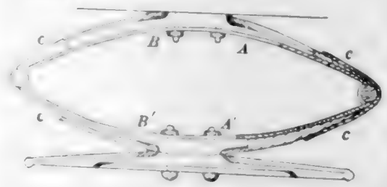
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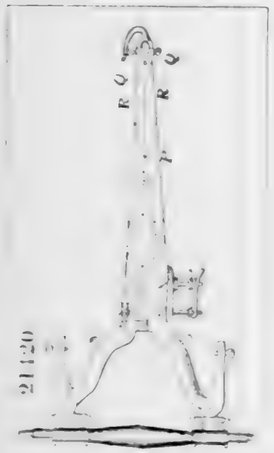
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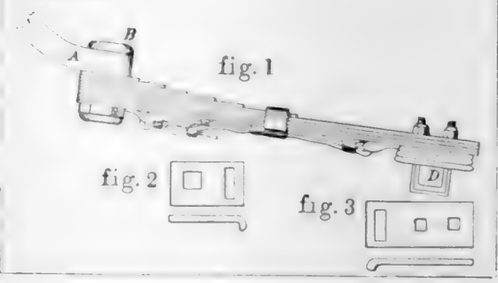
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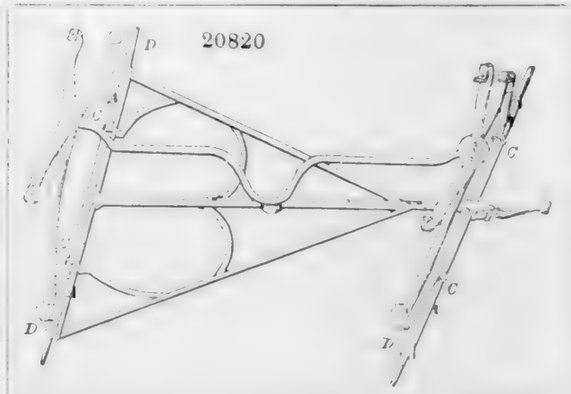
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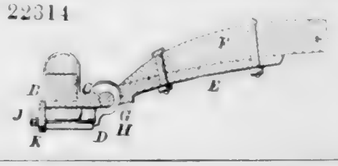
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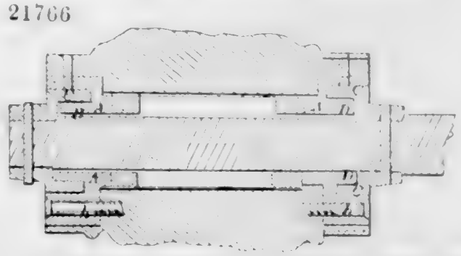
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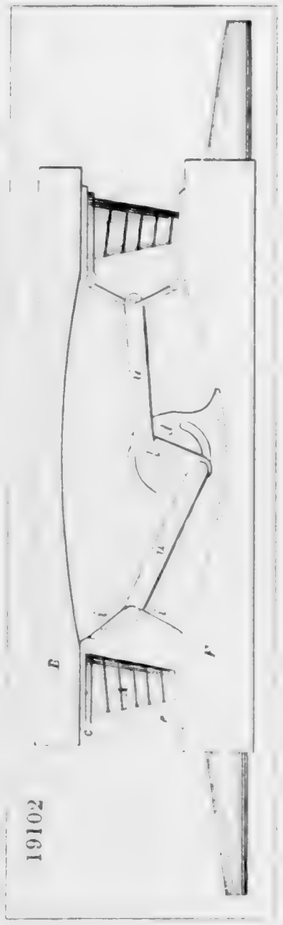
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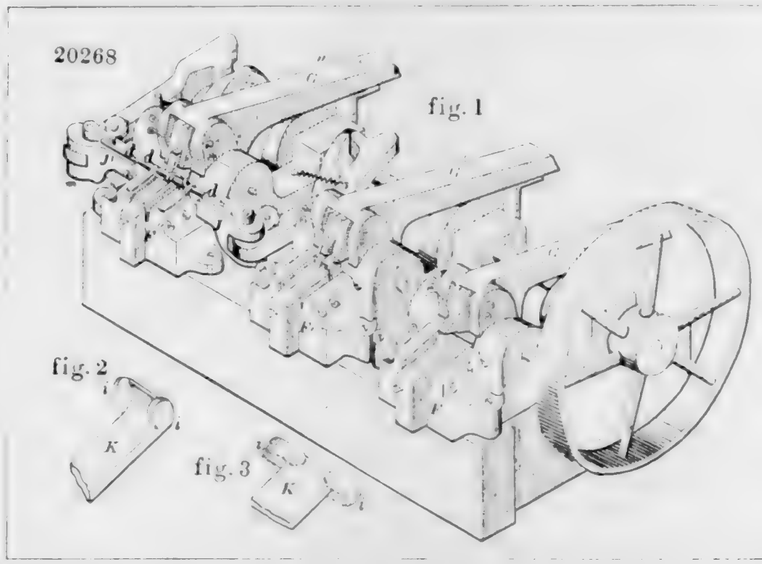


fig. 2

19820

fig. 1

fig. 2

19478

fig. 1

fig. 2

19065

fig. 1

21683

fig. 1

fig. 2

20586

20869

19721 fig. 1

fig. 2

21012

19951

19113

fig. 1

fig. 2

19264

fig. 1

fig. 2

fig. 4

fig. 3

19446

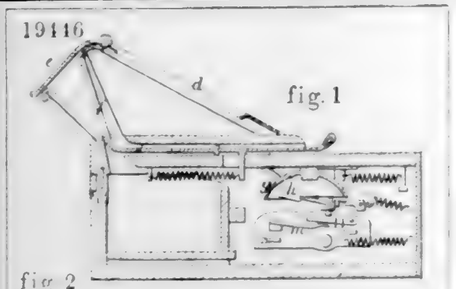
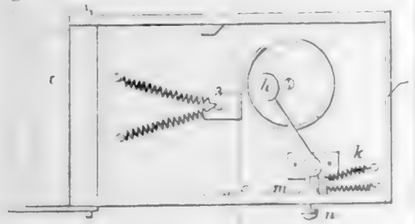


fig. 1

fig 2



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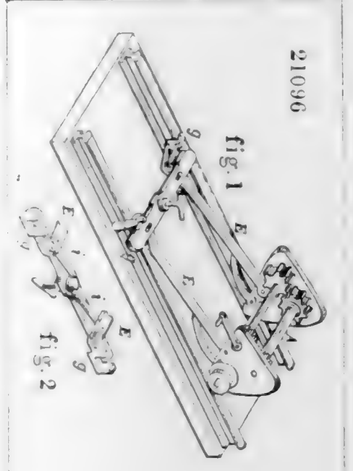
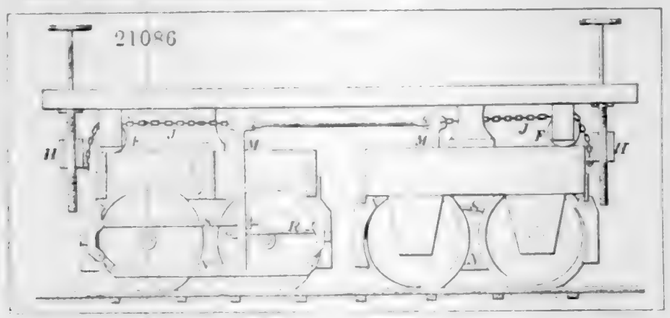


fig. 1

fig. 2

21086



19376

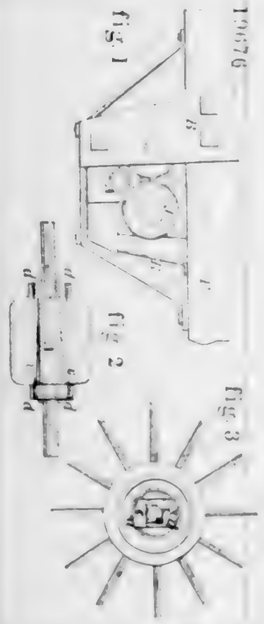
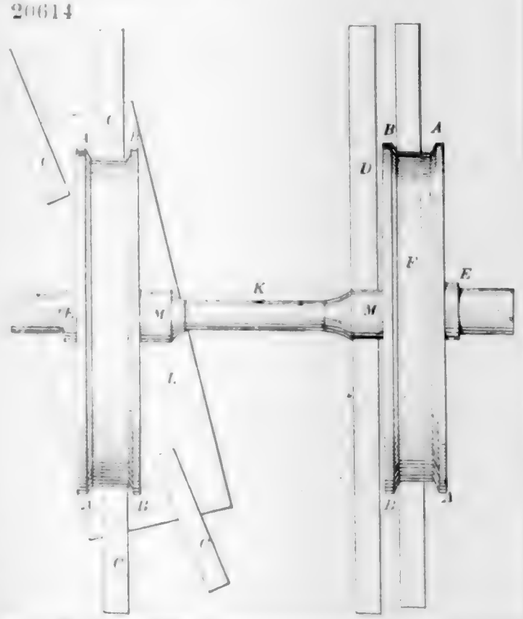


fig. 1

fig. 2

fig. 3

20614



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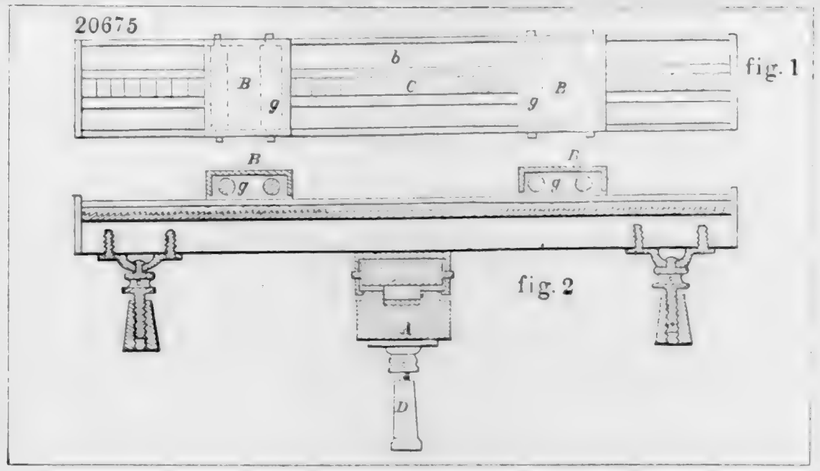
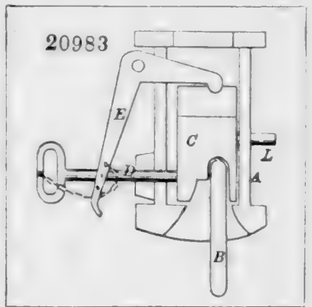


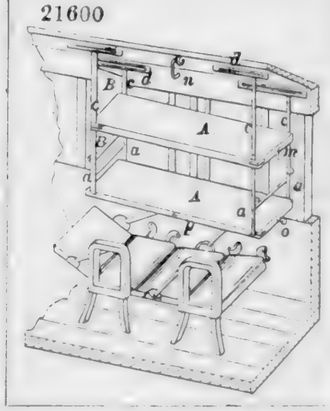
fig. 1

fig. 2

20983



21600



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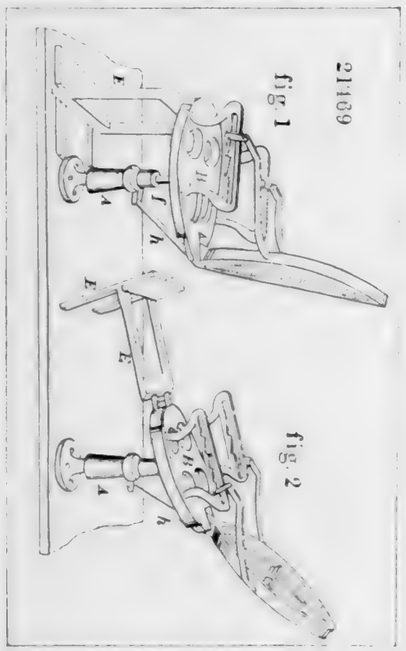
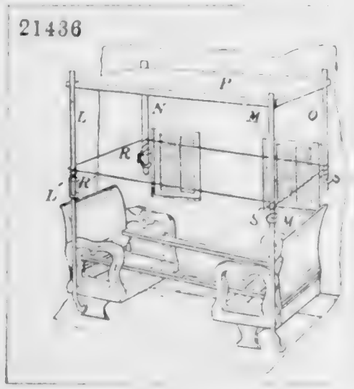


fig. 1

fig. 2

21436



21026

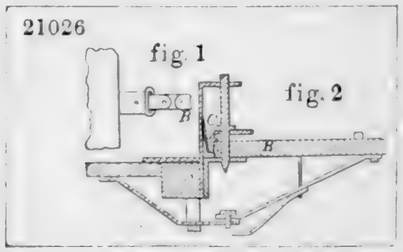
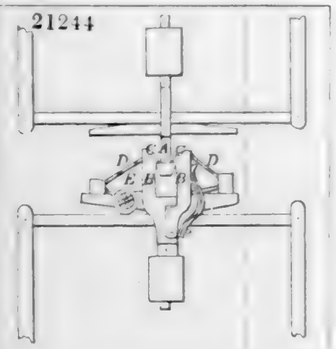


fig. 1

fig. 2

21244



20254

fig. 1

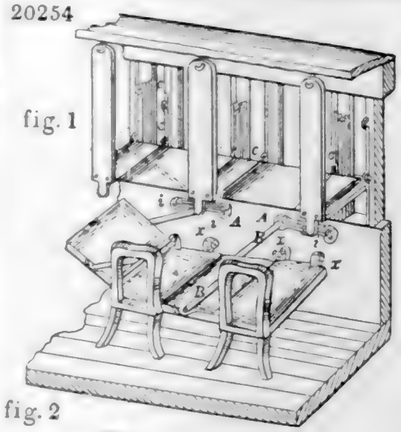
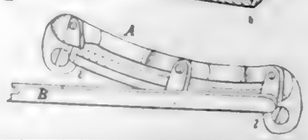
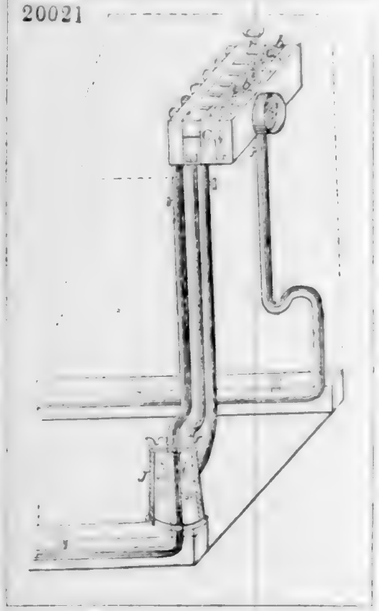


fig. 2



20021



21259 fig. 1

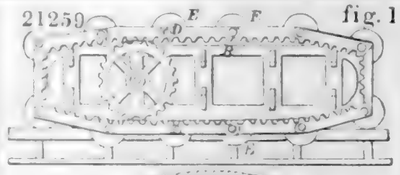
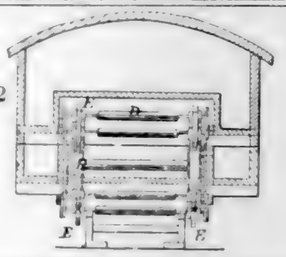


fig 2



20176 fig. 1

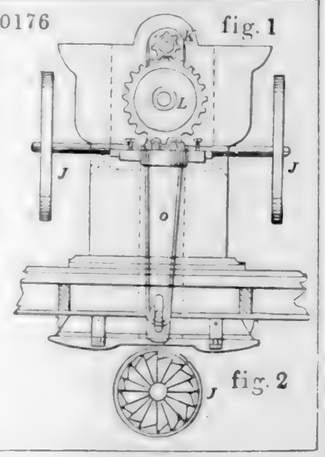
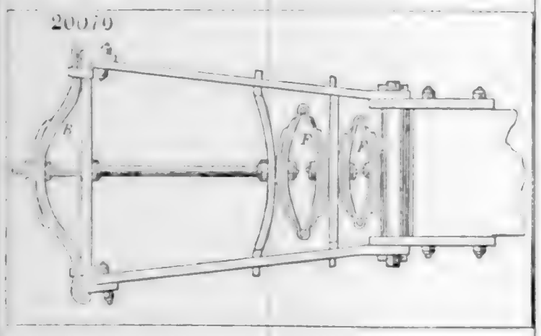


fig. 2

20079



22025

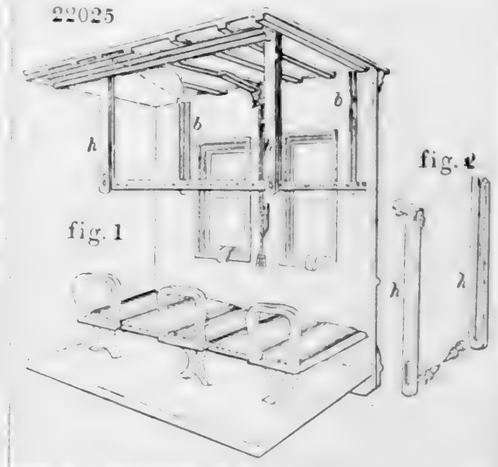


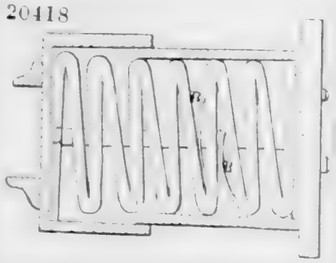
fig. 1

fig. 2

22364



20418



20293

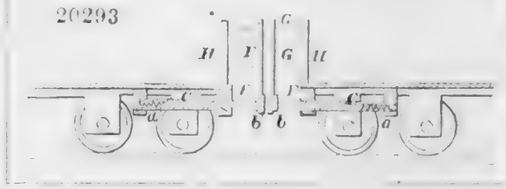


fig. 2



21992

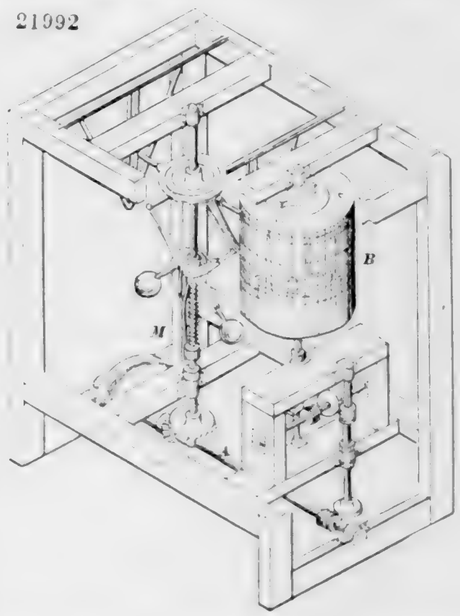
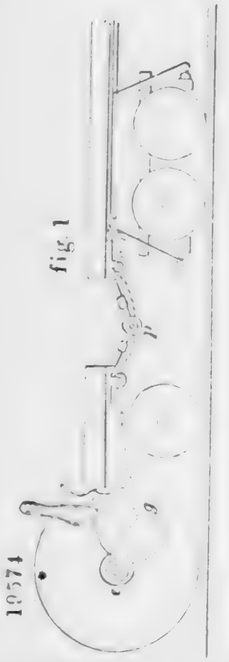


fig. 1



19574

27

19331 fig. 1

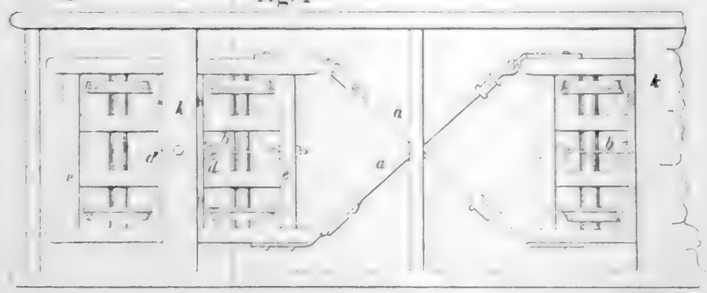
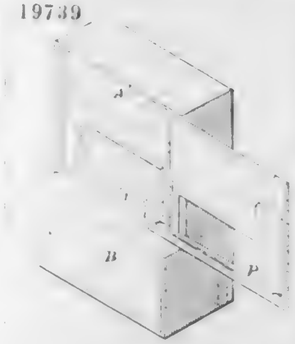




fig. 2

fig. 3

19739



21070



fig. 1

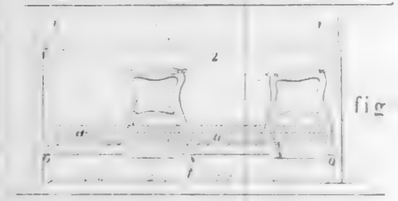


fig. 2

20507



fig. 1

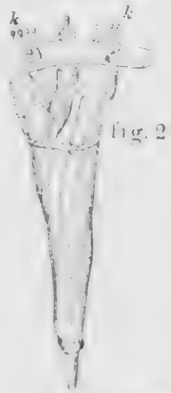


fig. 2

21099

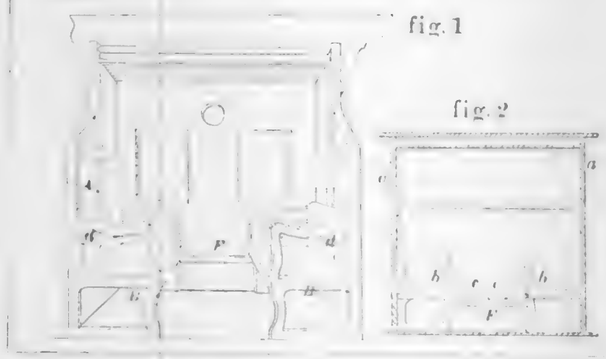


fig. 1

fig. 2

19424 fig. 1

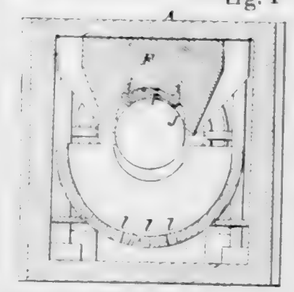
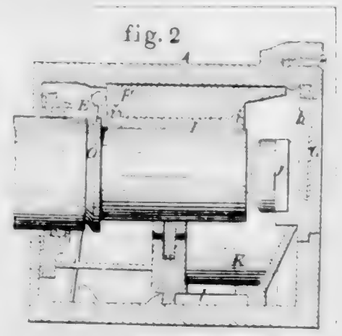


fig. 2



20363 fig. 1



fig. 2

19548



20197

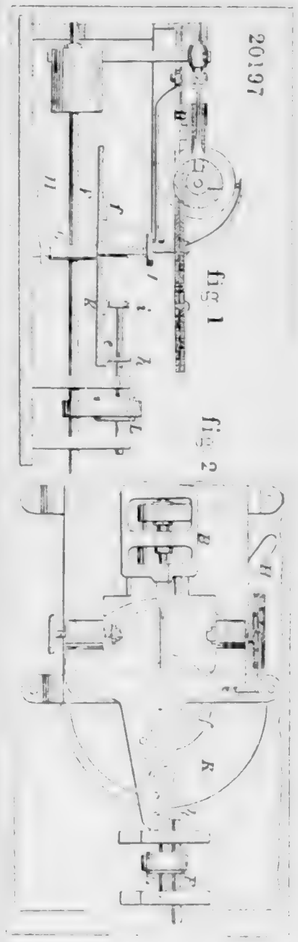


fig. 1

fig. 2

20349 fig. 1

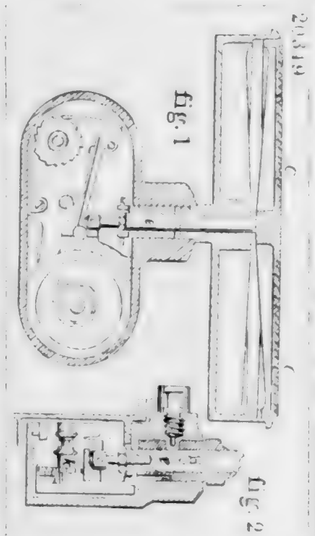
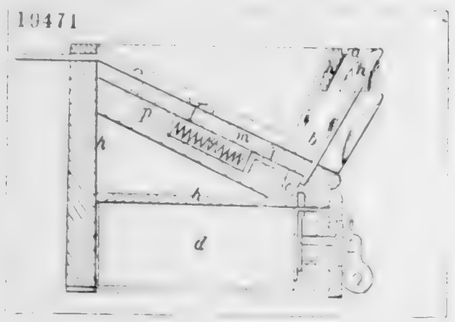


fig. 2

19471



19765

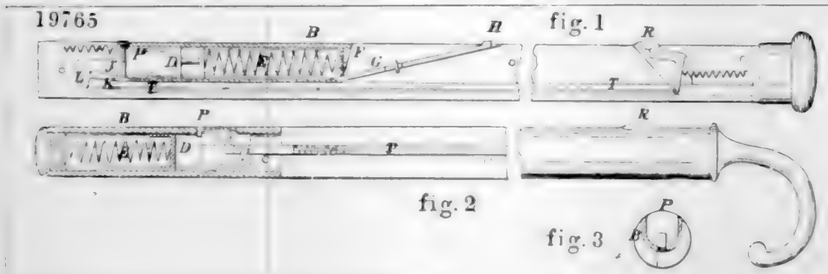


fig. 1 fig. 2 fig. 3

20986

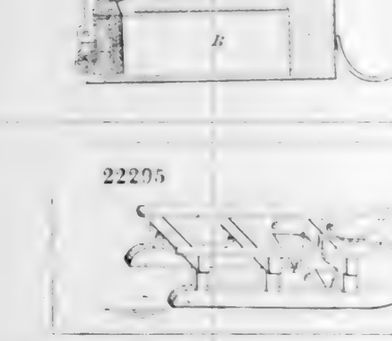


fig. 1

19980



fig. 2 fig. 1

fig. 2

1994

21372

22295

20903

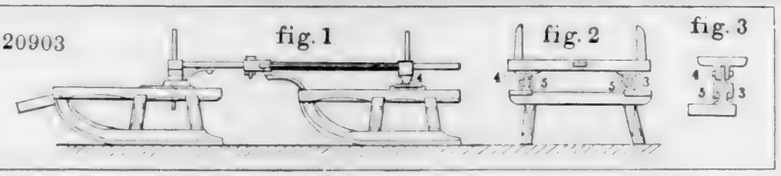


fig. 1 fig. 2 fig. 3

21255

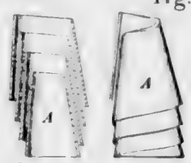


fig. 2 fig. 1

19450

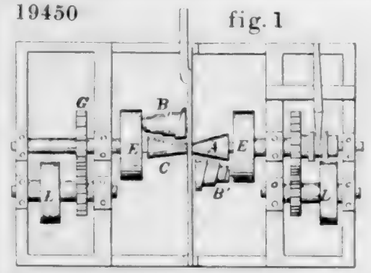
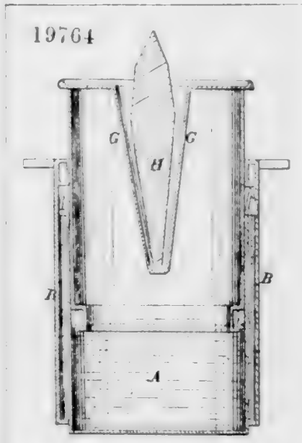


fig. 1 fig. 2

19764



20033

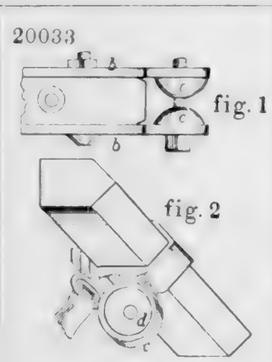


fig. 1 fig. 2

20127

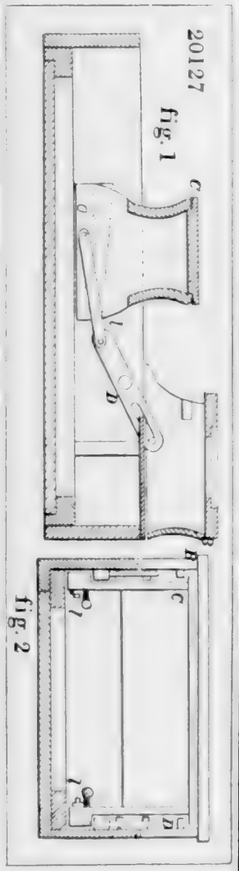
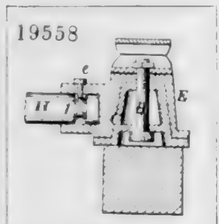
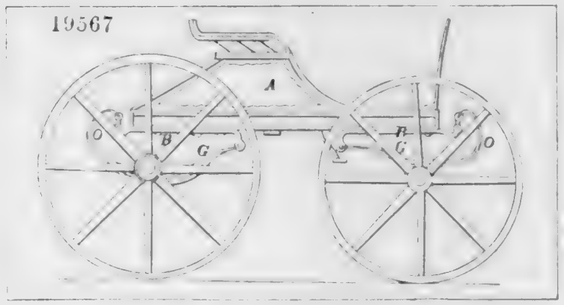


fig. 1 fig. 2

19558

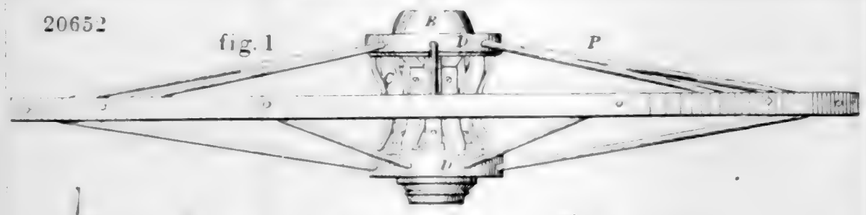


19567



20652

fig. 1



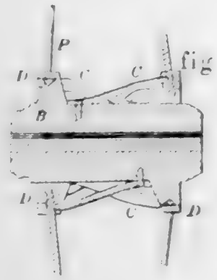


fig 2

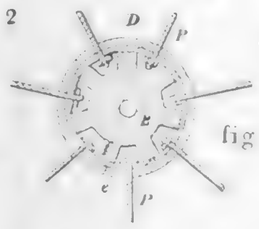


fig 3



fig 4

19088

fig. 1

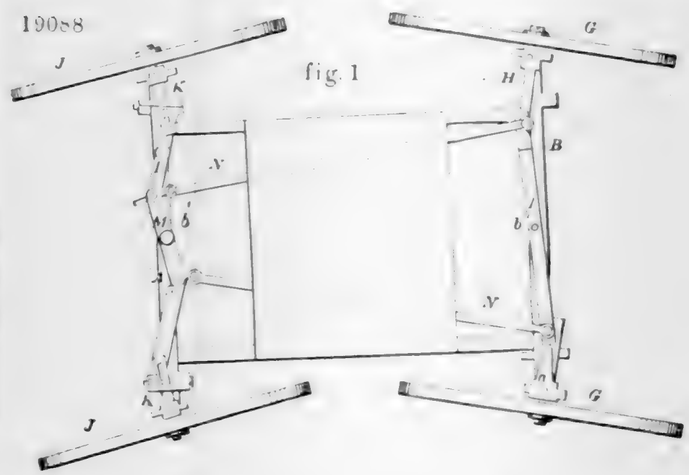
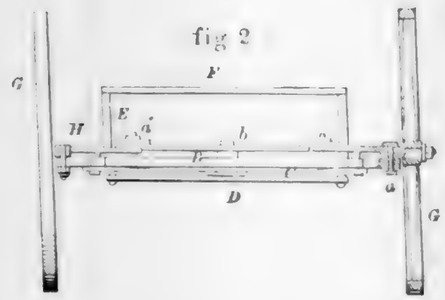


fig 2



19092

fig. 1

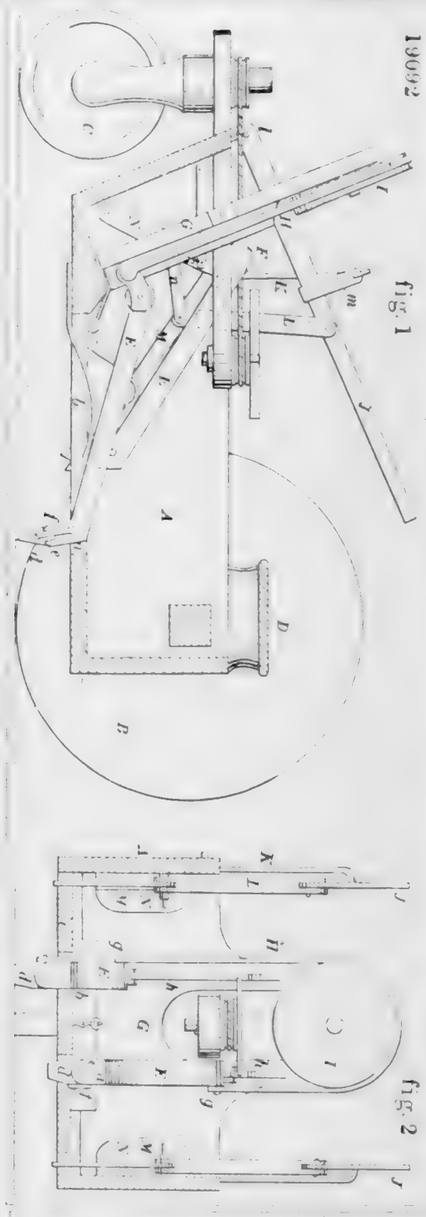


fig. 2

19477

fig. 1

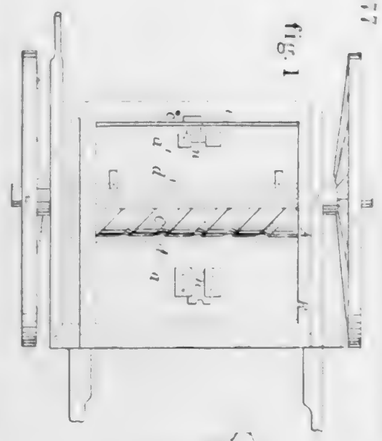
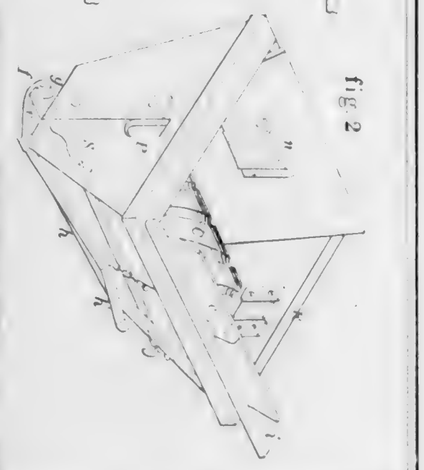


fig. 2



21615

fig. 1

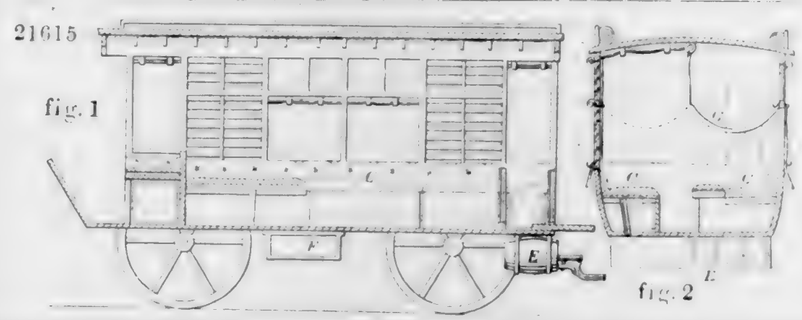


fig. 2

21569

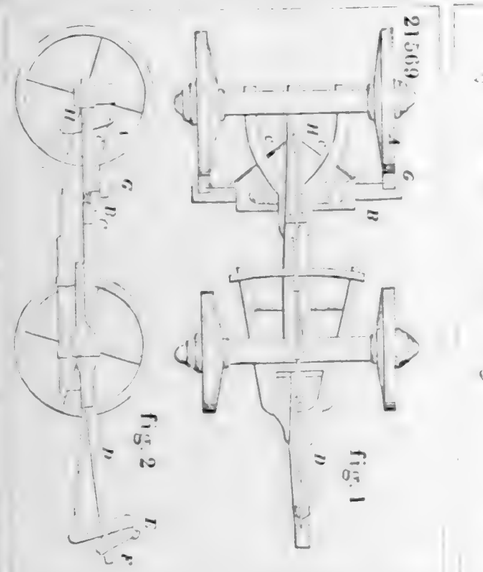


fig. 2

fig. 1

19112

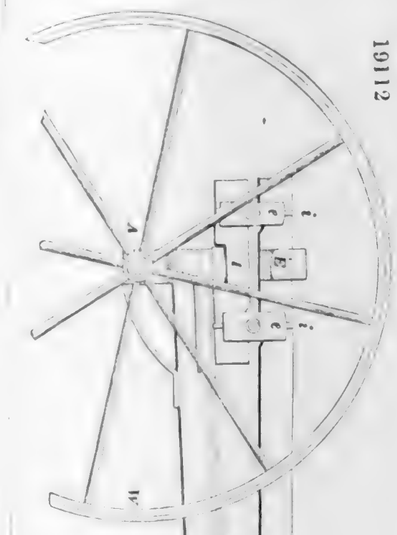


fig. 1

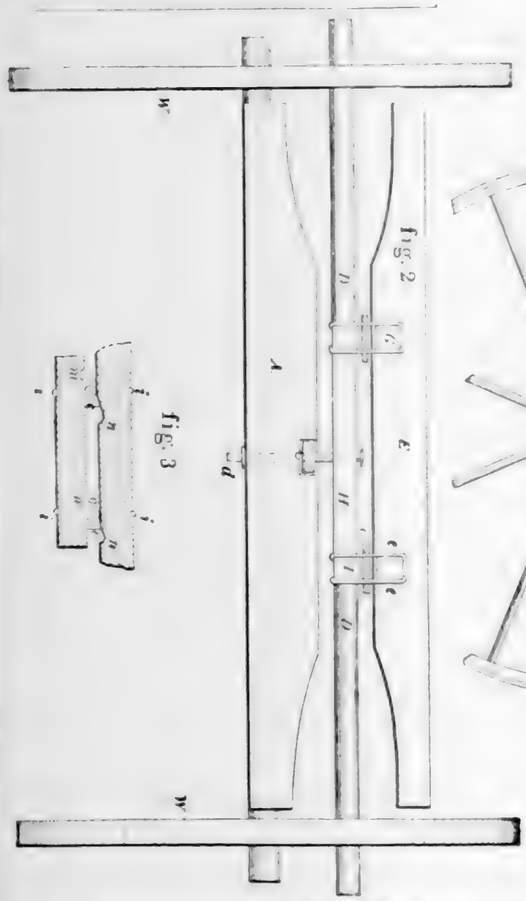


fig. 2

fig. 3

19372

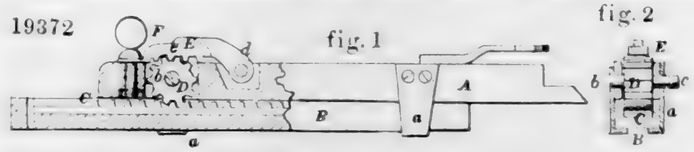
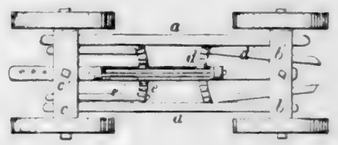


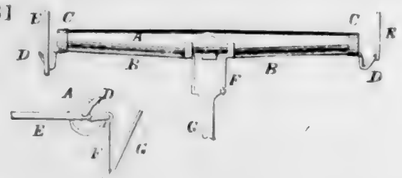
fig. 1

fig. 2

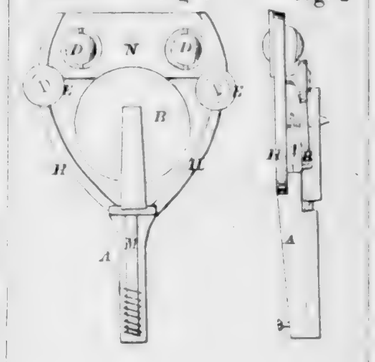
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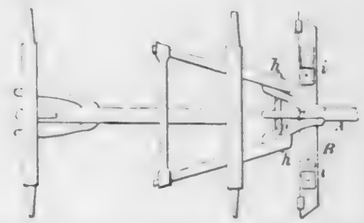
21081



19550 fig. 1 fig. 2



20501



19947

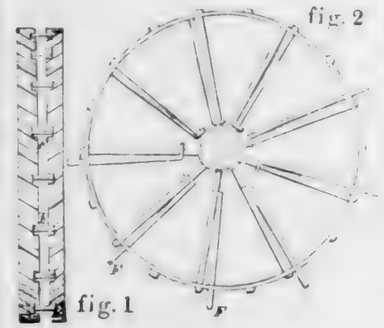


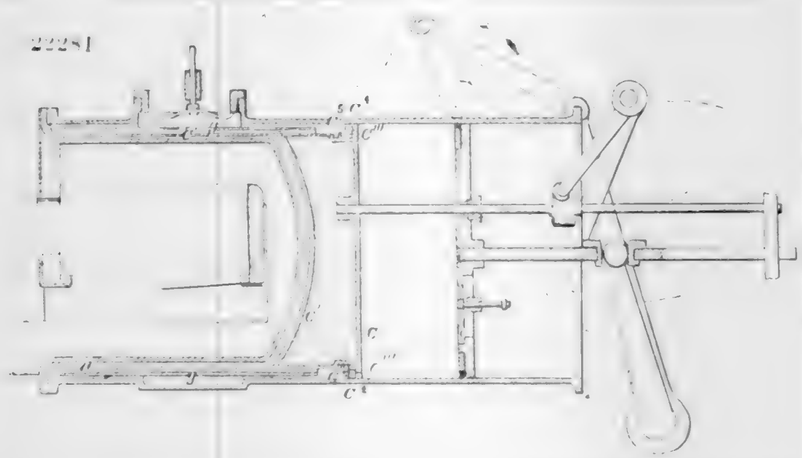
fig. 2

fig. 1

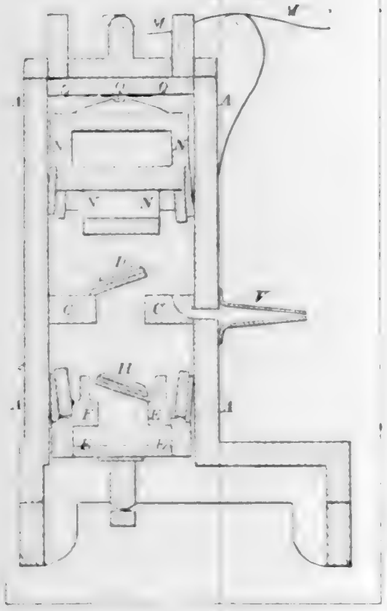
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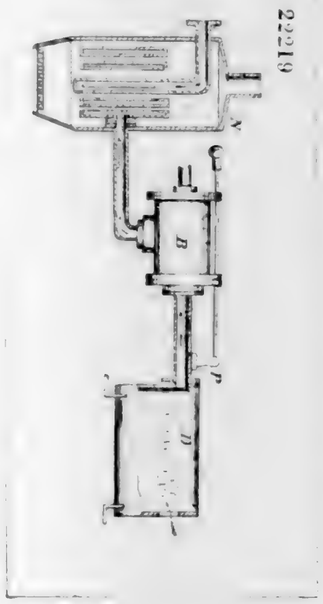
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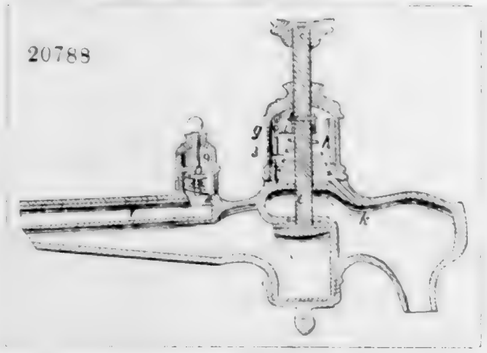
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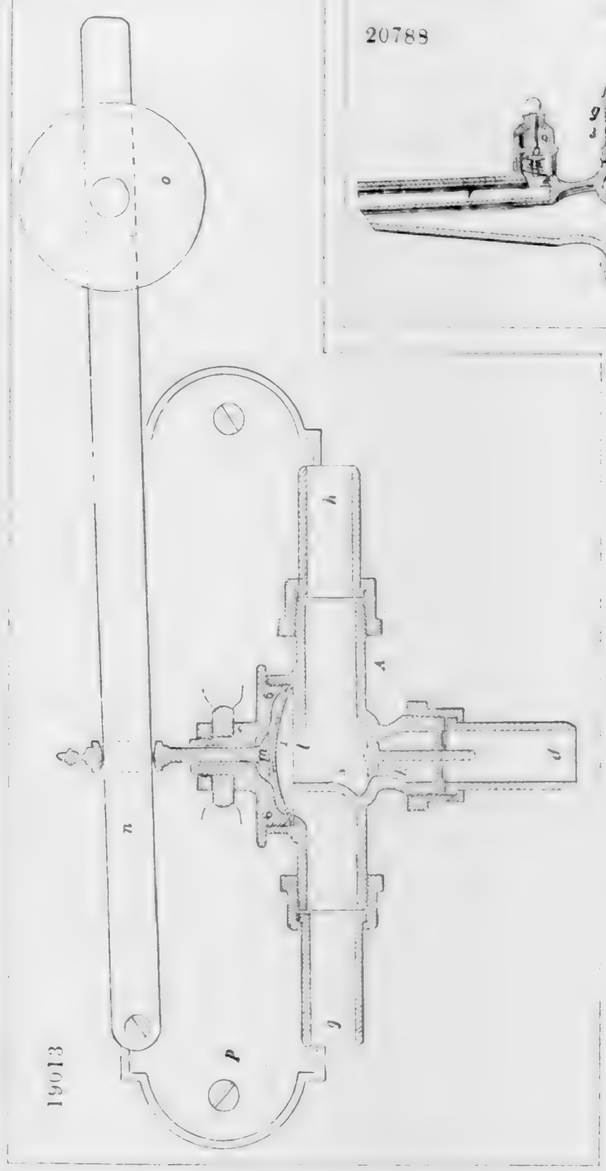


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20788





19013

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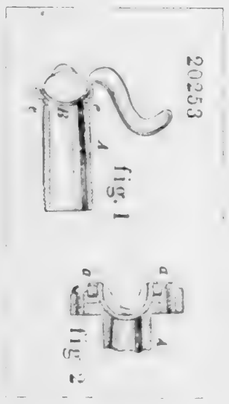


fig. 1

fig. 2

20314

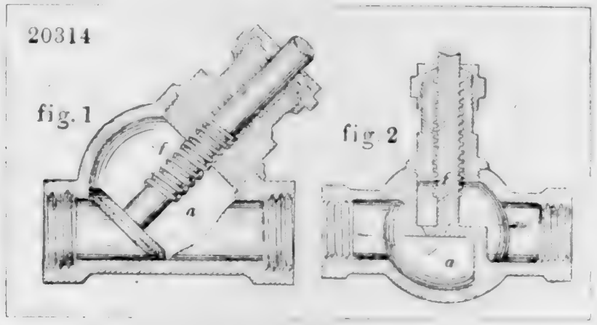
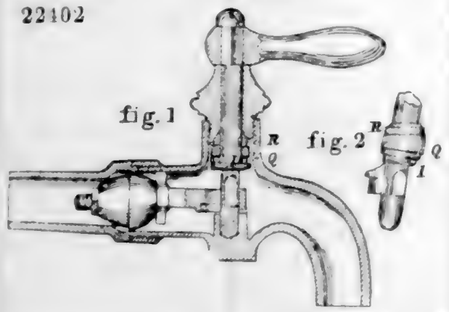


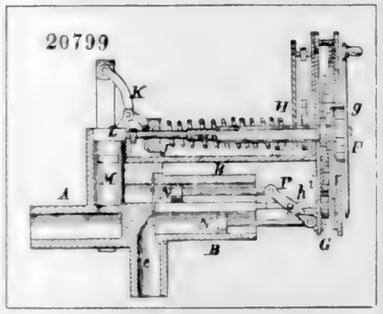
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fig. 2

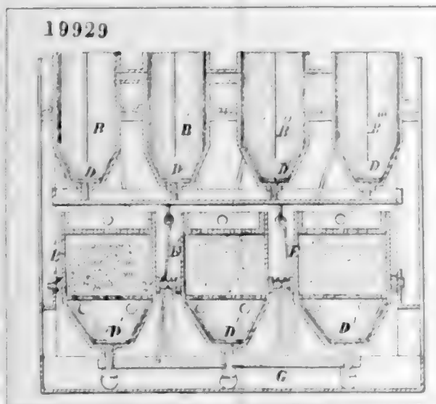
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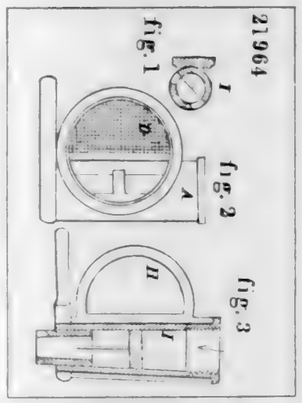
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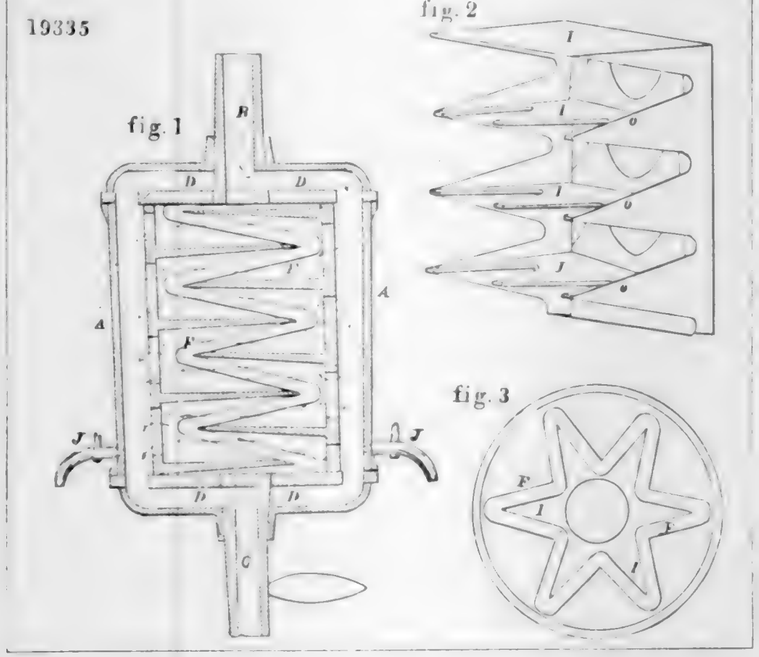
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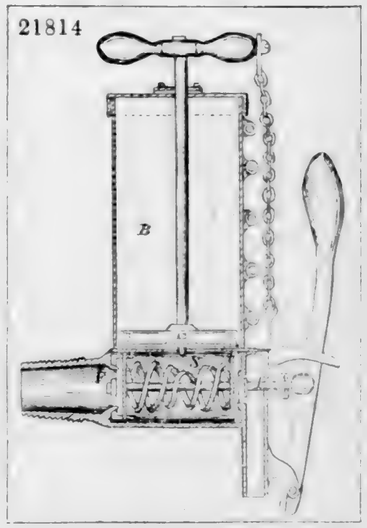
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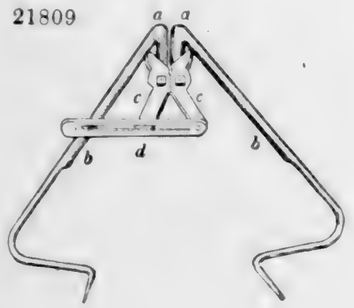
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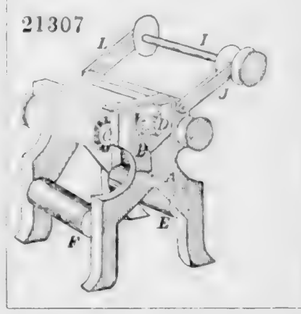
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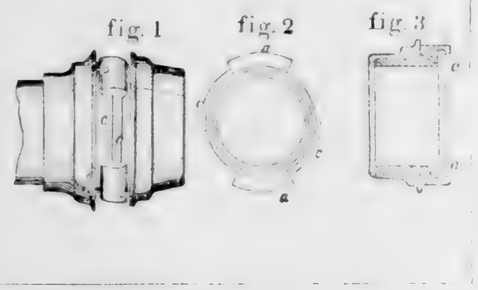
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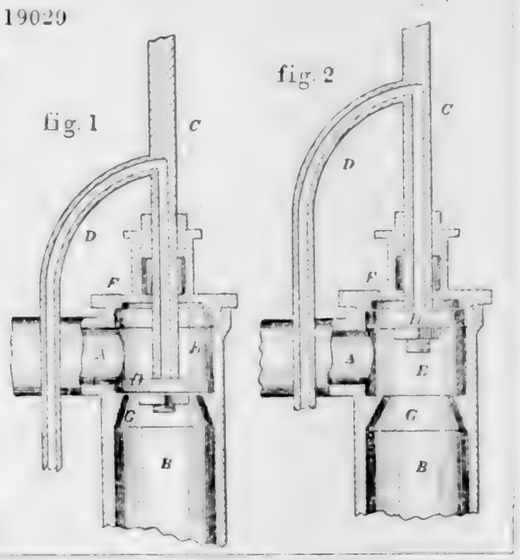
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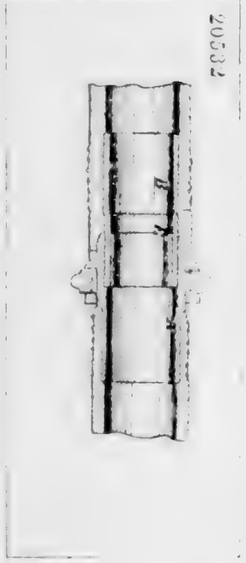
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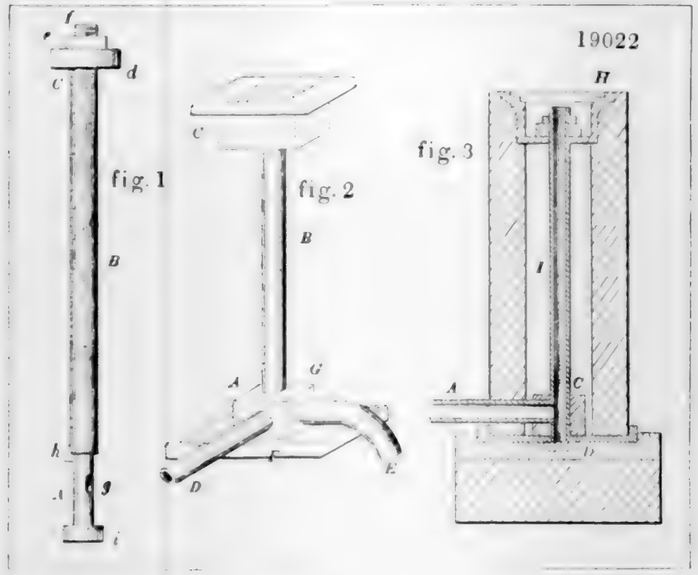
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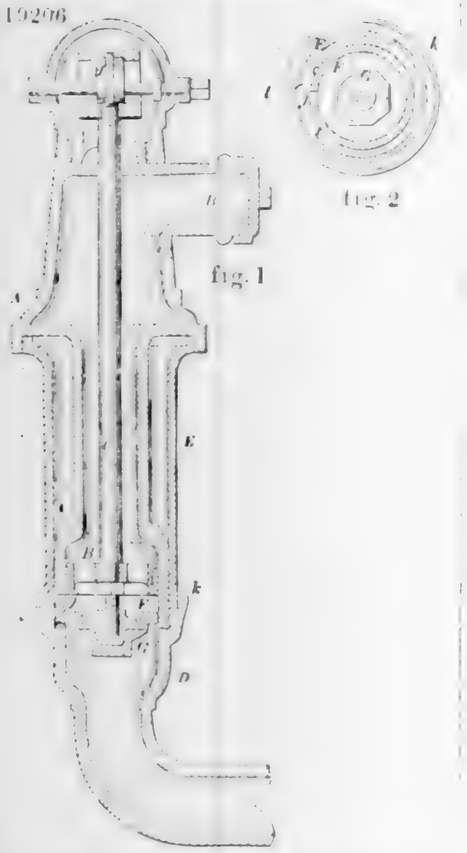
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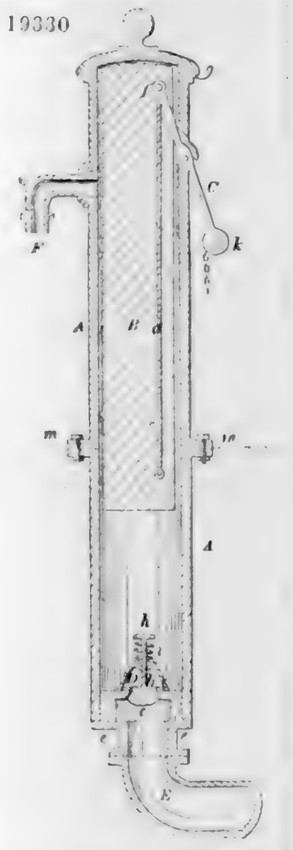
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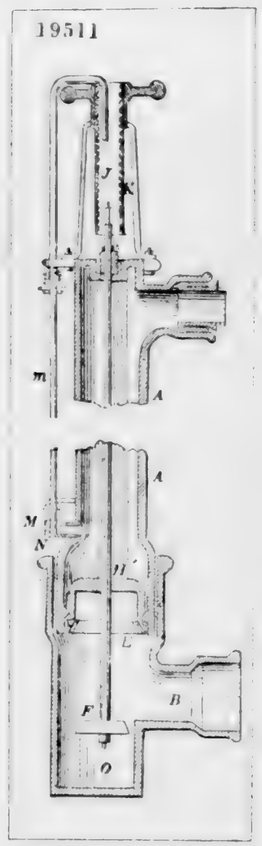
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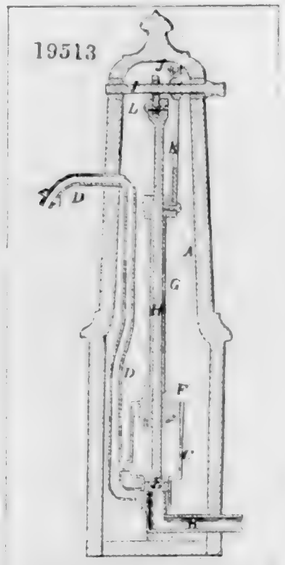
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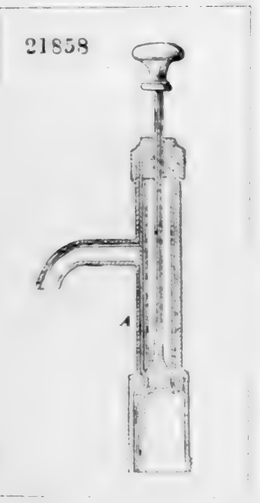
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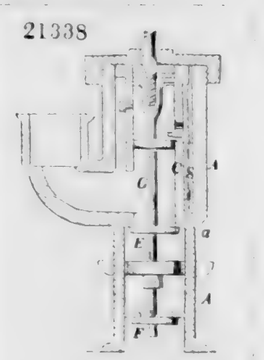
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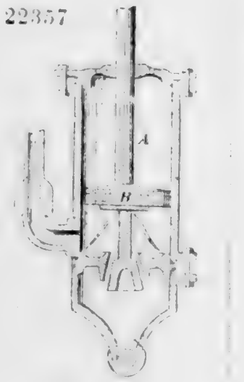
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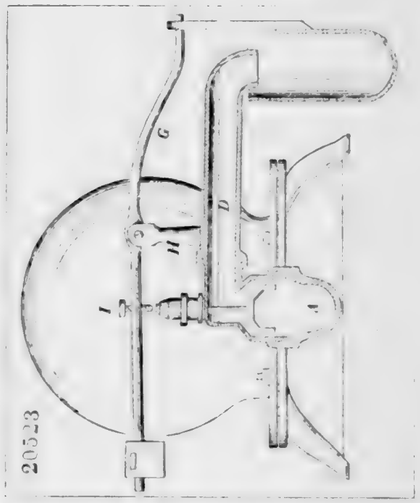
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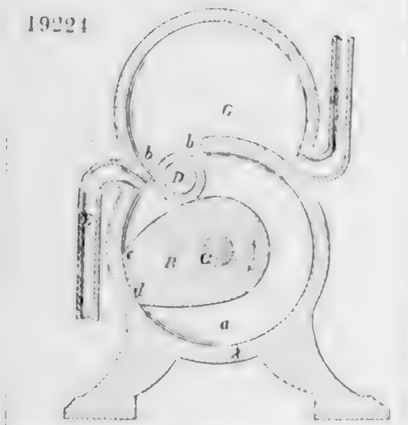
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20523



19224



19398

fig. 1

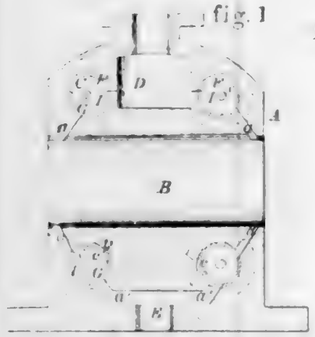
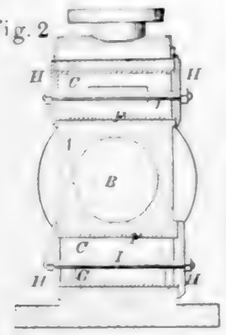
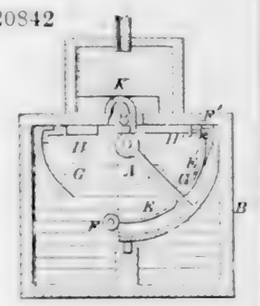
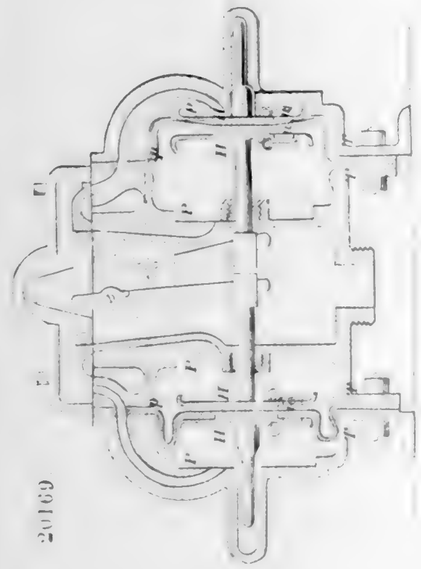


fig. 2



20842





20169

fig. 2

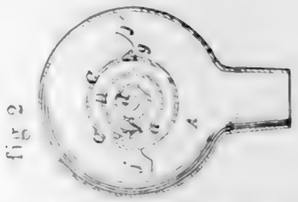
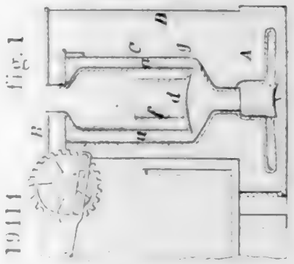


fig. 1



19111

22315

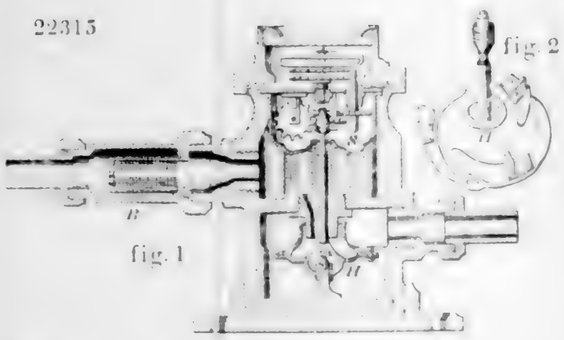
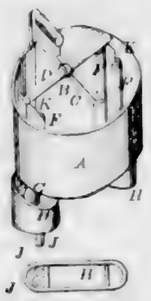


fig. 1

fig. 2

20979



19286

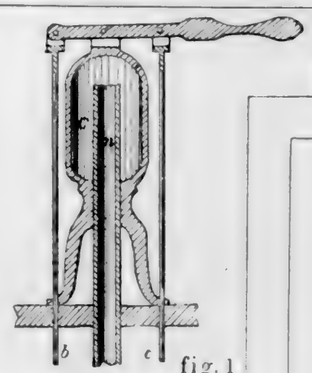
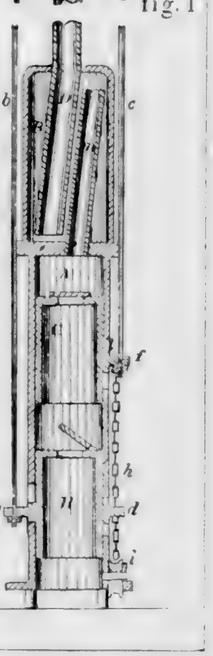


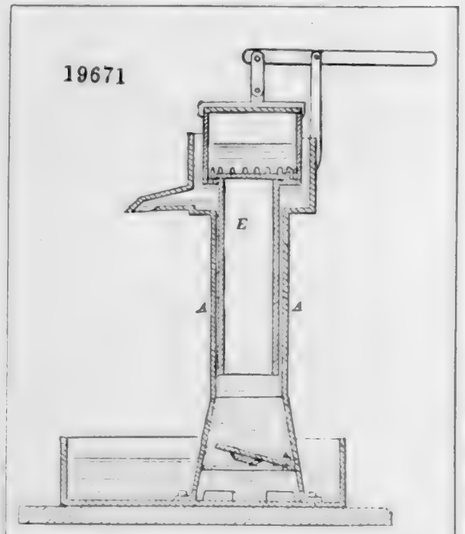
fig. 2



fig. 1



19671



19699

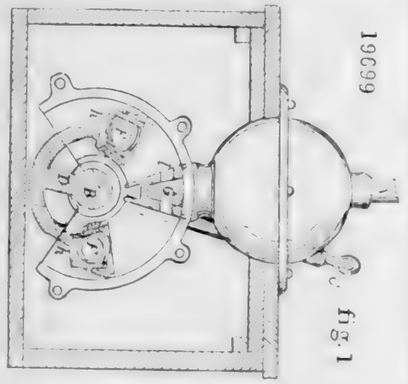


fig. 1

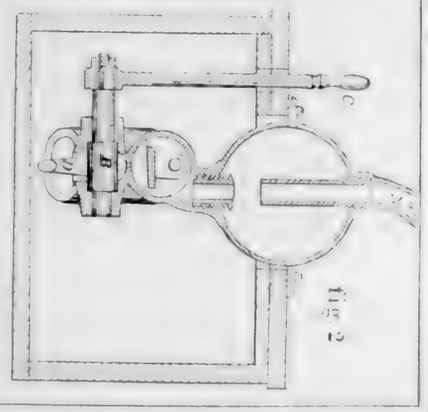


fig. 2

21283

fig. 1

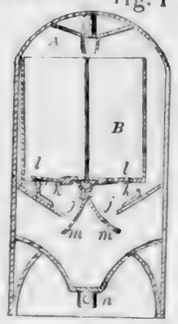
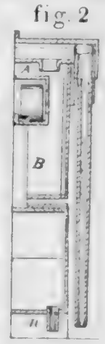


fig. 2



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fig. 1

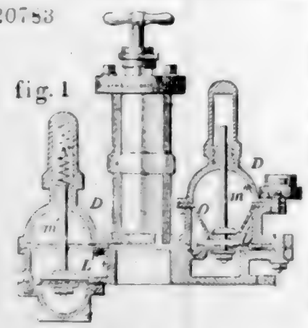
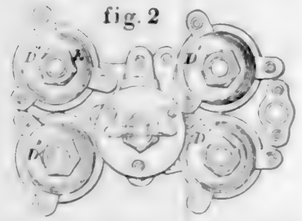


fig. 2



20787

fig. 1

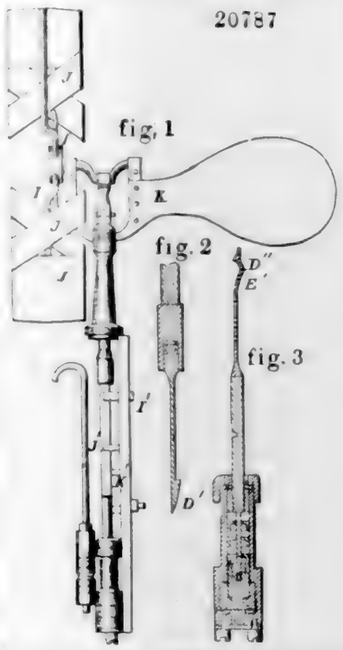
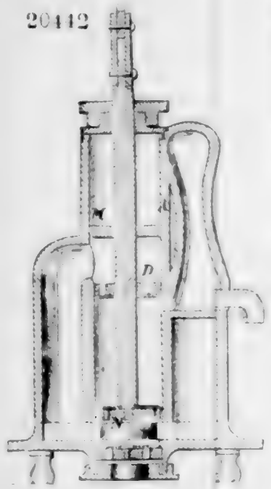


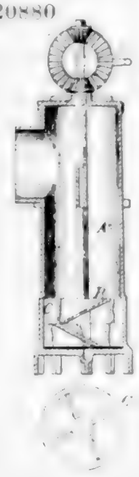
fig. 2

fig. 3

20412



20880

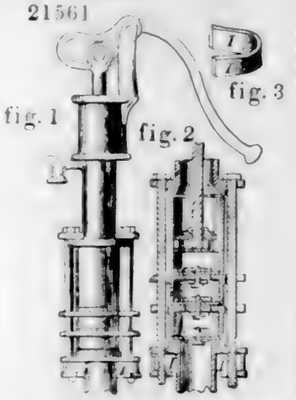


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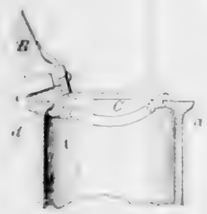
fig. 1

fig. 2

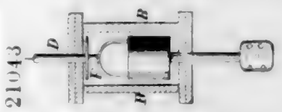
fig. 3



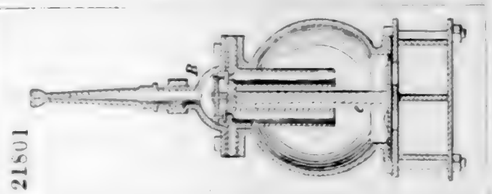
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21043



21801



22201

fig. 3



fig. 1

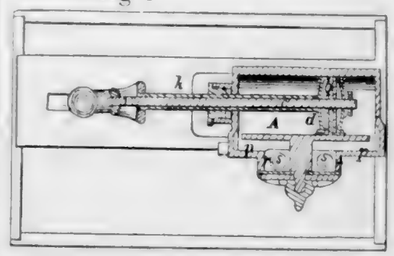
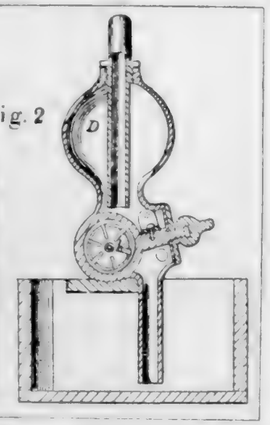
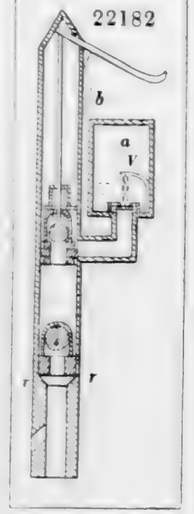


fig. 2



22182



22165

fig. 2

fig 3

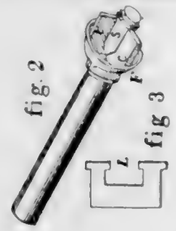
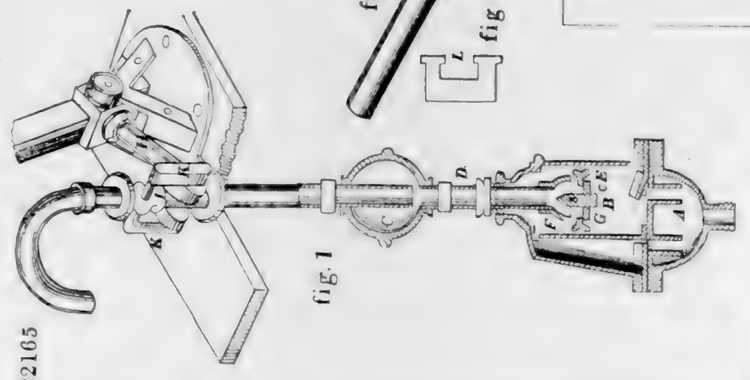


fig. 1



19981

fig 1

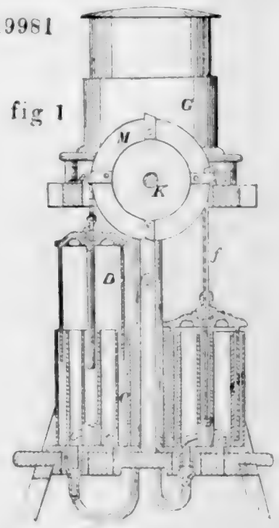
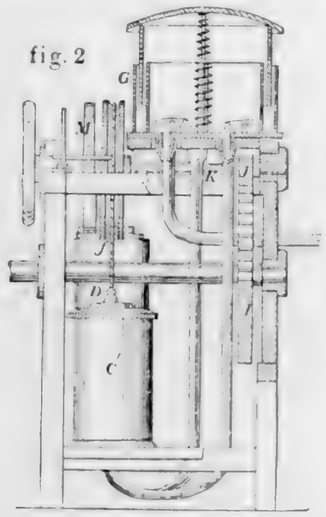


fig. 2



19173

fig. 1

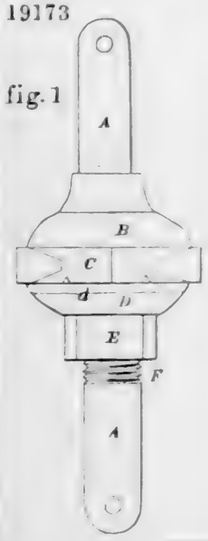
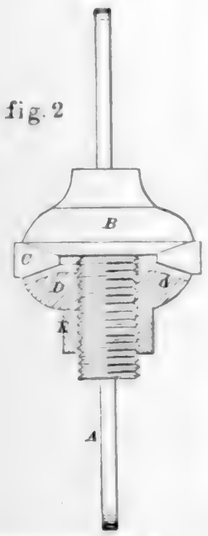


fig. 2



20443

fig. 1

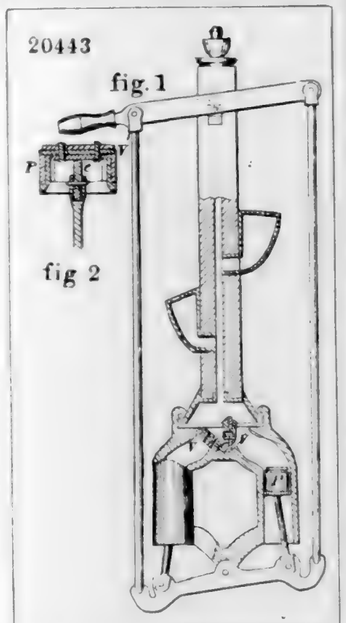


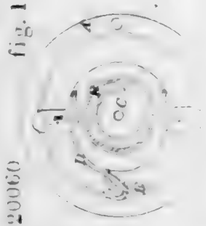
fig 2

20060

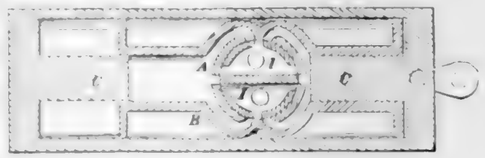
fig. 2



fig. 1



19680



21756

fig. 1

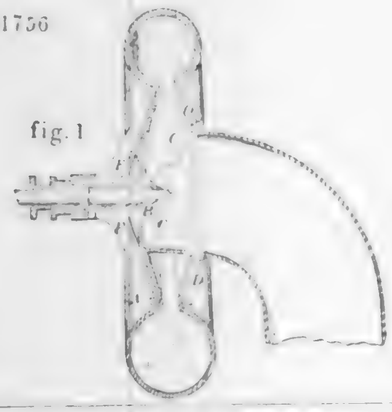
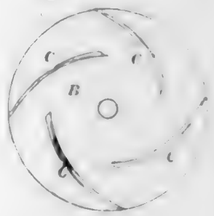


fig. 2



19907

fig. 1

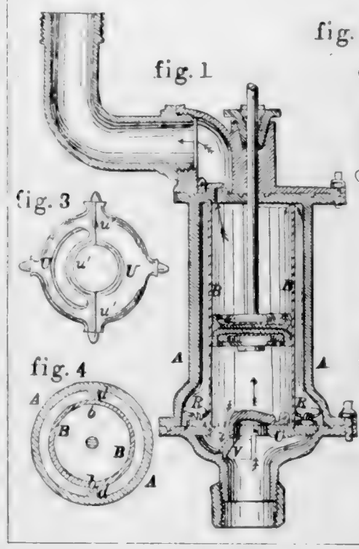


fig. 2

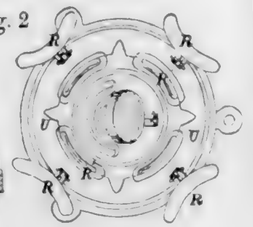
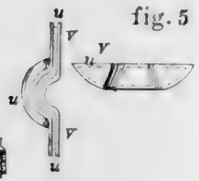


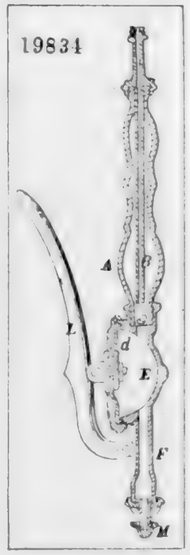
fig. 3

fig. 4

fig. 5



19834



19180

fig. 1

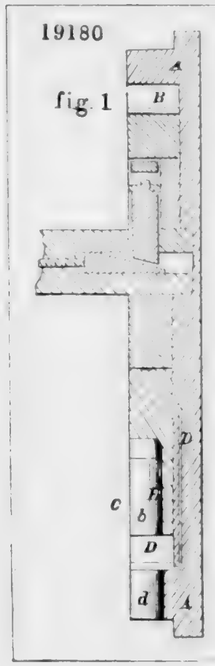
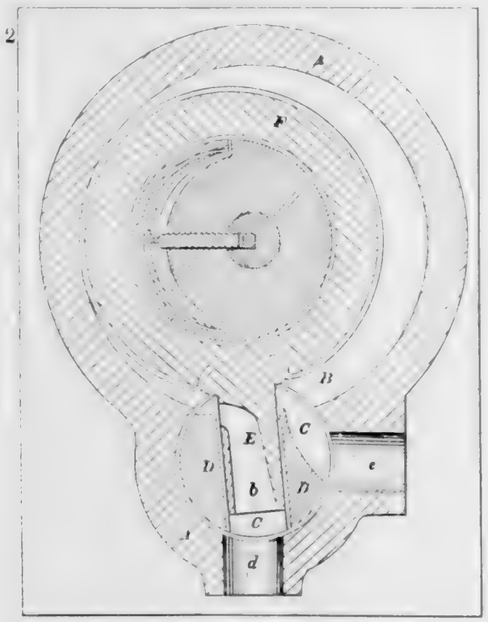


fig. 2



19581 fig. 1

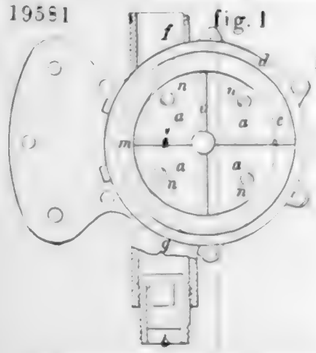
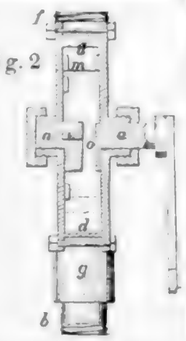


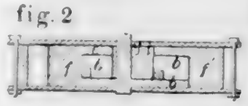
fig. 2



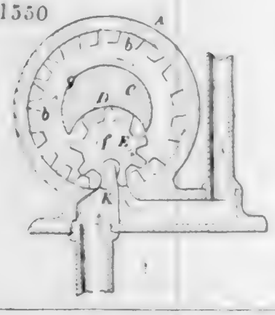
21318 fig 1



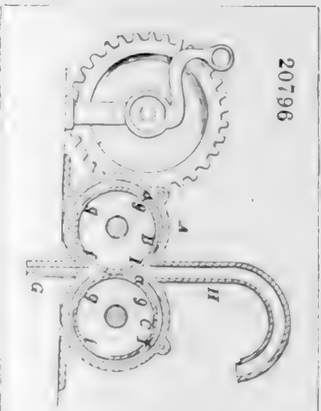
fig. 2



21550



20796



21632 fig. 1

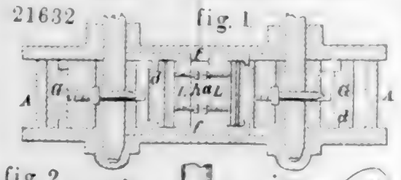
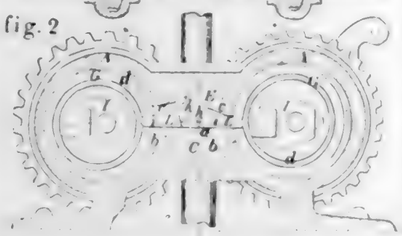
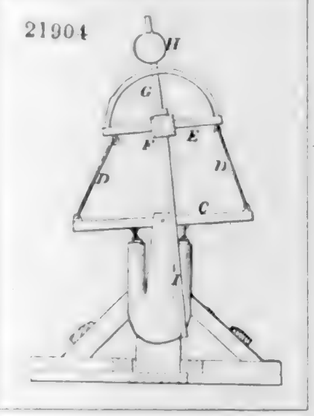


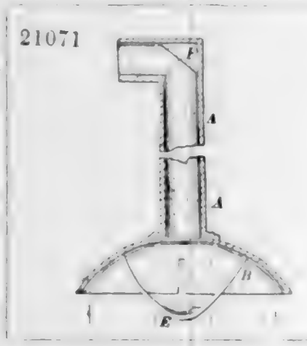
fig. 2



21904



21071



19276 fig. 1

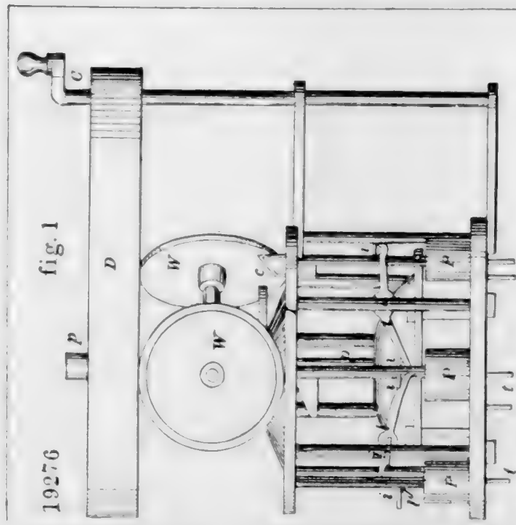


fig. 3

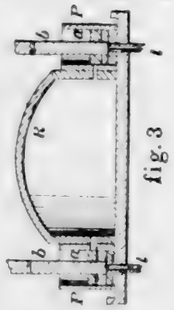
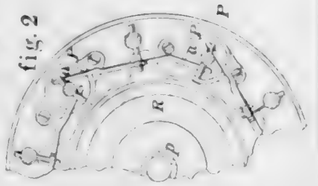


fig. 2



19214 fig. 1

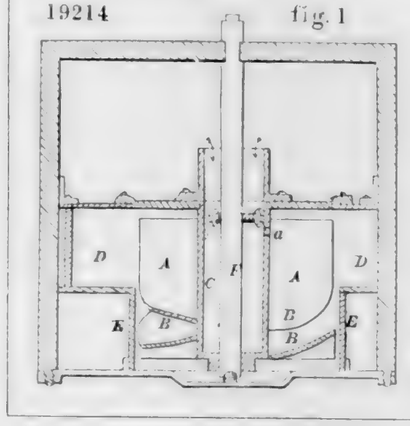
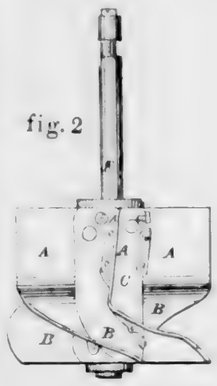
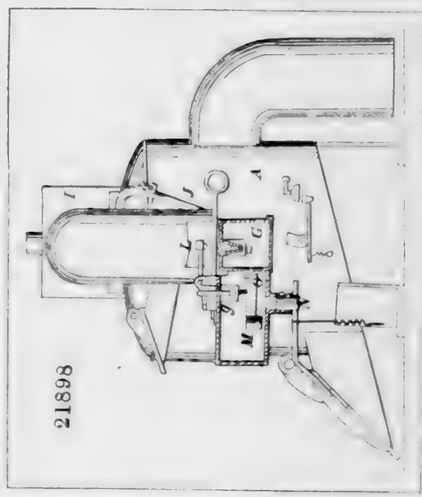


fig. 2



21898



21938 fig. 2

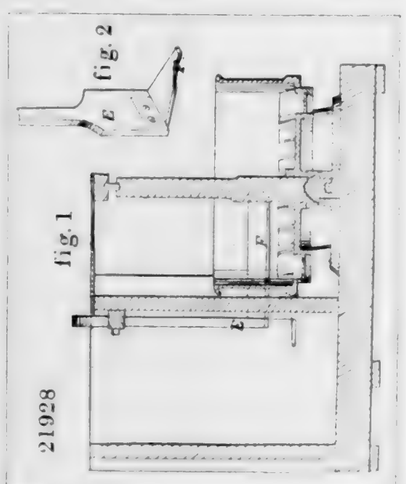


fig. 1

20157

fig. 1

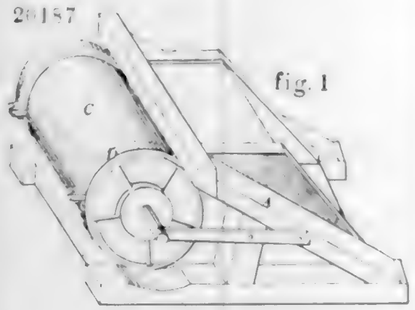
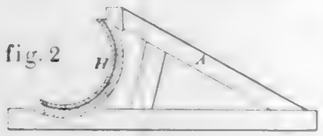


fig. 2



20234

fig. 1

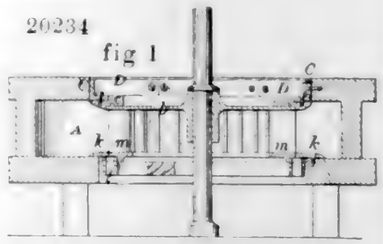
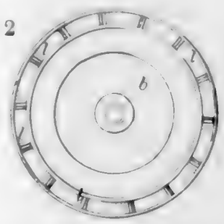
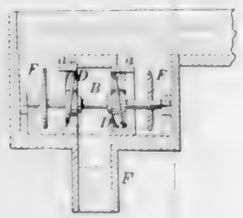


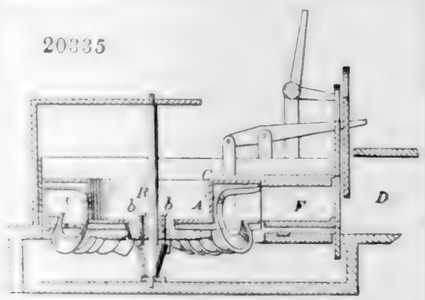
fig. 2



20200



20335



20456

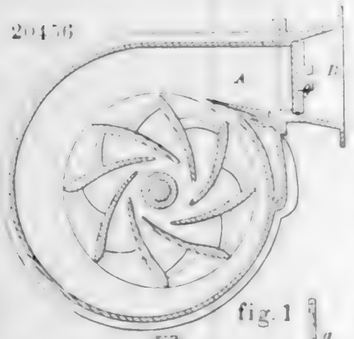
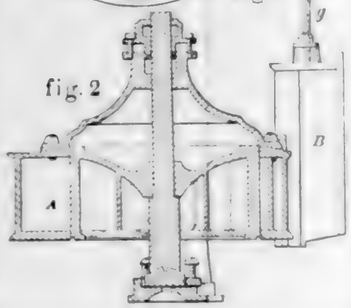
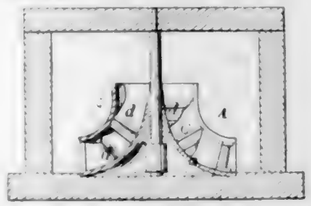


fig. 1

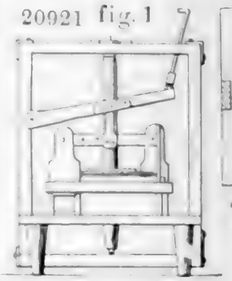
fig. 2



21578



20021 fig. 1



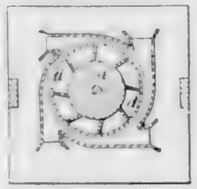


fig. 2



fig. 3

21753

fig. 1

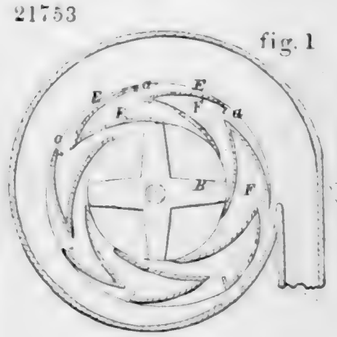
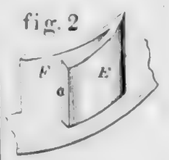
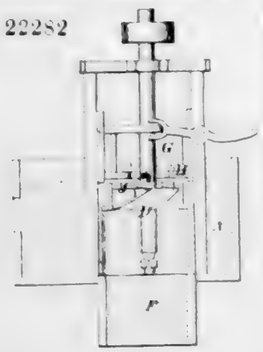


fig. 2



22282



21791

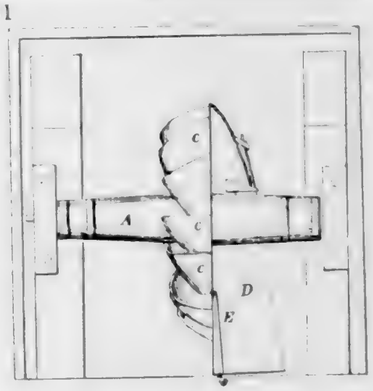
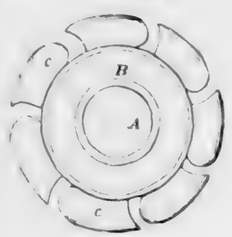


fig. 1

fig. 2



21757



19115

fig. 1

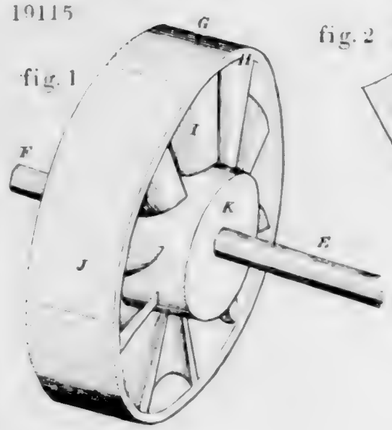


fig. 2



19383 fig. 1

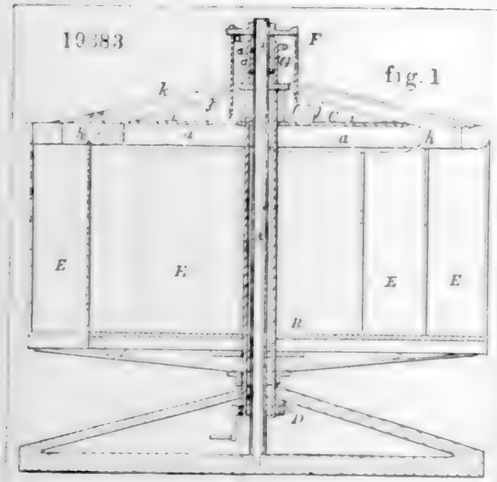
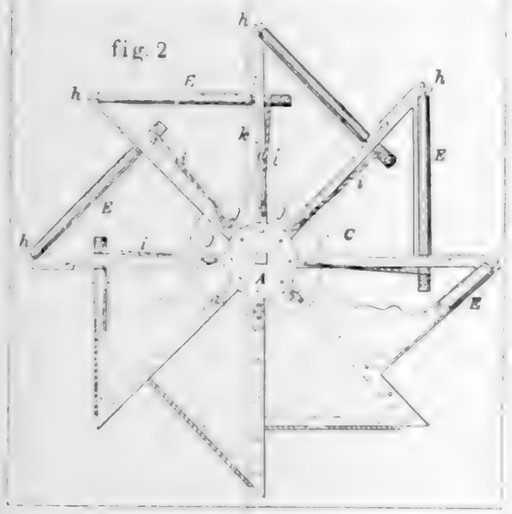
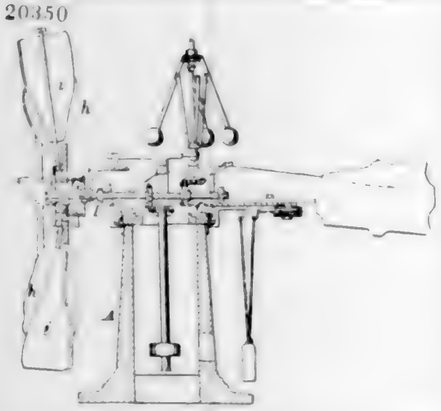


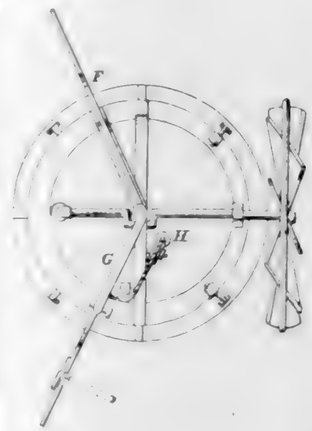
fig. 2



20350



20336



20437

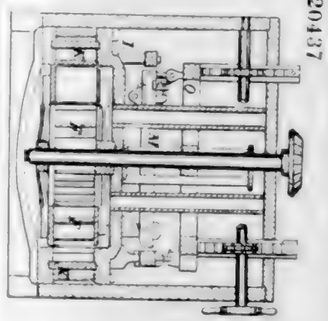


fig. 1

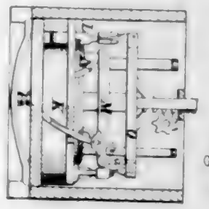


fig. 2

19330

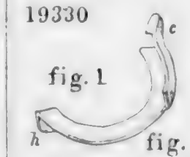


fig. 1



fig. 1

21520

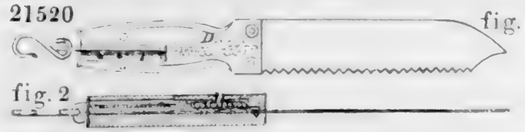
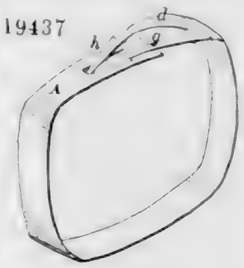


fig. 1

fig. 2

19437



21517 fig. 2

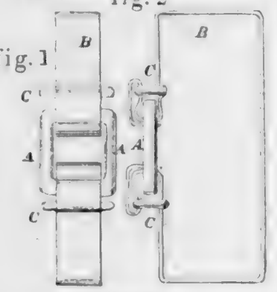


fig. 1

21305



19709

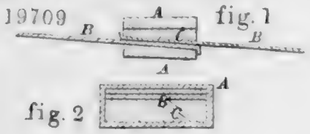


fig. 1

fig. 2

19490

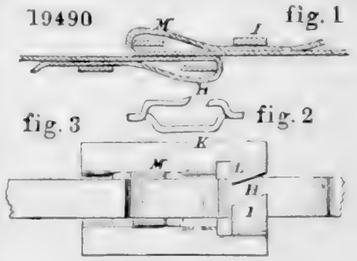


fig. 1

fig. 3

fig. 2

20311

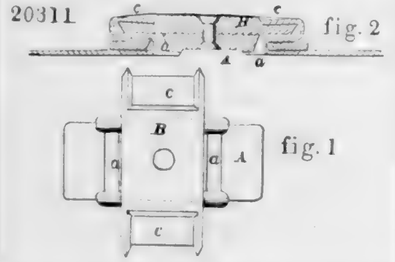
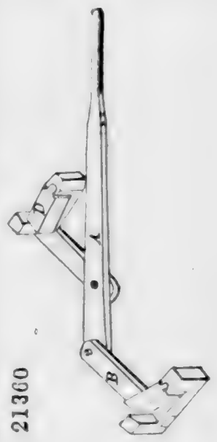


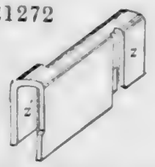
fig. 2

fig. 1

21360



21272



21190

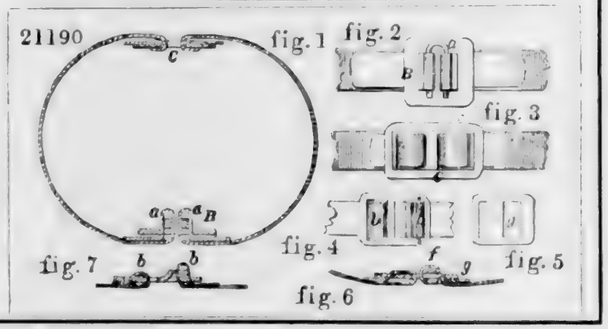
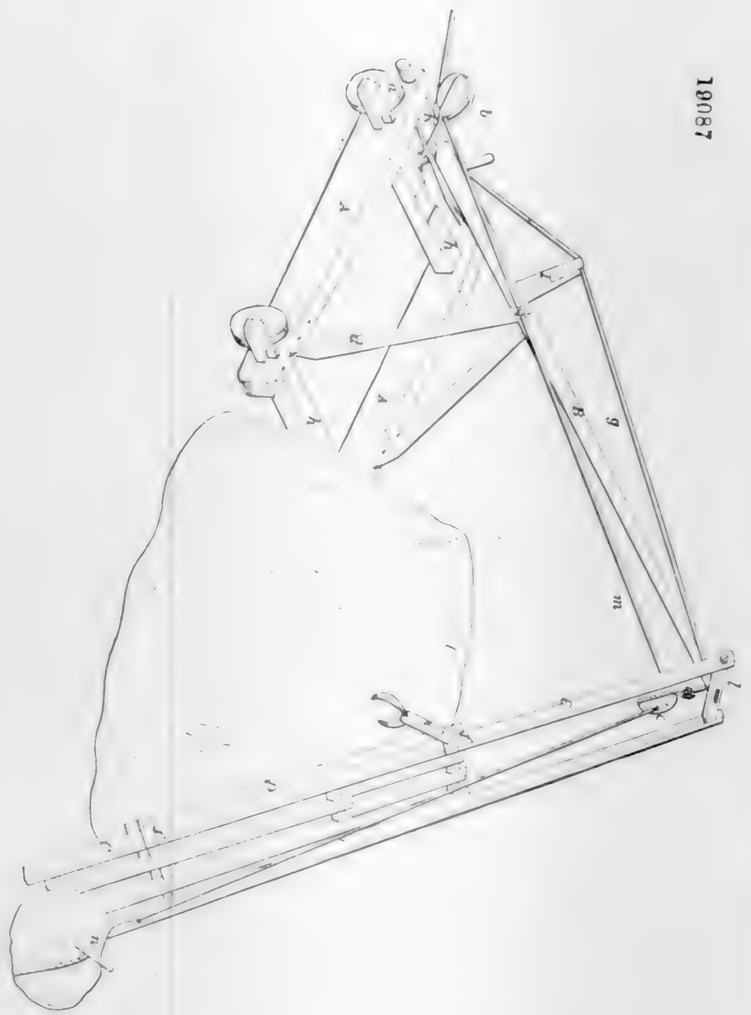


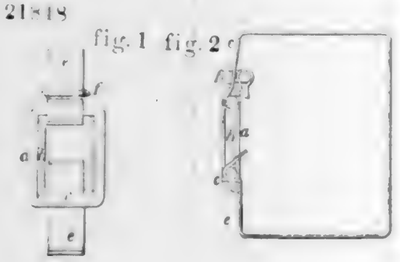
fig. 1 fig. 2 fig. 3 fig. 4 fig. 5 fig. 6 fig. 7

19087

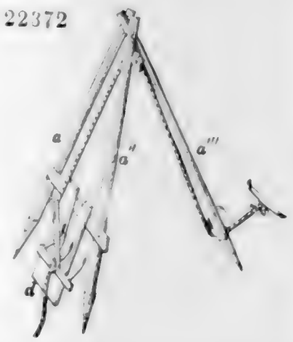


21848

fig. 1 fig. 2



22372



19939

fig. 1

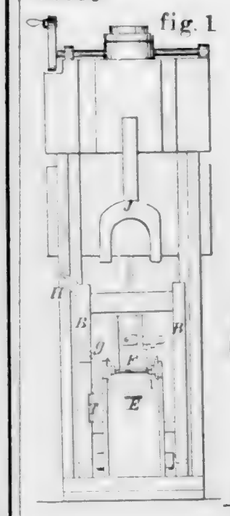
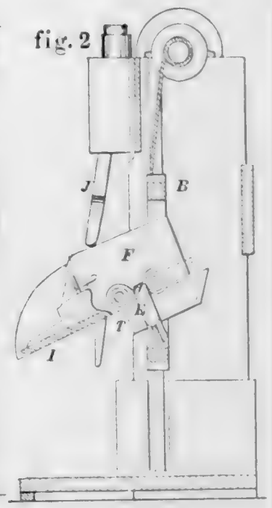
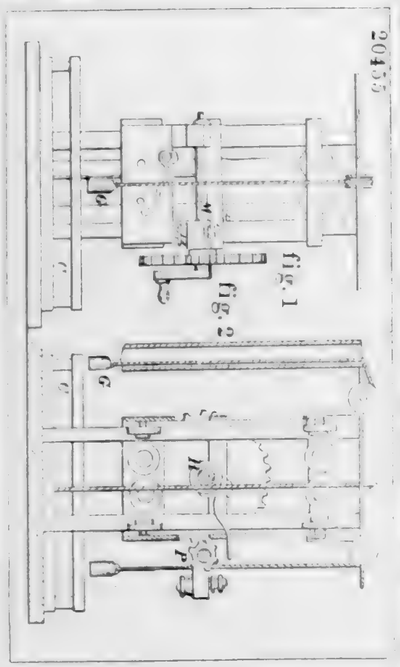


fig. 2





19250

fig. 4

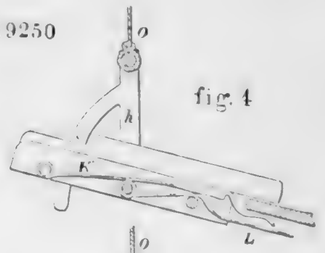


fig. 3

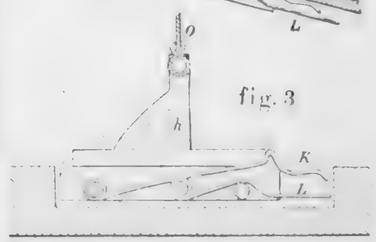


fig. 2

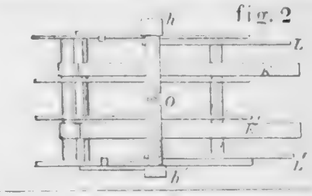
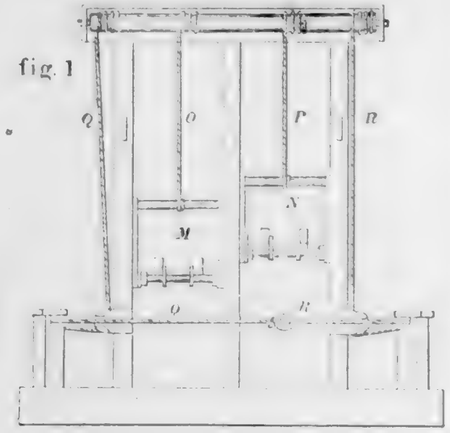


fig. 1



20170

fig. 1

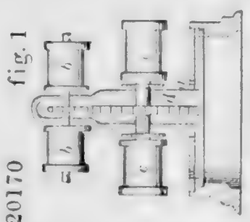
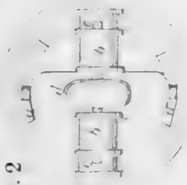
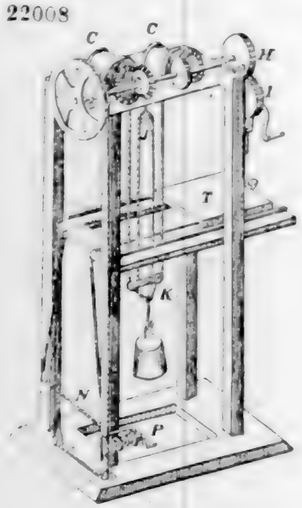


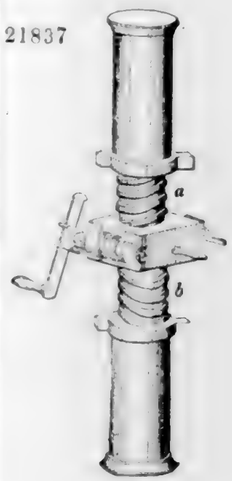
fig. 2



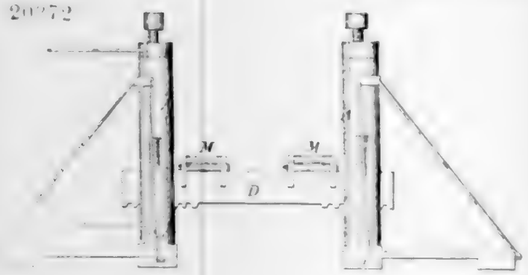
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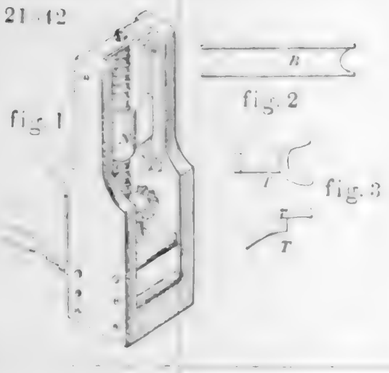
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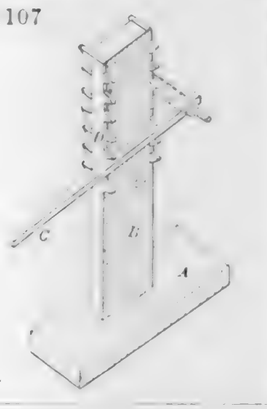
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21142



21107



20624

fig. 1

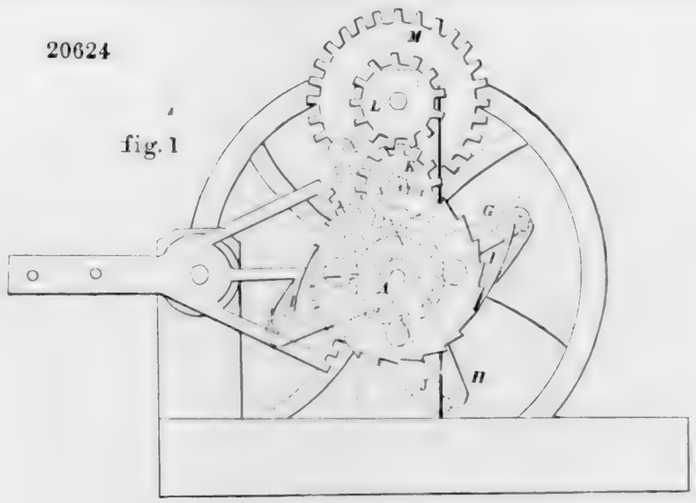
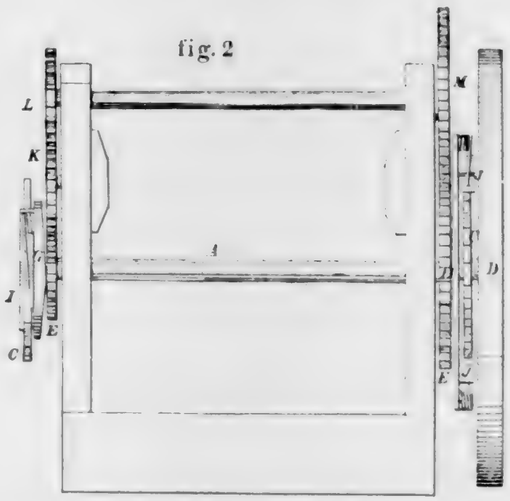


fig. 2



19291

fig 1

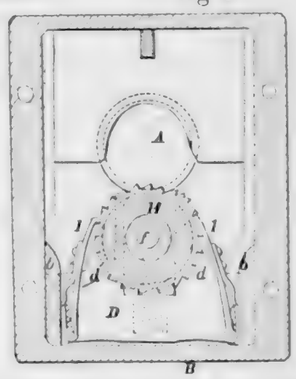
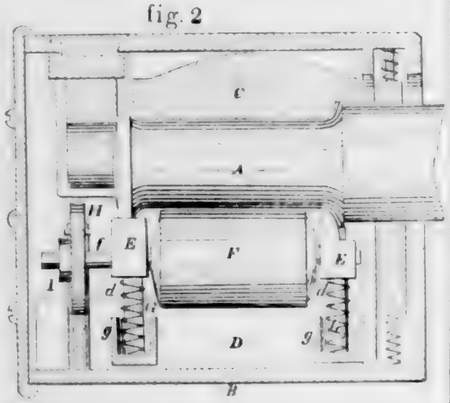


fig. 2



20674

fig 1

fig 2

20331

20406

19161

19385 fig. 1 fig. 2

19750 fig. 1 fig. 2

21816 fig. 1 fig 2

19551

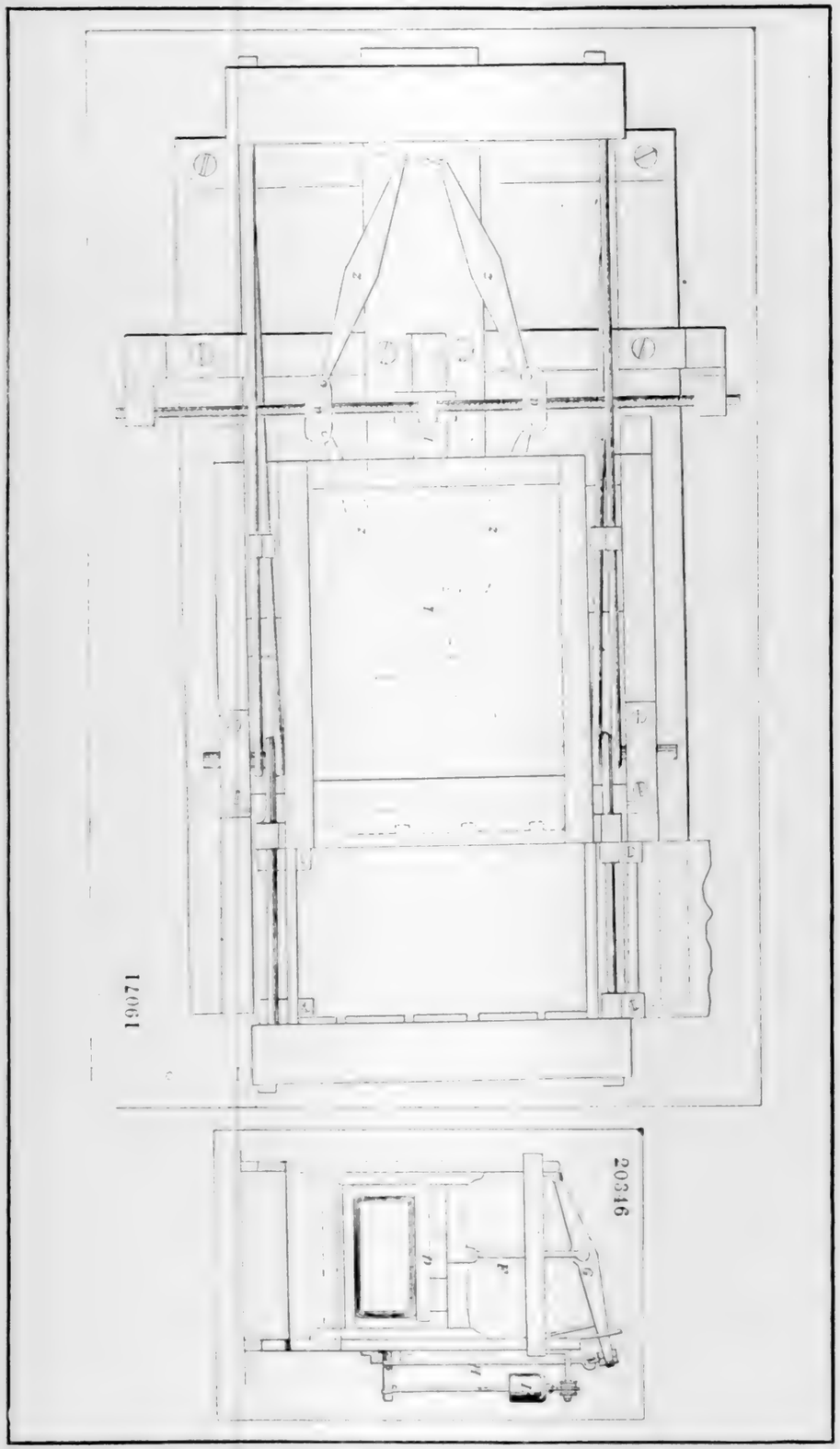
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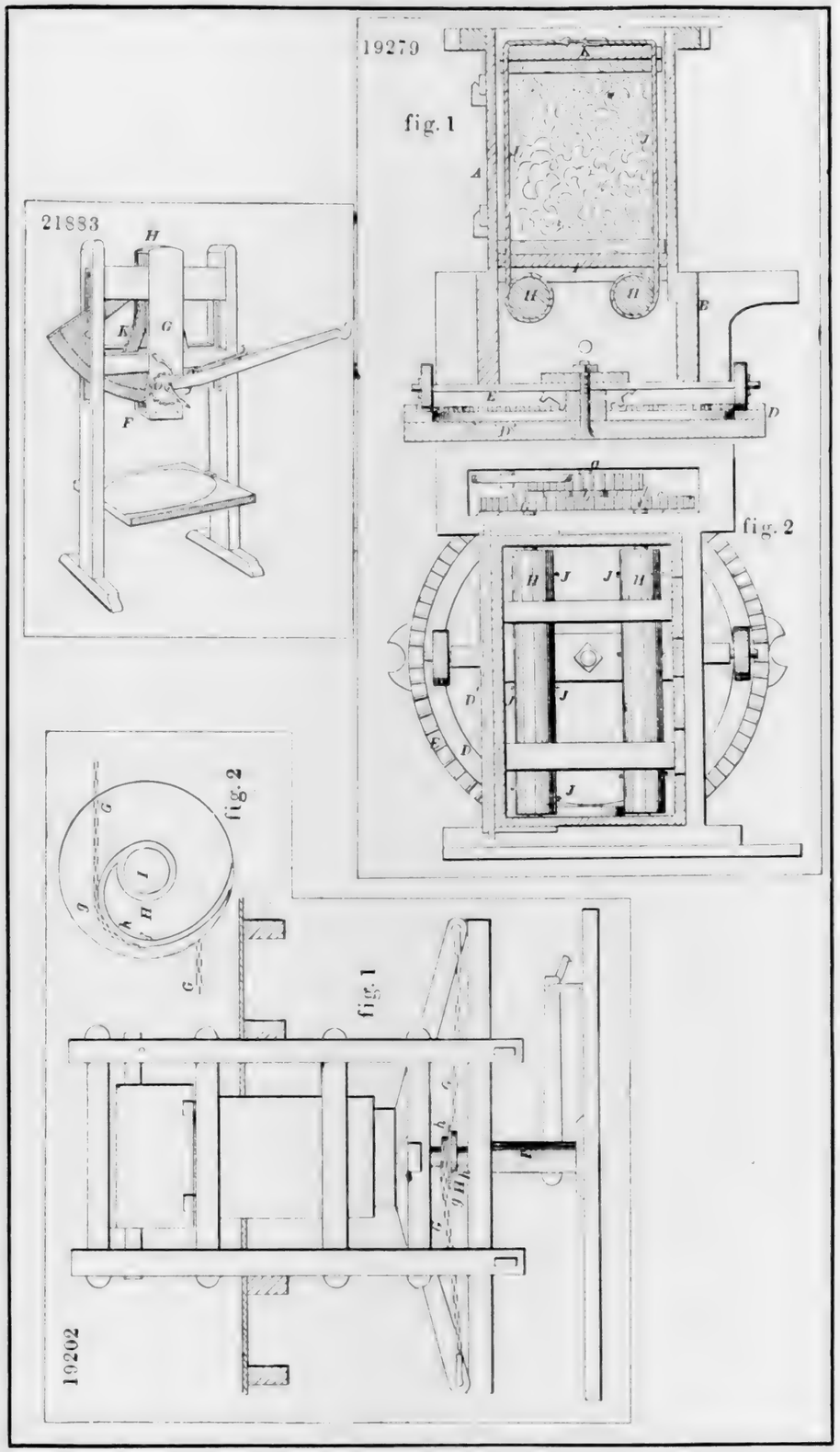
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20665

29

19811 fig. 1 fig. 2


19071
20316


21883
19279
fig. 1
fig. 2
fig. 2
fig. 1
19202

19399

fig. 1

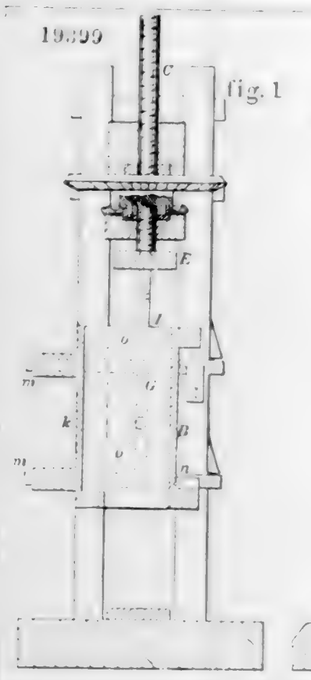
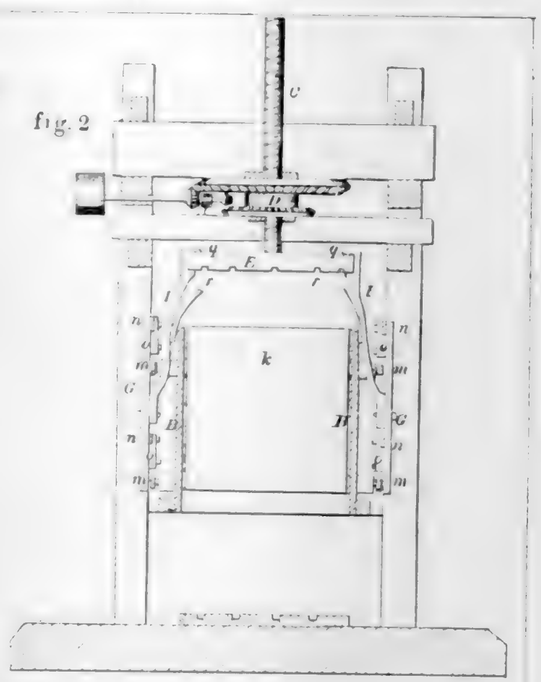


fig. 2



19381

fig. 1

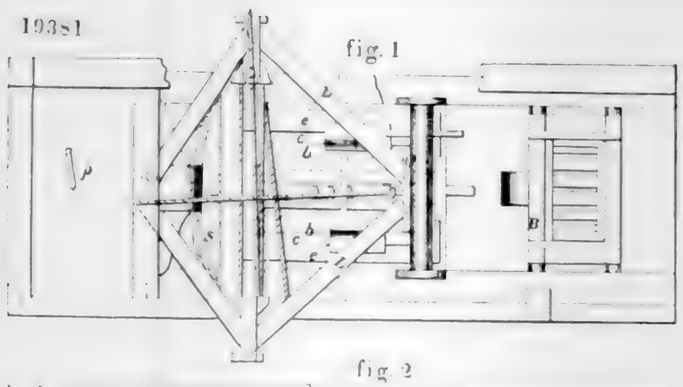
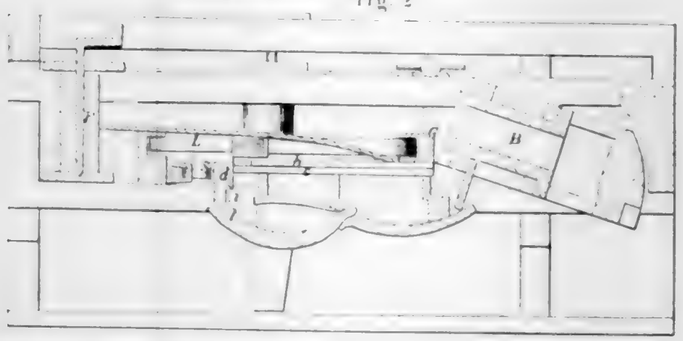
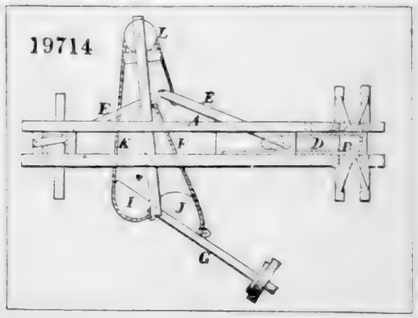


fig. 2



19714



19571

fig. 1

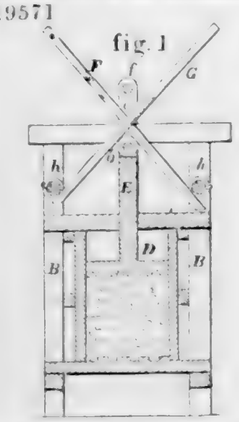
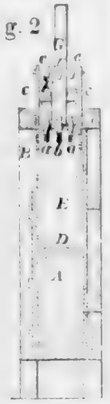
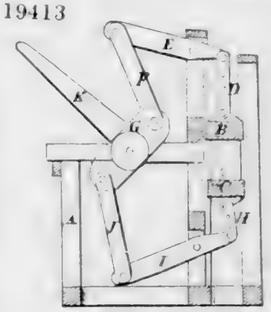


fig. 2



19413



19821

fig. 1

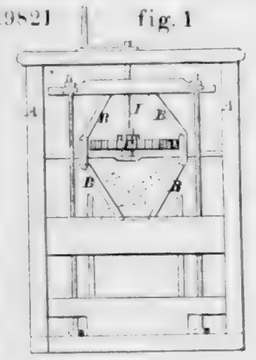
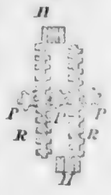
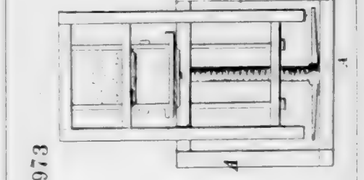


fig. 2



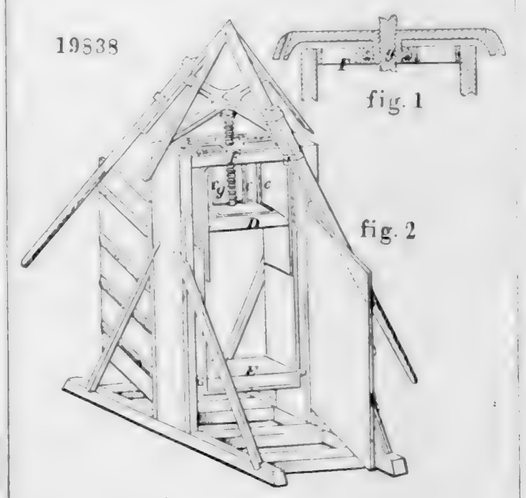
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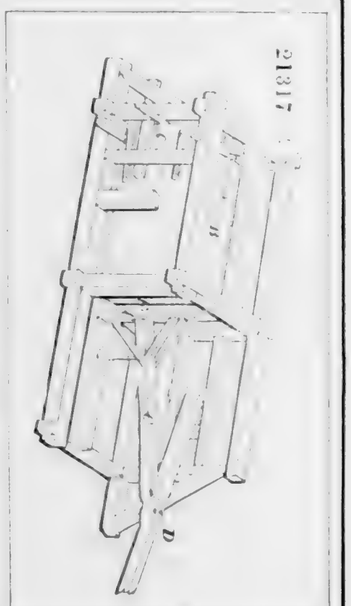
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fig. 1

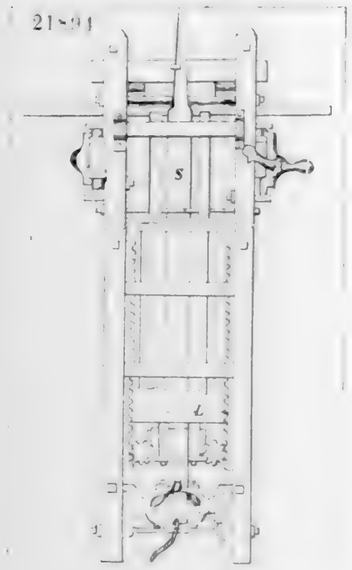
fig. 2



21817



21891



20551

fig. 1

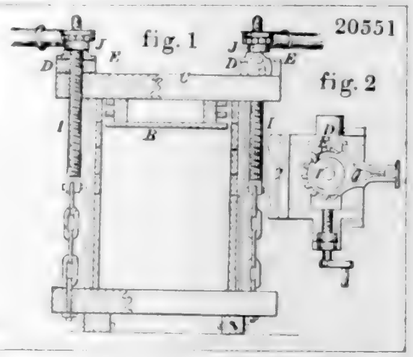
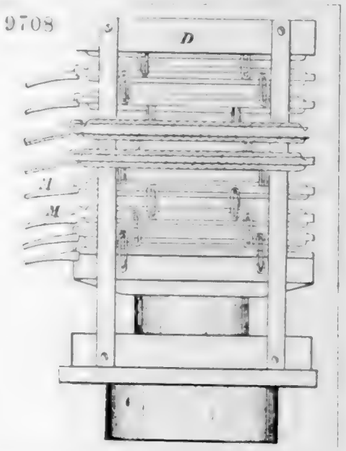
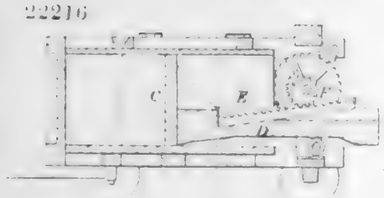


fig. 2

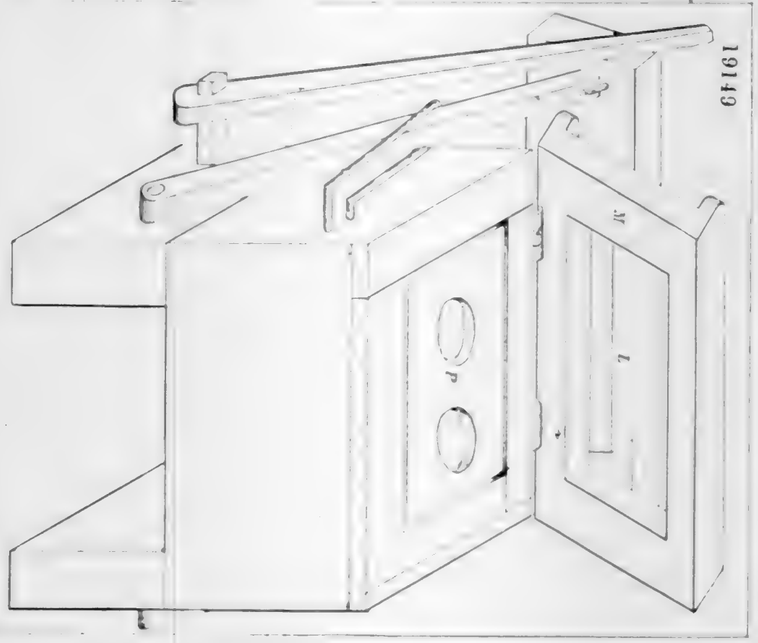
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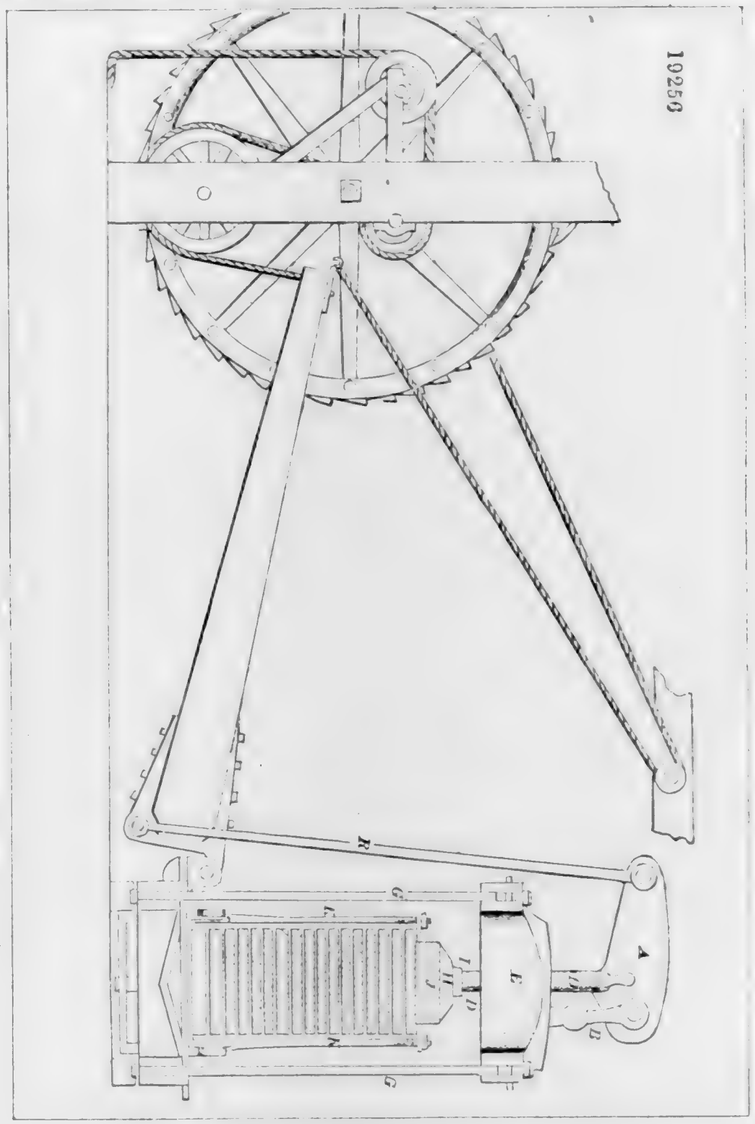
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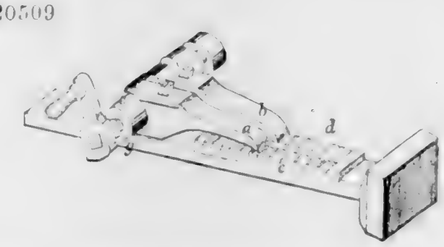
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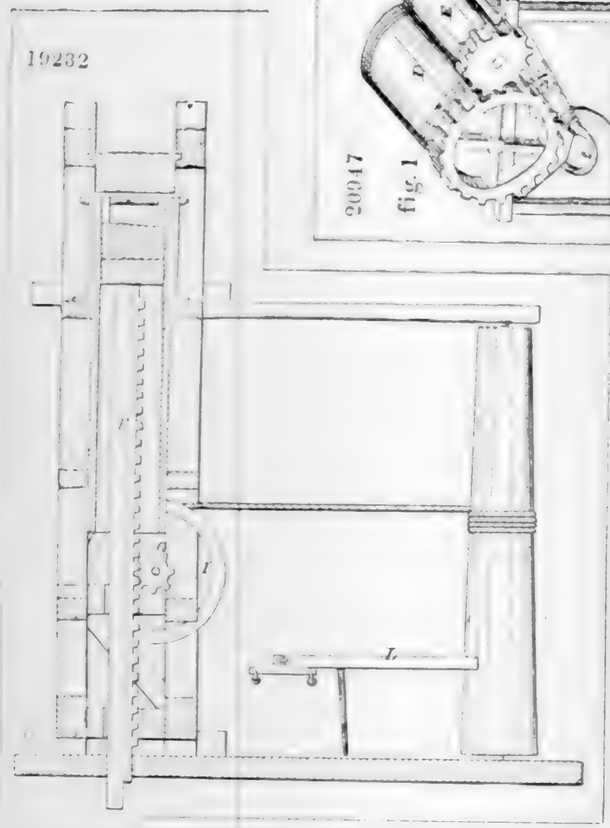
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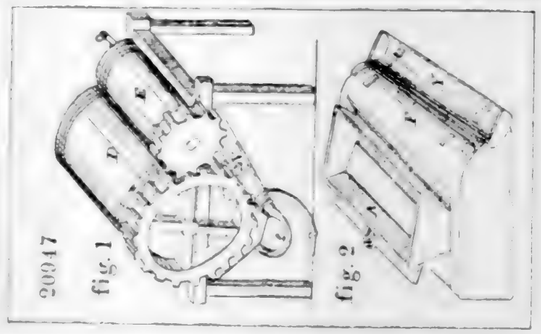
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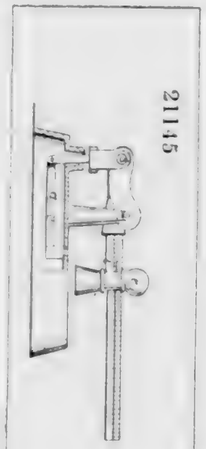
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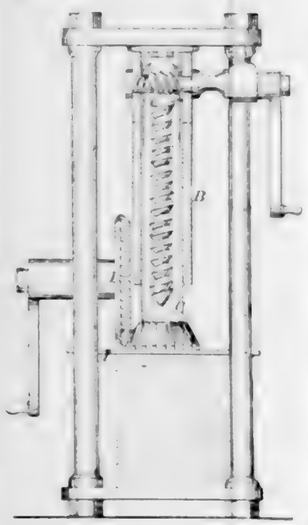
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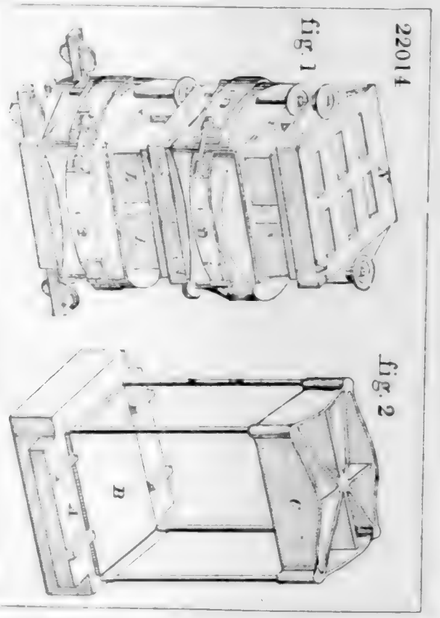
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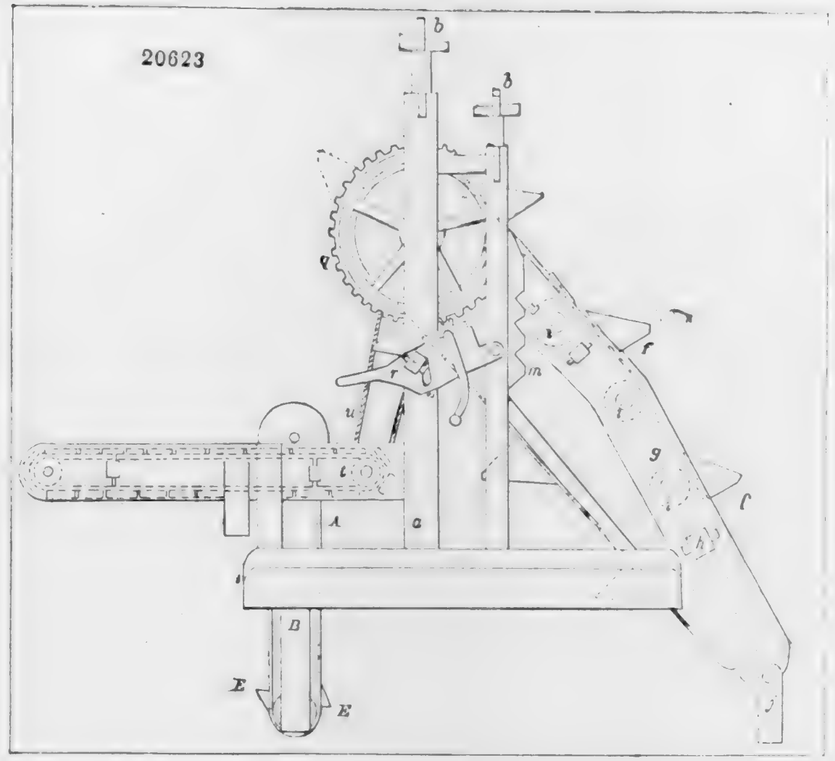
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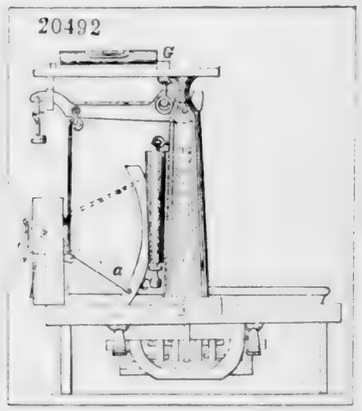
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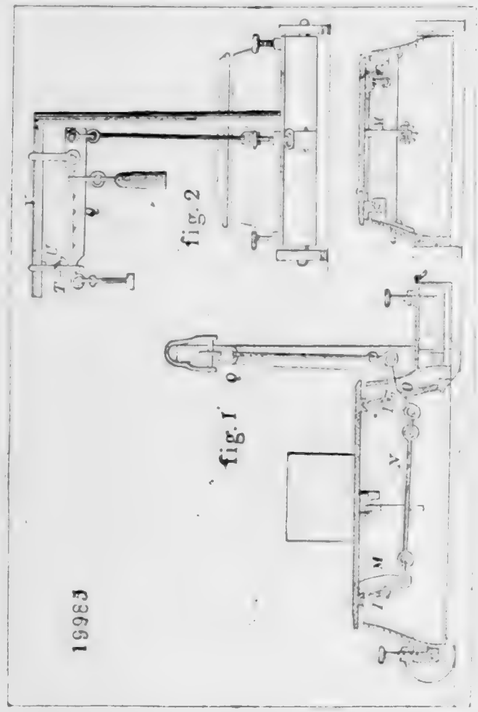
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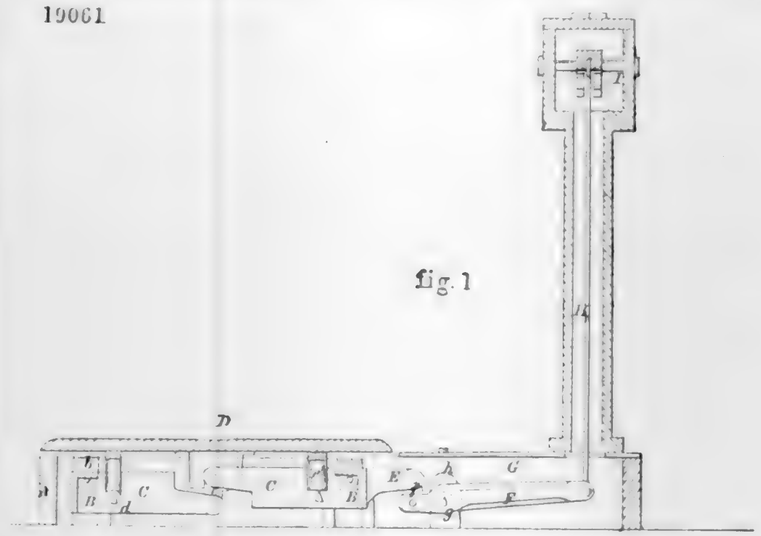


fig. 1

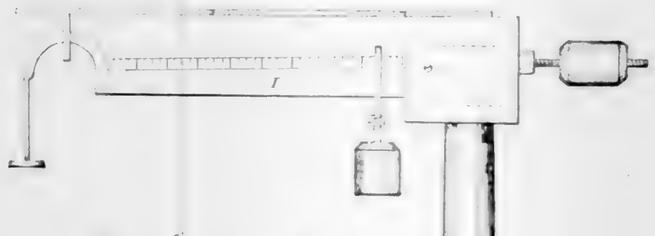


fig. 2

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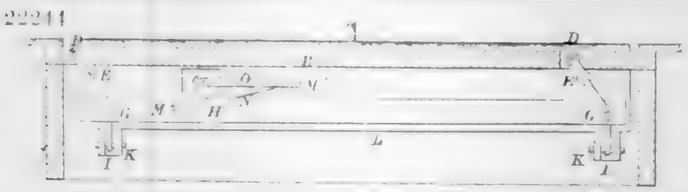


fig. 1

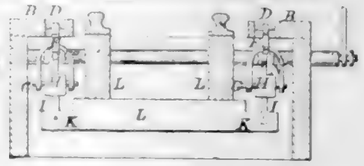


fig. 2

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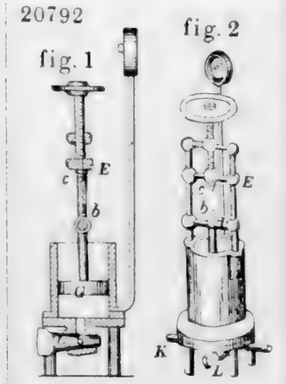


fig. 1

fig. 2

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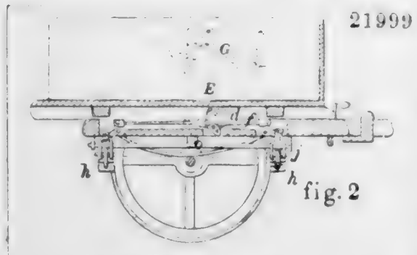
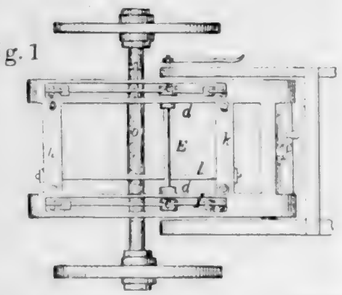


fig. 2

fig. 1



21950

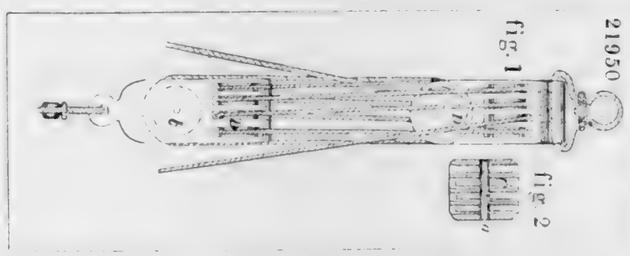
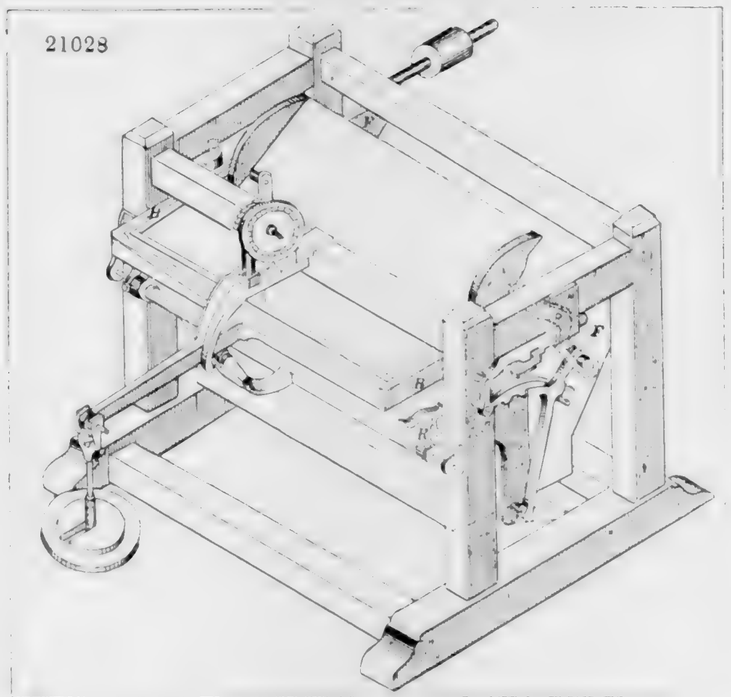


fig. 1

fig. 2

21028



20513

fig. 1

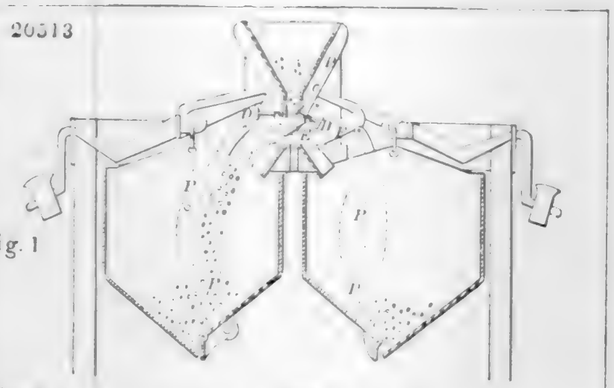
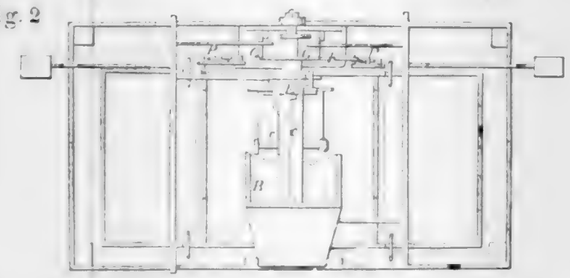


fig. 2



19466

fig. 1

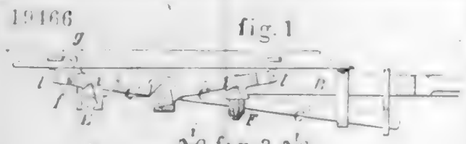


fig. 3

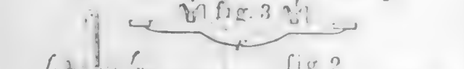
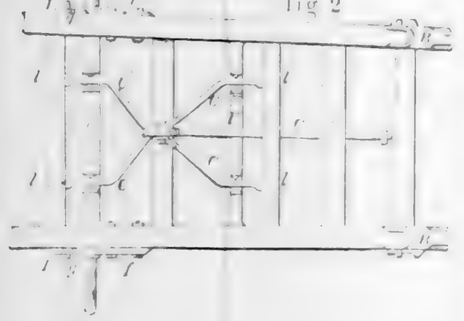
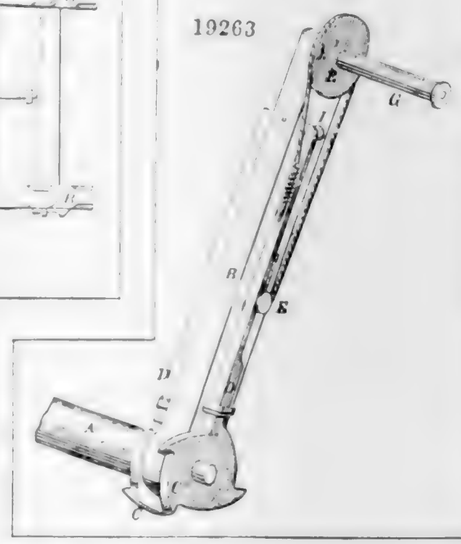


fig. 2



19263



19735

fig. 1

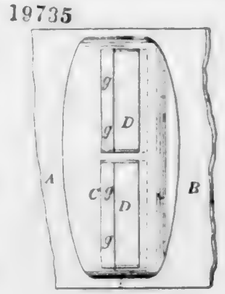


fig. 2



21596



19318

fig. 2

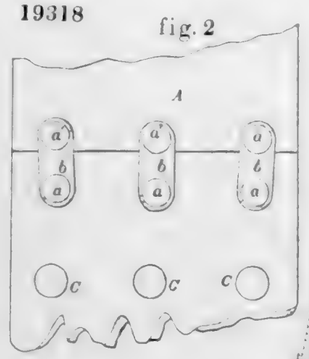


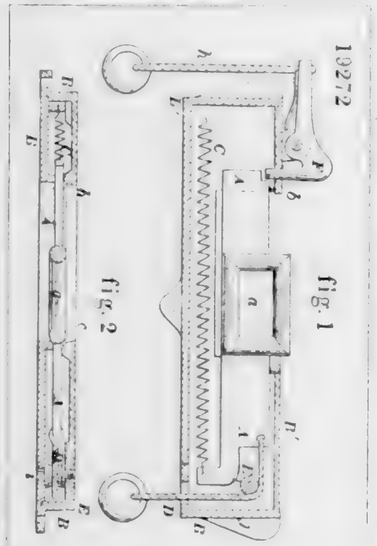
fig. 1



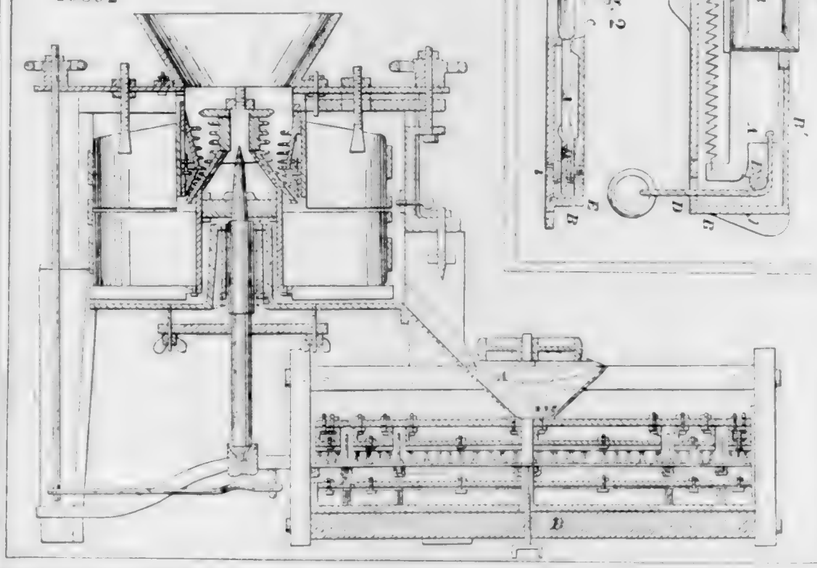
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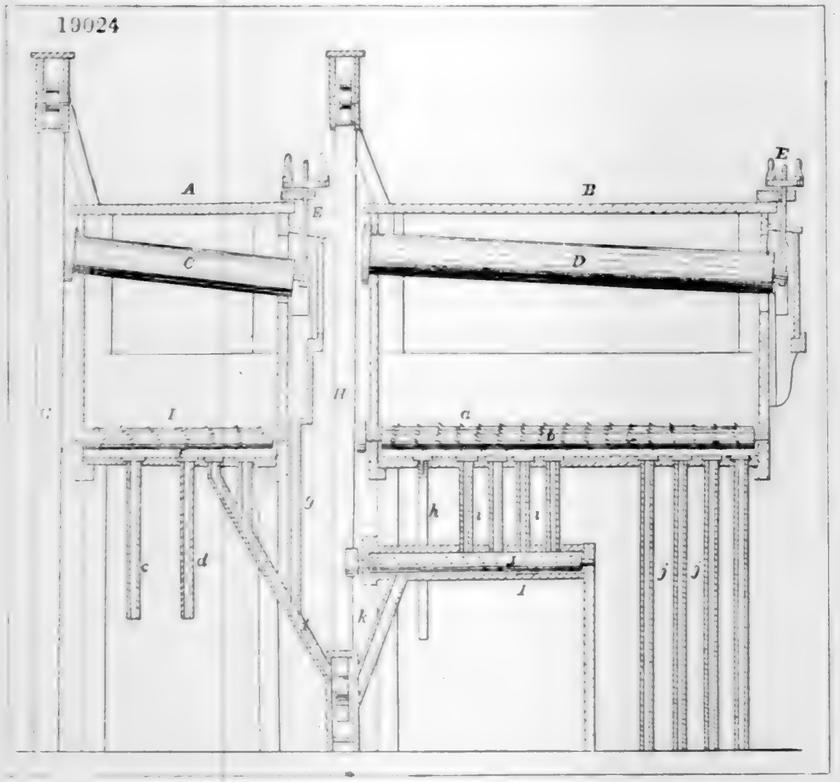
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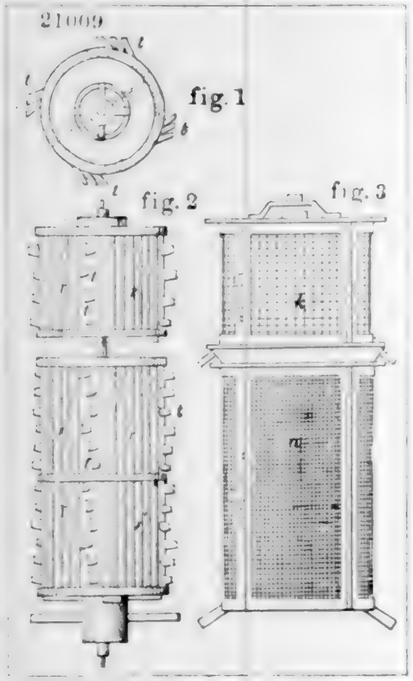
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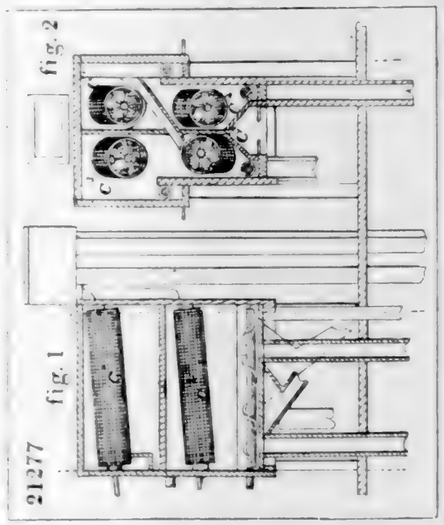
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21009



21277



19303

fig. 1

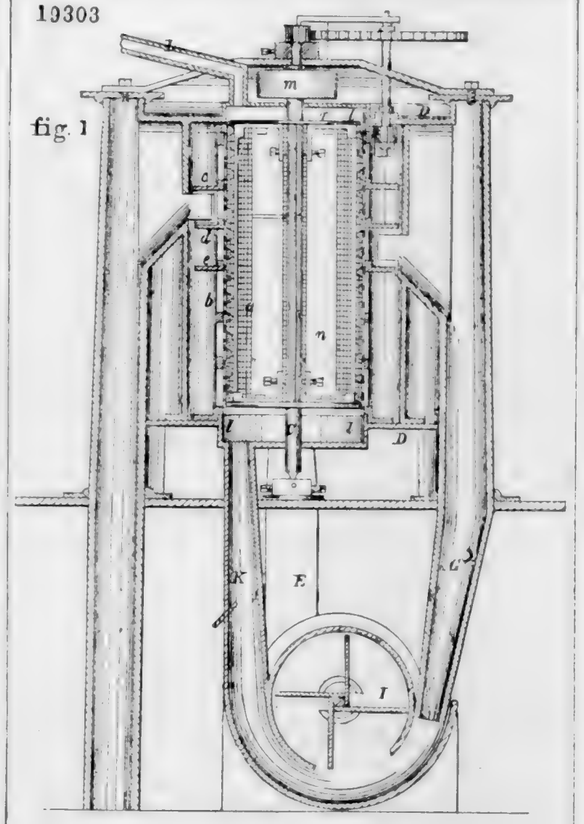
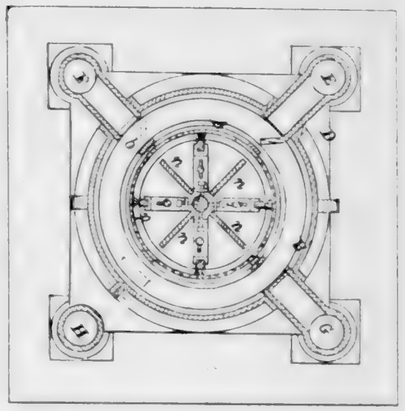
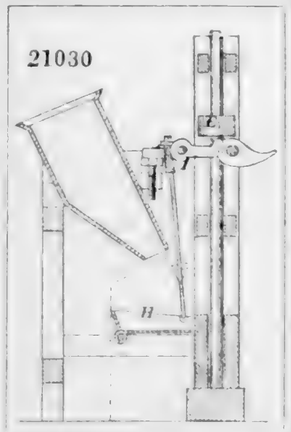


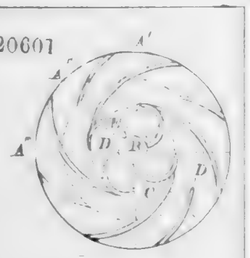
fig. 2



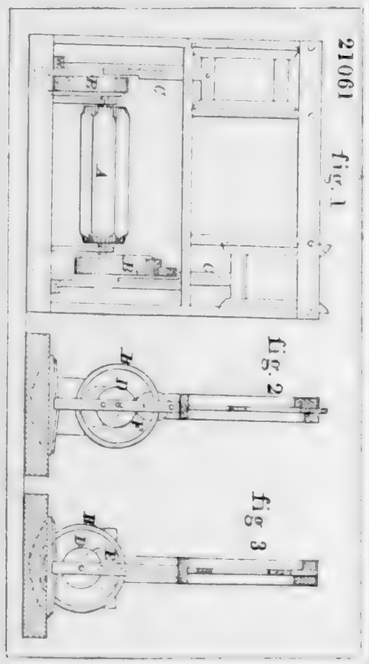
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21061



20672



fig. 1

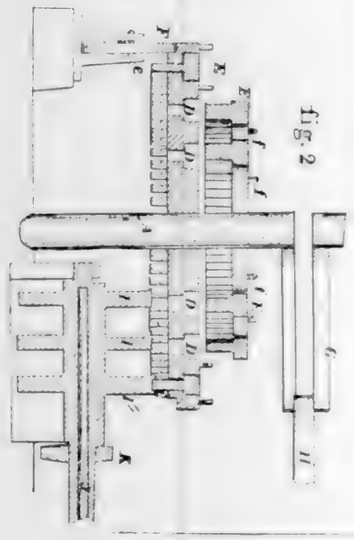


fig. 2

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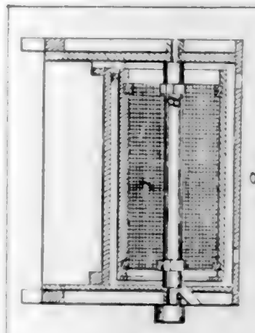


fig. 1

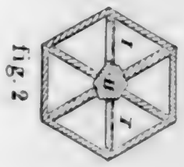


fig. 2

22118



fig. 1

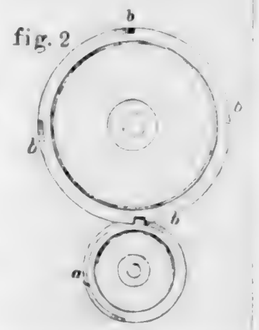


fig. 2

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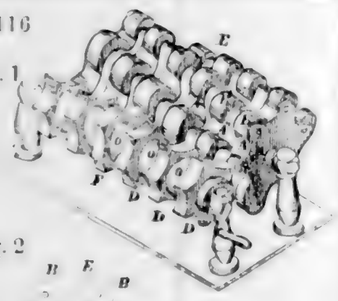


fig. 1

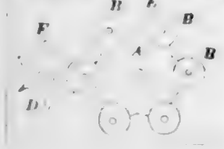
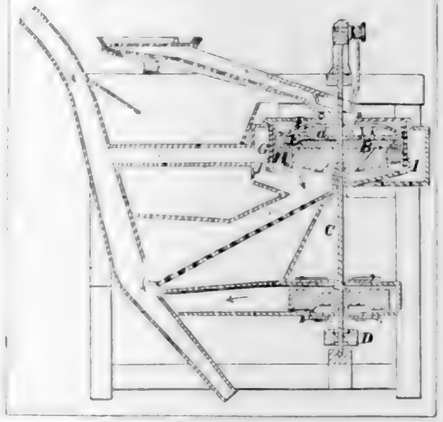
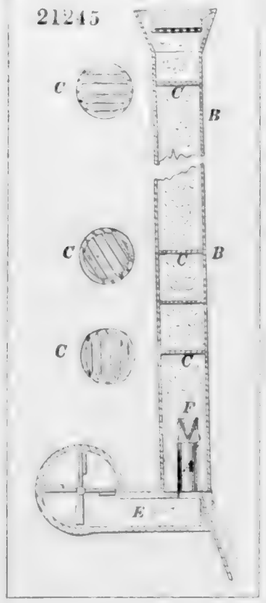


fig. 2

26422



21245



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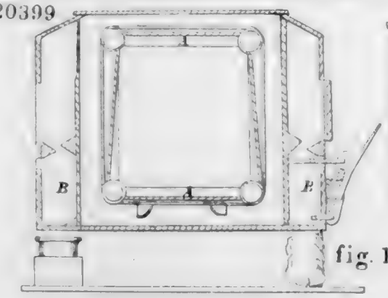
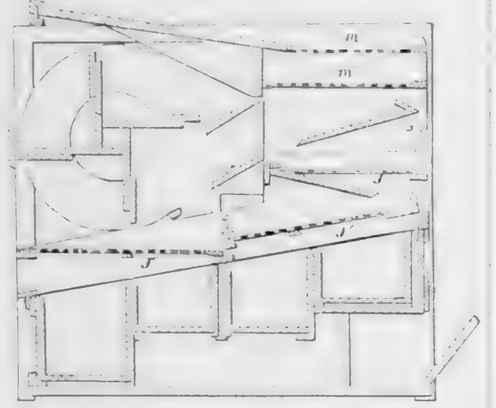


fig. 1

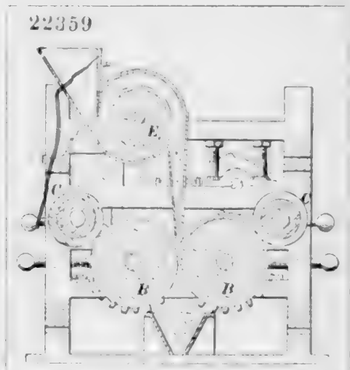


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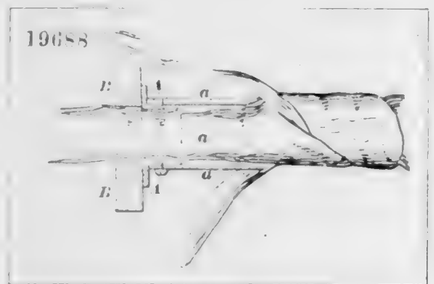
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22359



19688



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fig. 1

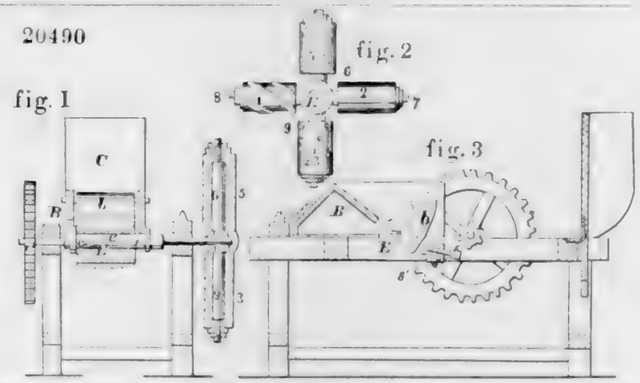


fig. 2

fig. 3

30

20257

fig. 1

fig. 2

20282

20279

fig. 1

fig. 2

20461

20978

fig. 1

fig. 2

21495

21421

fig. 1

fig. 2

22079

22360

20368

fig. 1

fig. 2

19976

fig. 1

fig. 2

19769

fig. 1

19108

fig. 2

fig. 1

21032

fig. 2

22003

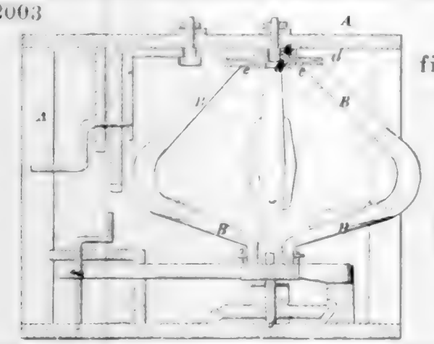


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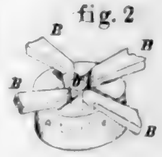


fig. 2

21474 fig. 1

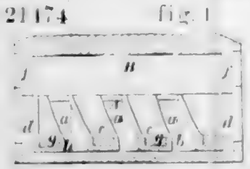
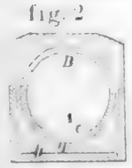


fig. 2



19386

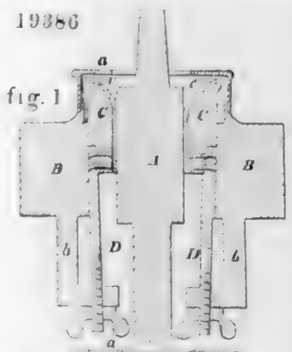
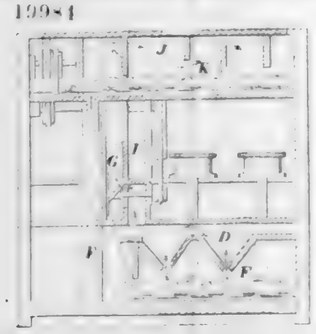


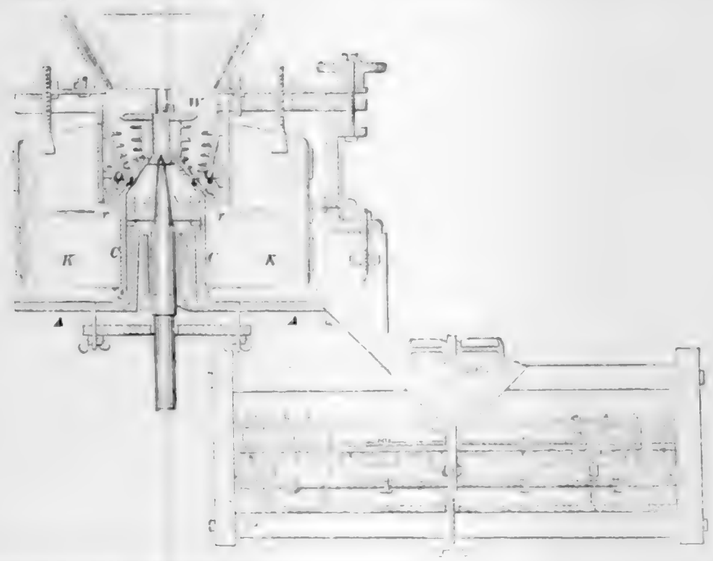
fig. 1

fig. 2

19984



19807



20208

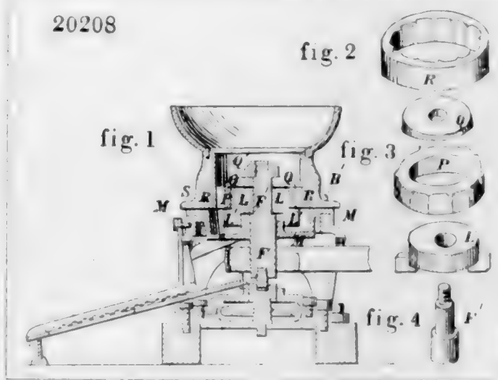


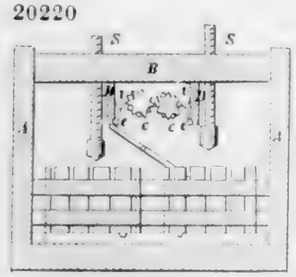
fig. 2

fig. 1

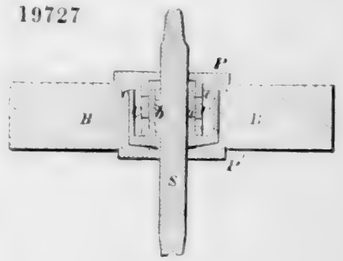
fig. 3

fig. 4

20220



19727



21874

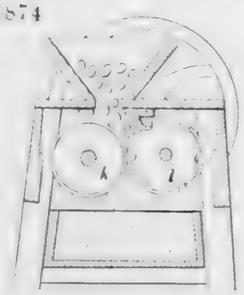


fig. 1

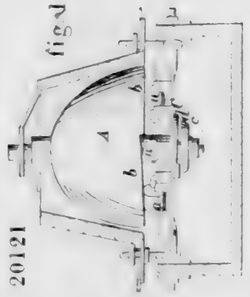
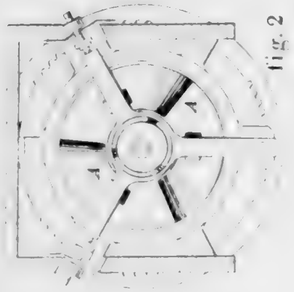
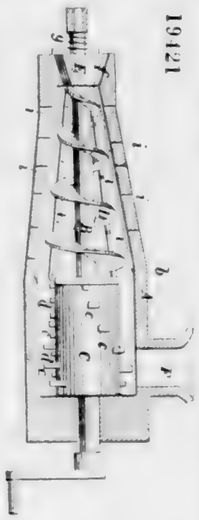


fig. 2



19421



20121

20329

fig. 1

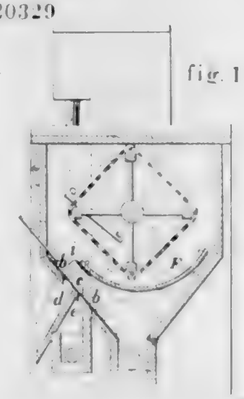
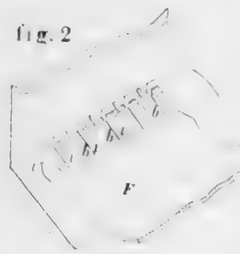


fig. 2



19016

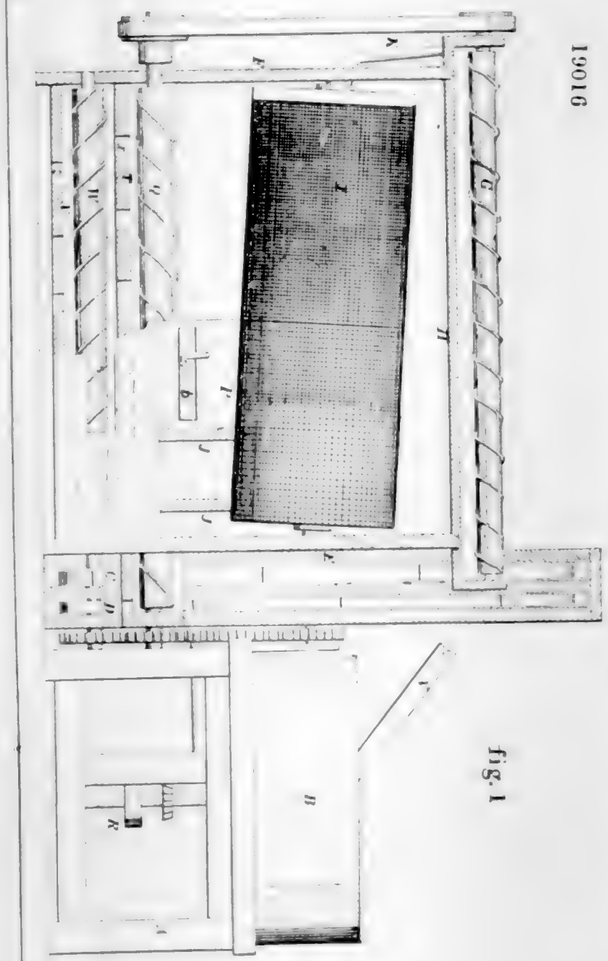


fig. 1

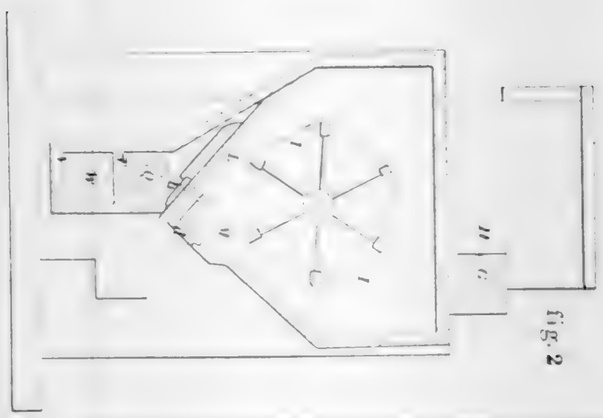


fig. 2

20784

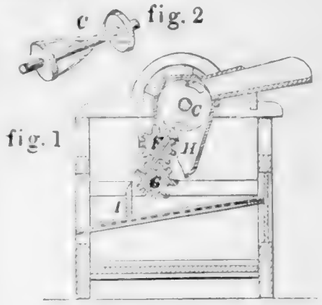
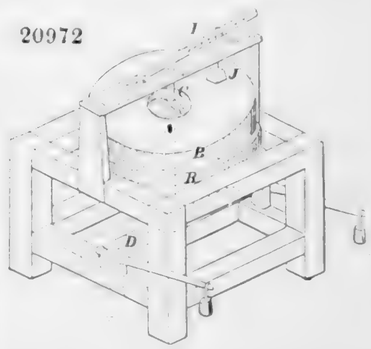


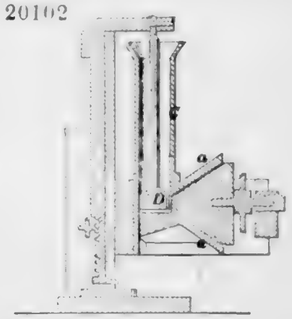
fig. 2

fig. 1

20972



20102



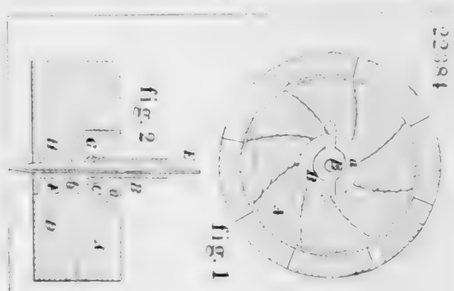


fig. 2

fig. 1

21062

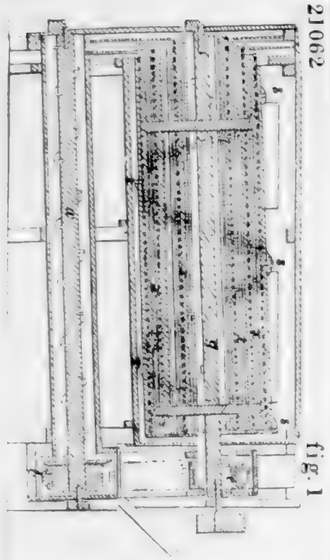


fig. 1

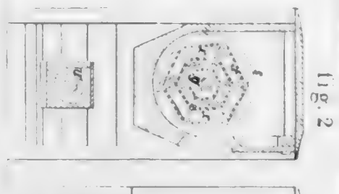


fig. 2

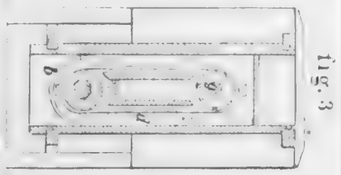
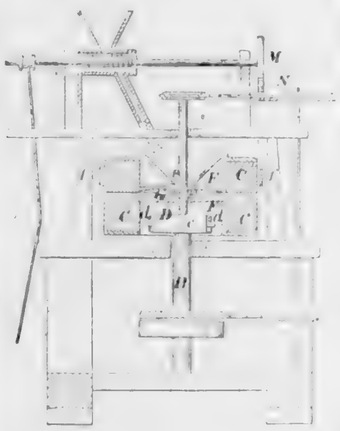
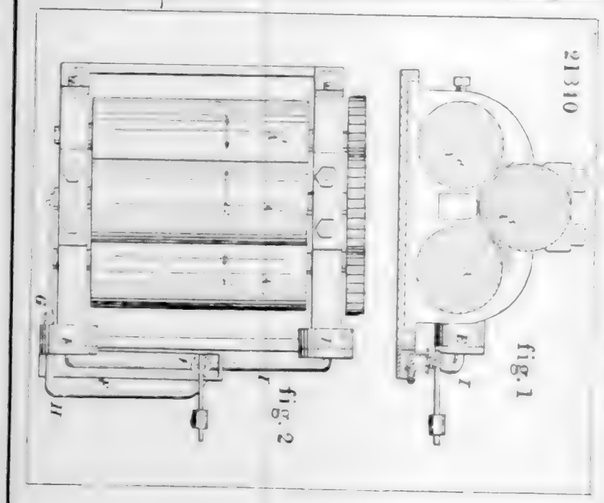


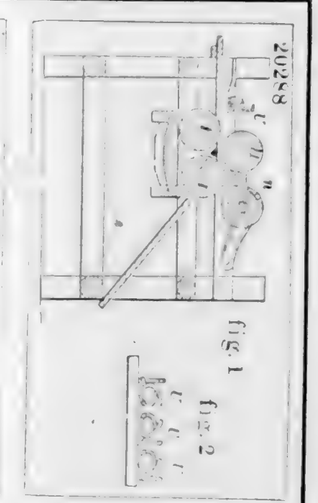
fig. 3

20370



21310


fig 2


fig 1

20288

fig 1

fig 2

19251

fig. 1

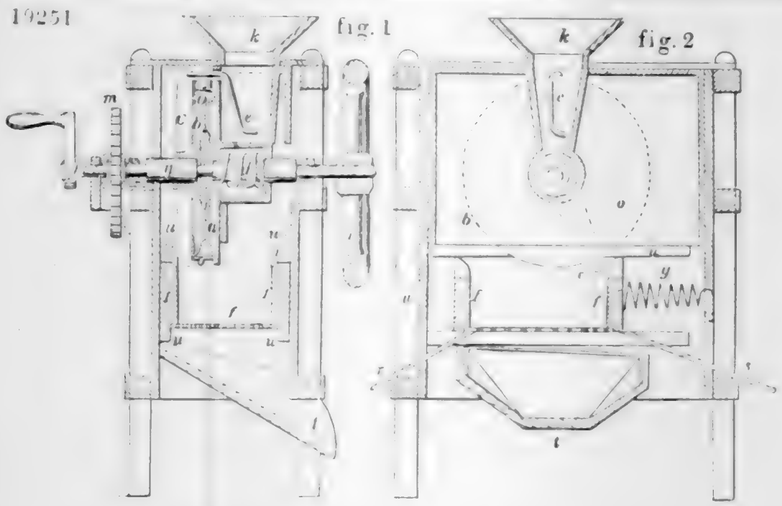


fig. 2

fig 3

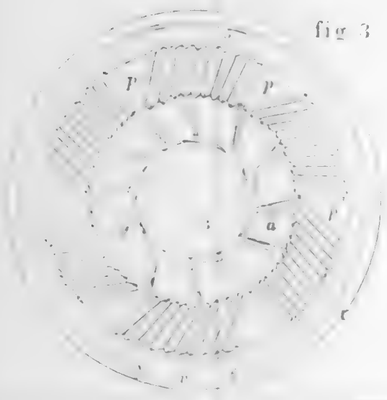
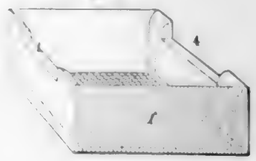


fig 4



19093

fig 1

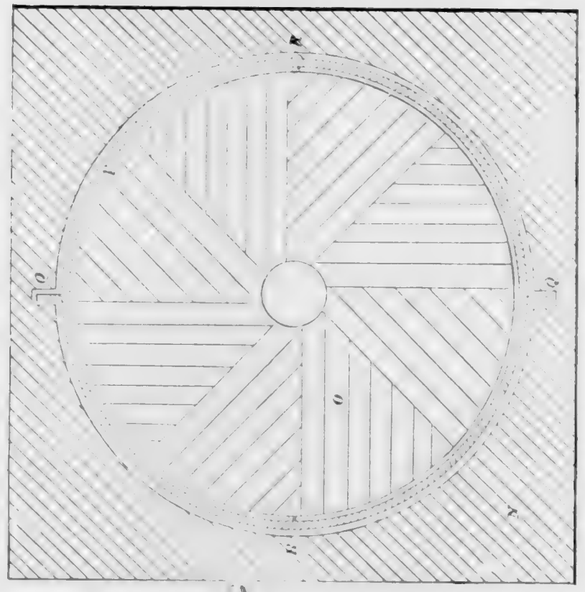


fig 2

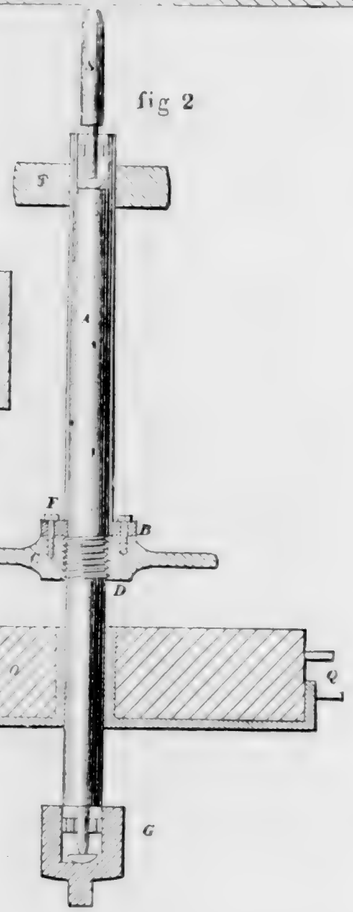


fig 3

19441

fig. 1

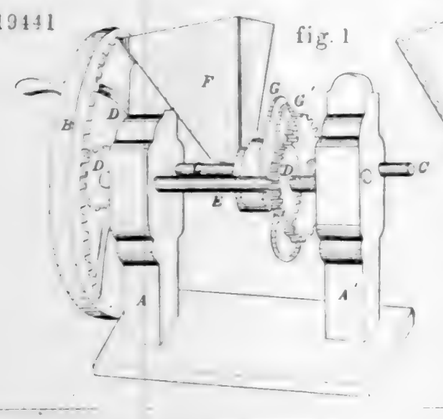
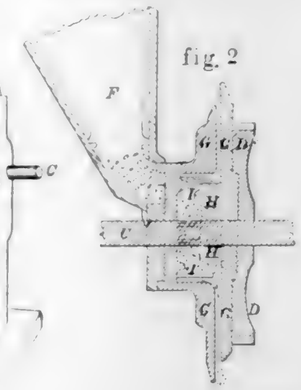


fig. 2



19289

fig. 1

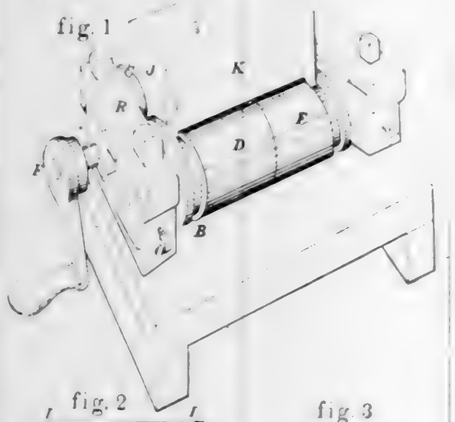


fig. 2

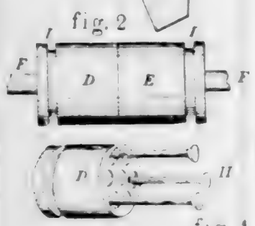


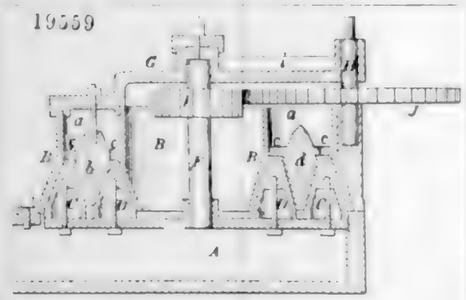
fig. 3



fig 4



19559



19287

fig. 1

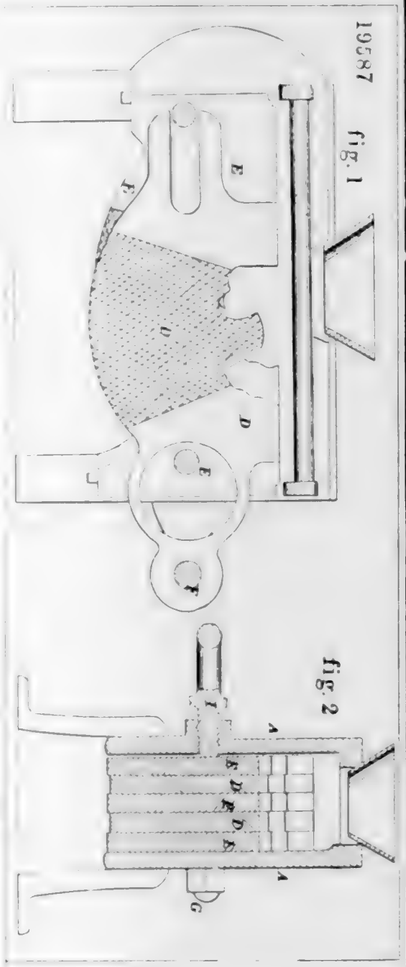


fig. 2

19826

fig. 1

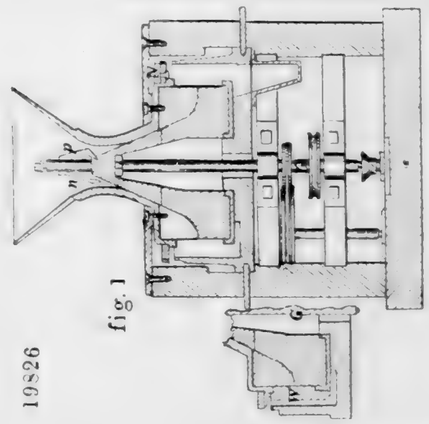
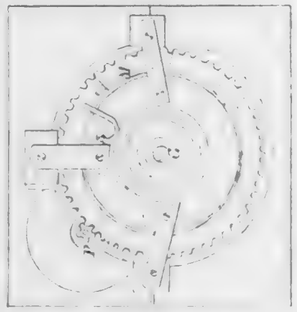
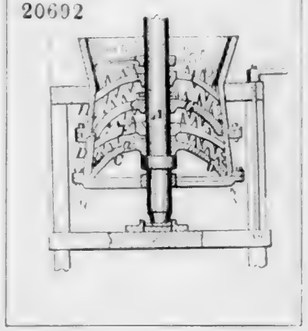


fig 2



20692



19521

fig 2

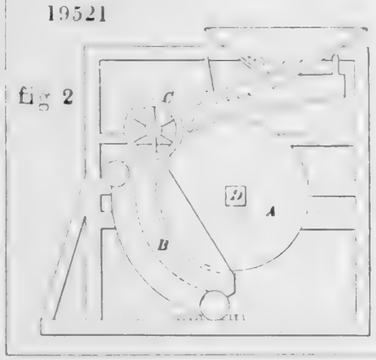
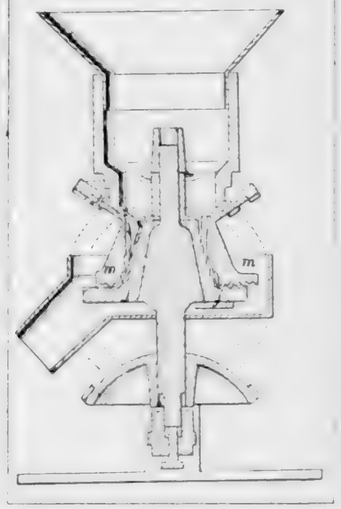


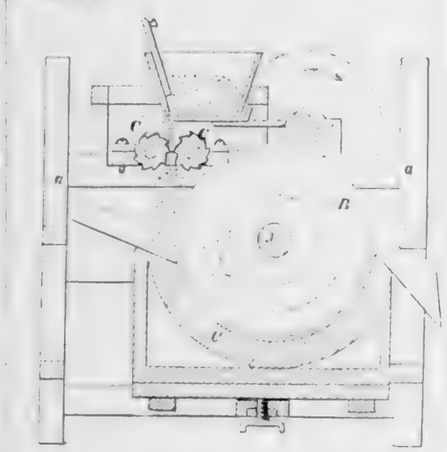
fig. 1



20941



20310



19060 fig. 1

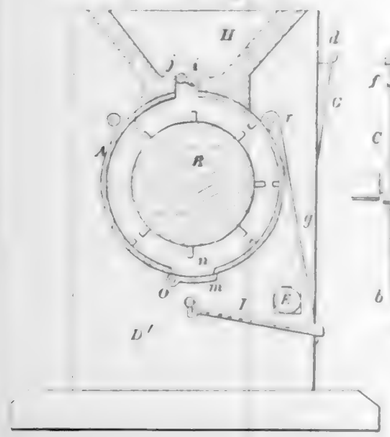


fig. 2

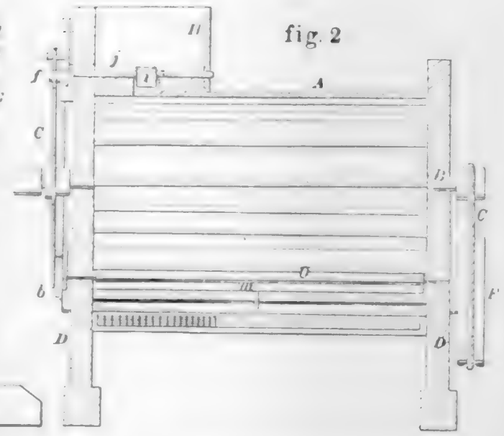
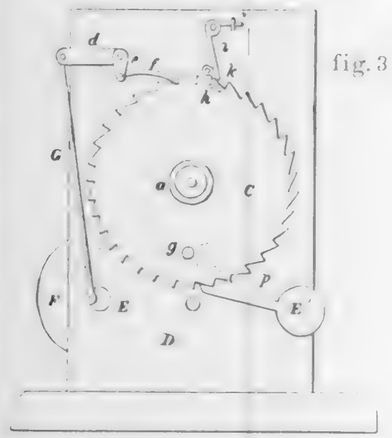
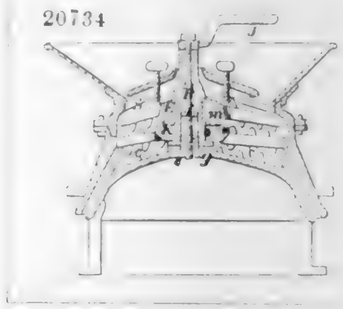


fig. 3



20734



20327 fig. 1

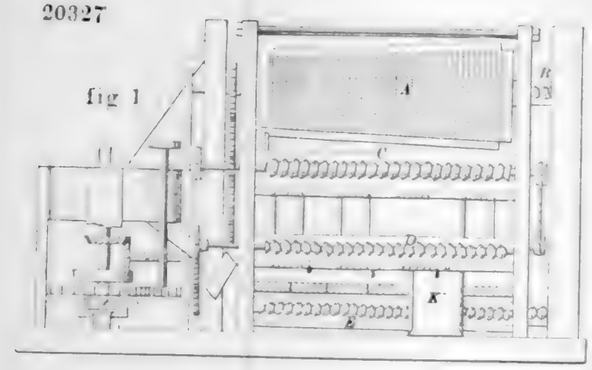
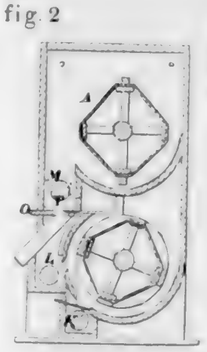


fig. 2



19297 fig. 1

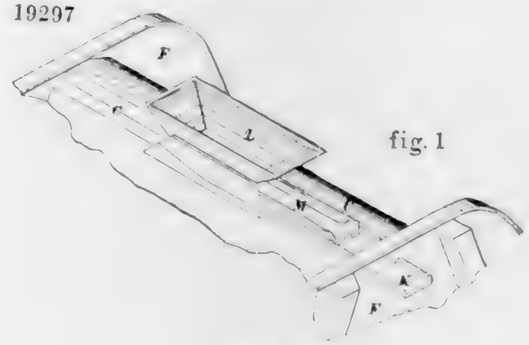
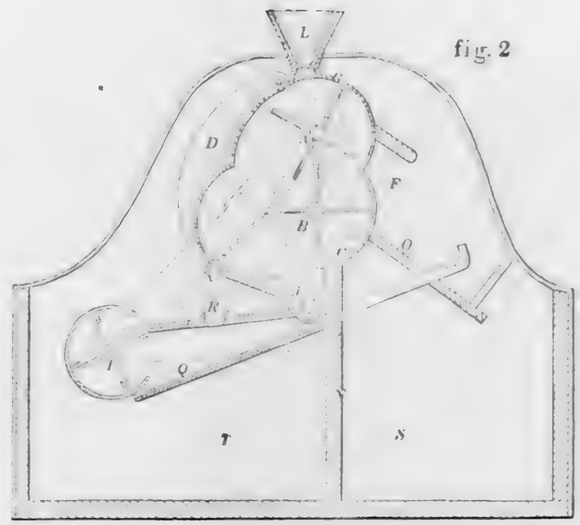


fig. 2



19691 fig. 1

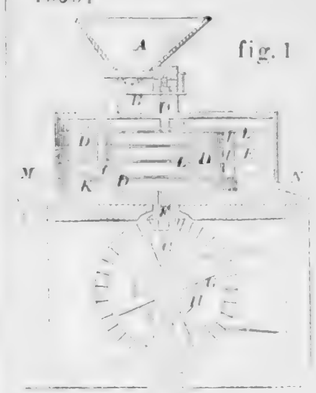
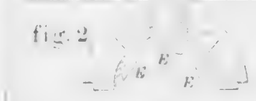


fig. 2



19696 fig. 2

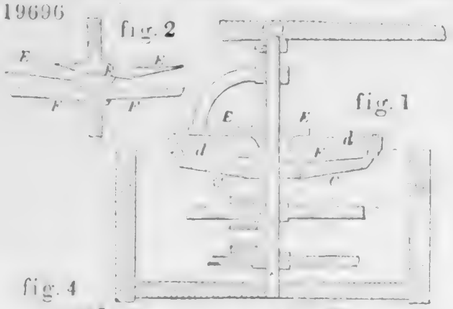


fig. 1

fig. 4

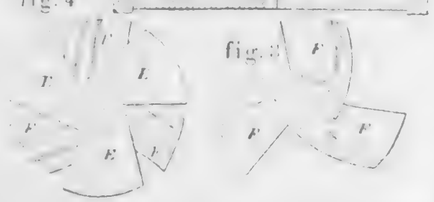
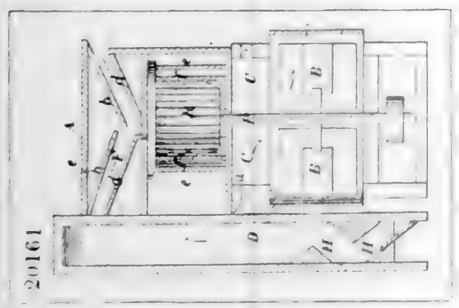
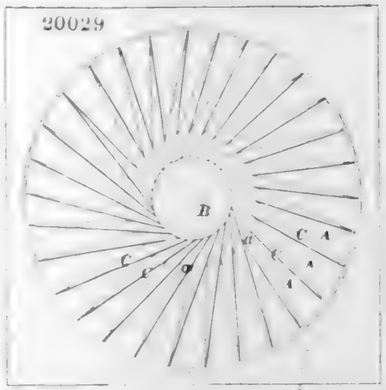


fig. 3

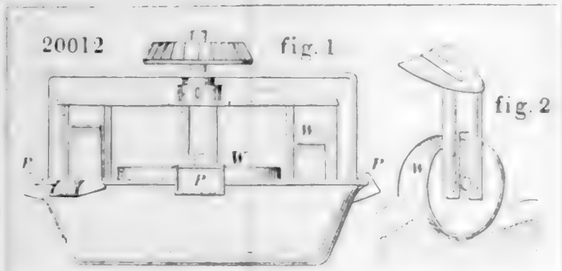
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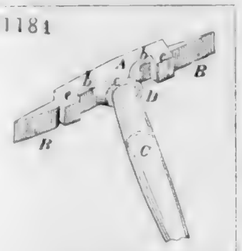
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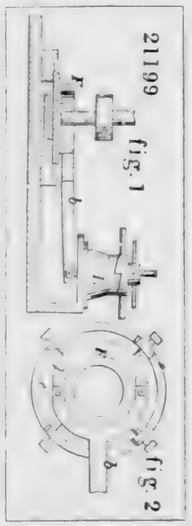
20012 fig. 1 fig. 2



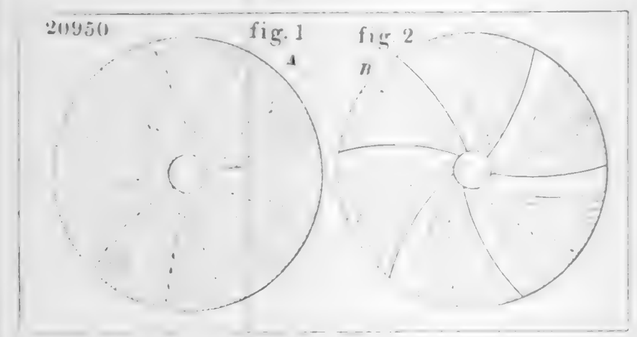
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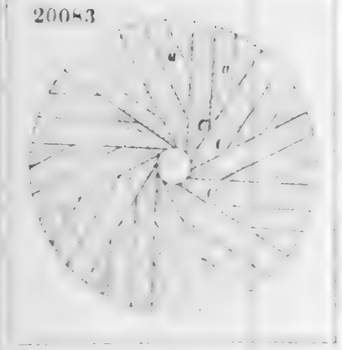
21199 fig. 1 fig. 2



20950 fig. 1 fig. 2



20083



20084



20462



19273 fig. 1

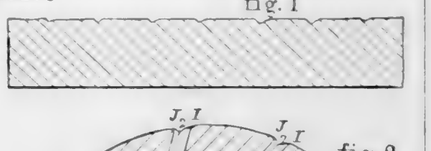
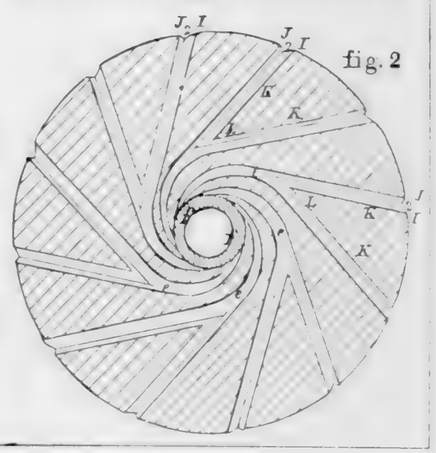
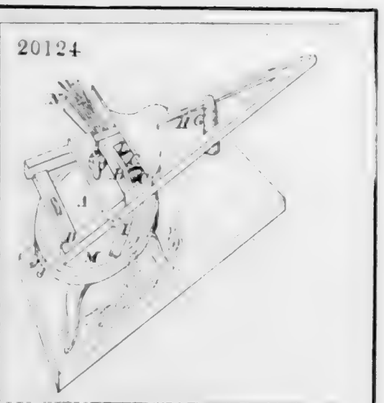


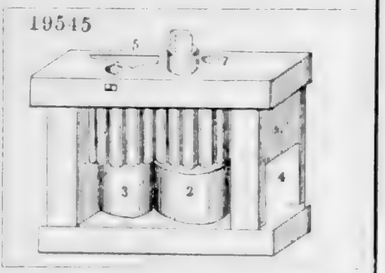
fig. 2



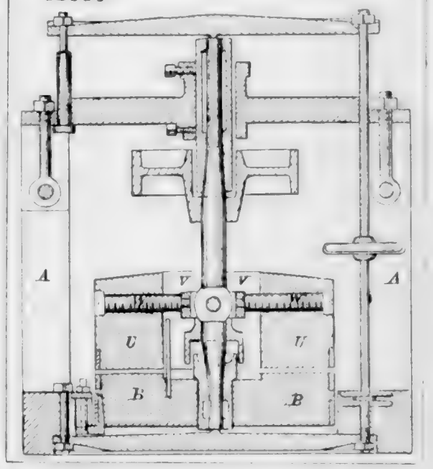
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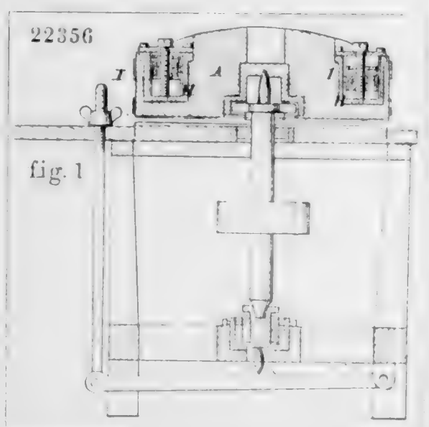
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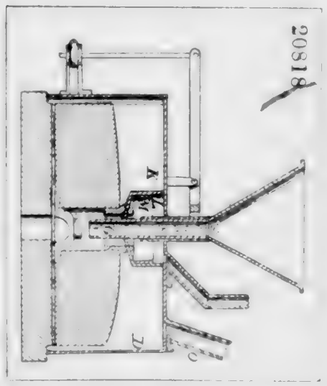
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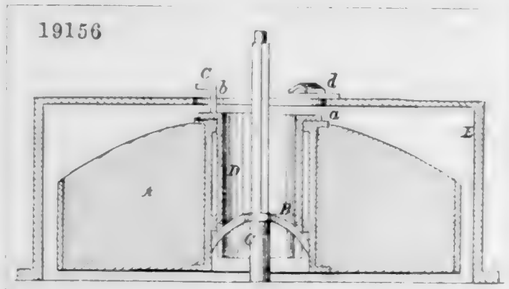
22356 fig. 1



20818



19156



19302

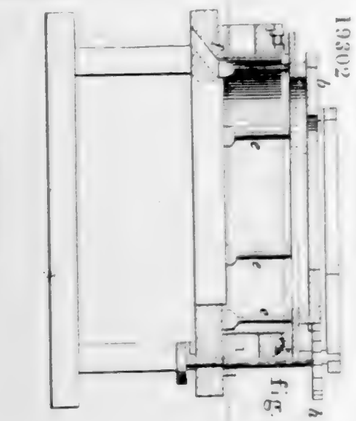


fig. 1

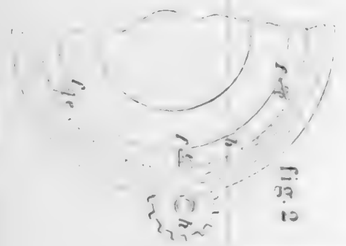


fig. 2

19848

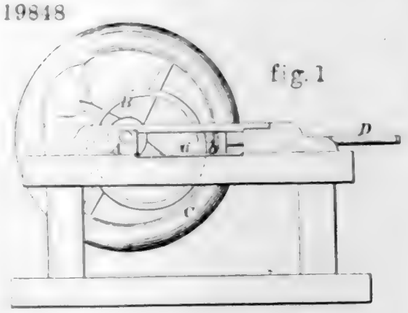


fig. 1

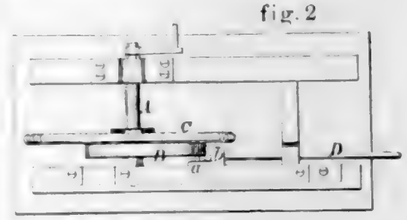
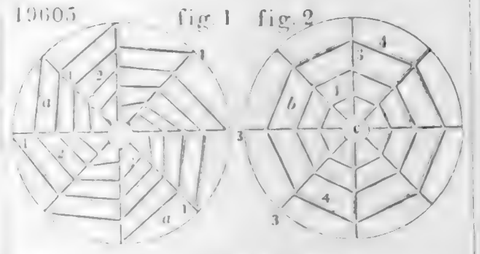
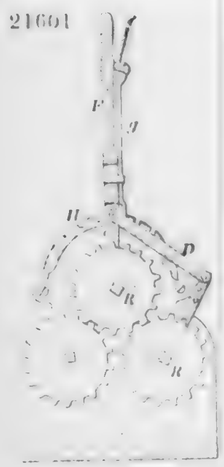


fig. 2

19605 fig. 1 fig. 2



21601



20540

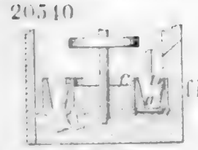


fig. 1

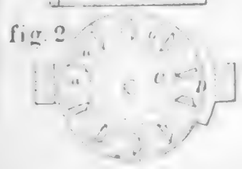


fig. 2

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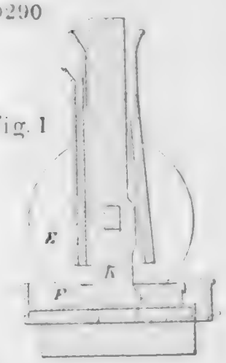


fig. 1



fig. 2

21065

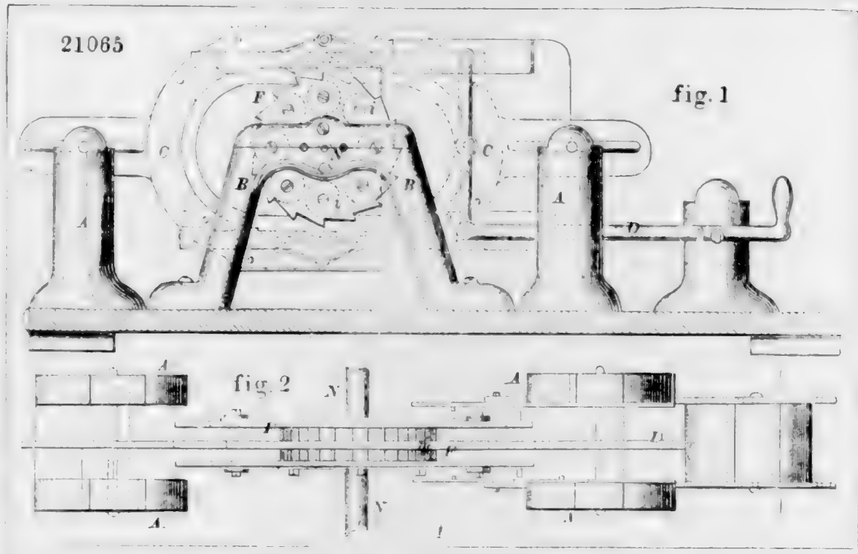
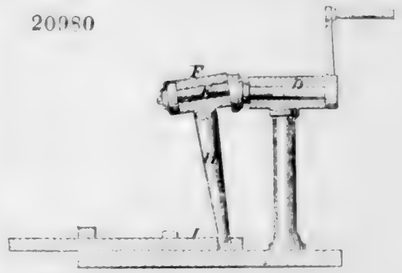


fig. 1

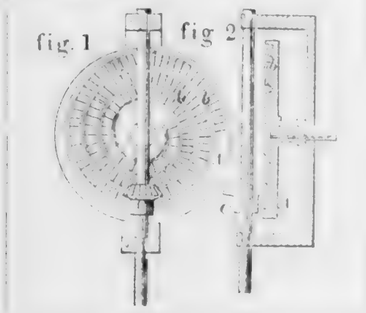
fig. 2

20980

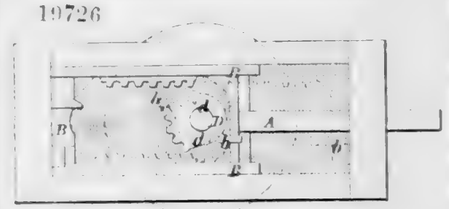


22145

fig. 1 fig. 2



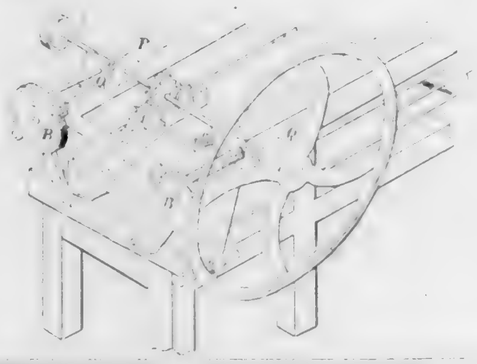
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21031



19586



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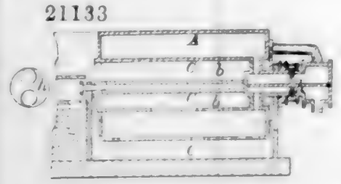


fig. 1

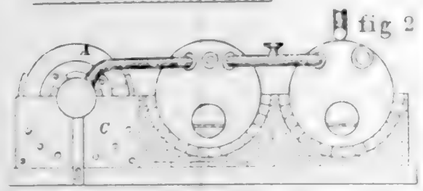


fig. 2

20701

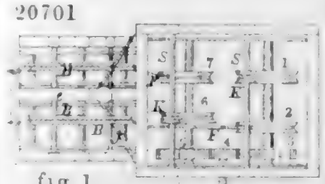


fig. 1



fig. 2

19183

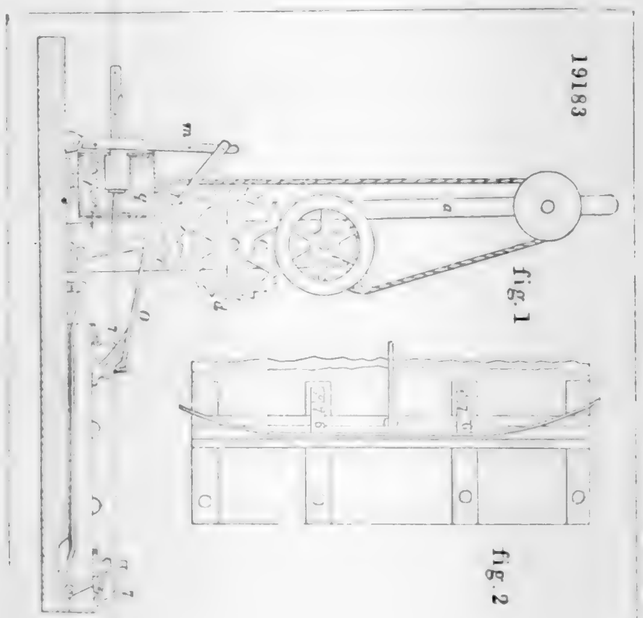


fig. 1

fig. 2

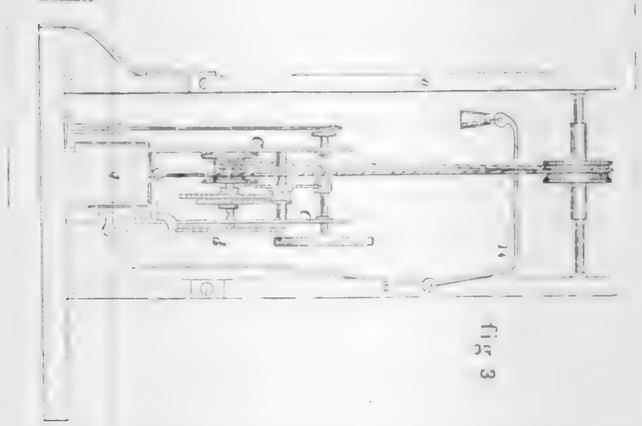
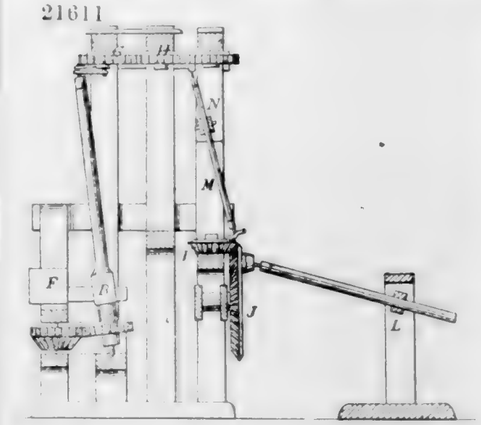
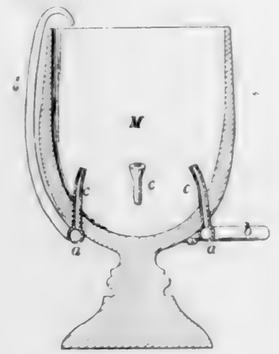


fig. 3

21611



22337



21156

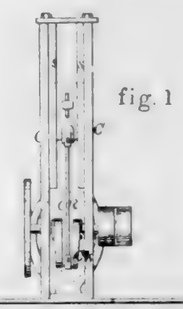


fig. 1

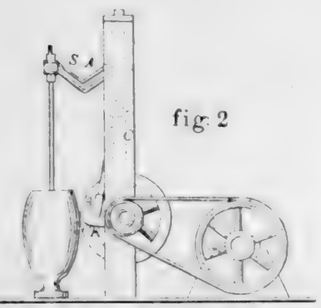


fig. 2

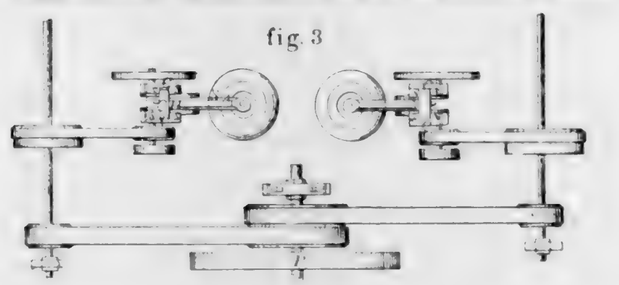


fig. 3

21913

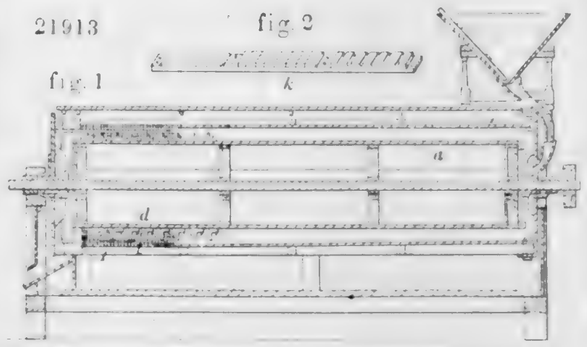


fig. 1

fig. 2

20881

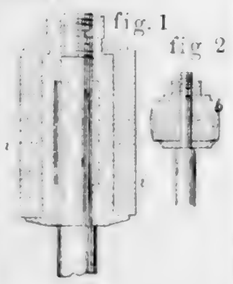


fig. 1

fig. 2

19637

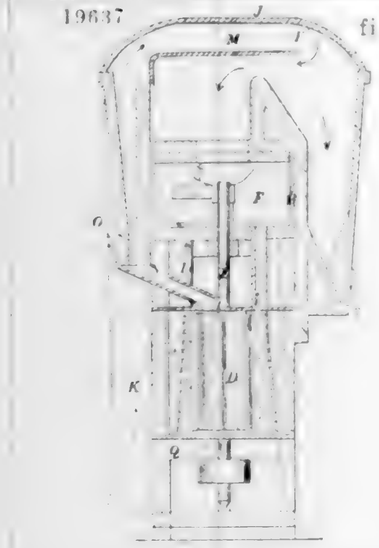


fig 1

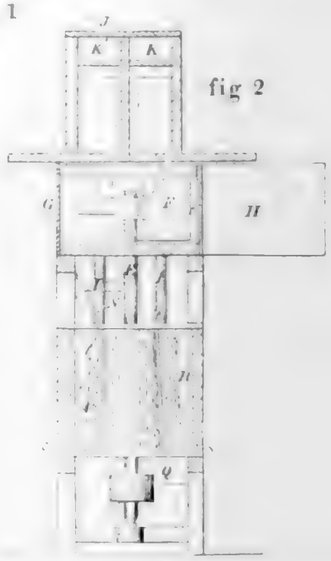
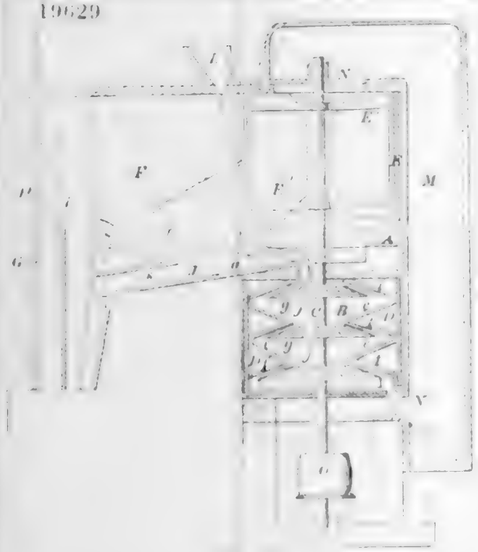


fig 2

19629



20590

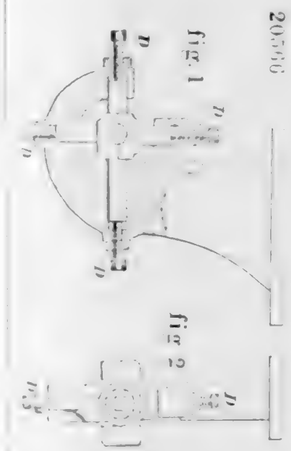


fig 1

fig 2

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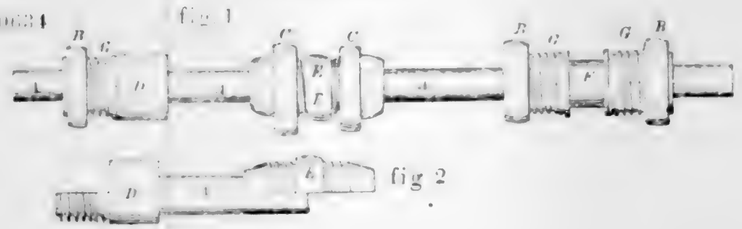


fig 1

fig 2

21640

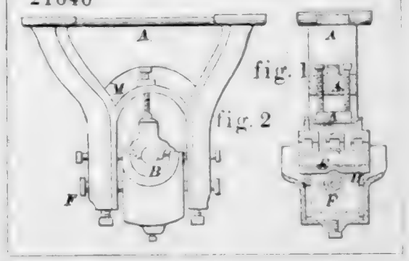


fig. 1

fig. 2

19340

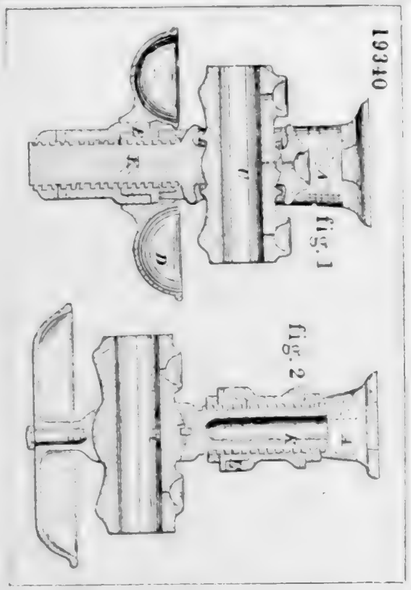


fig. 1

fig. 2

20800 fig. 1

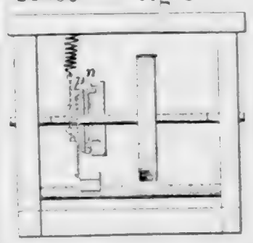
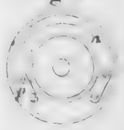
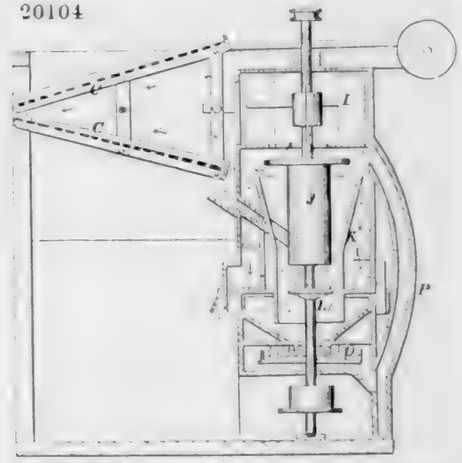


fig. 2



20104



19860

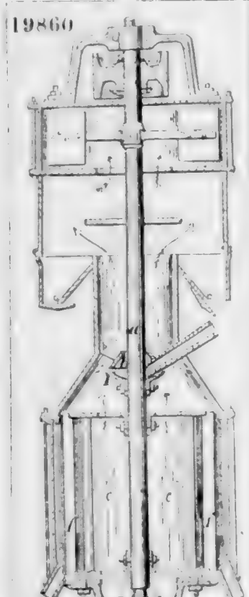


fig. 1

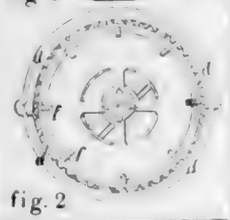


fig. 2

20420

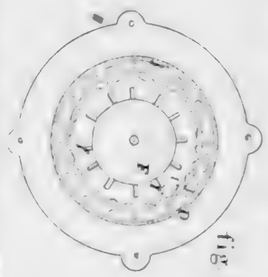


fig. 2

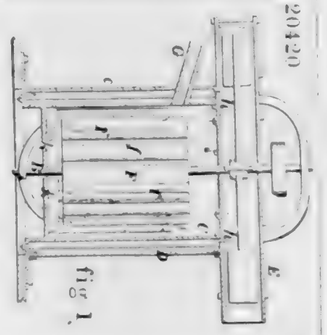
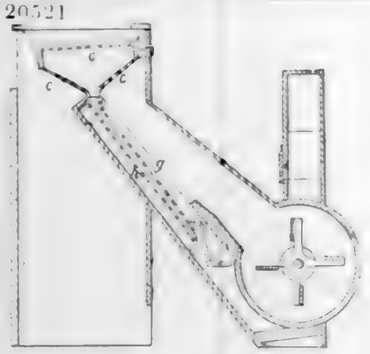
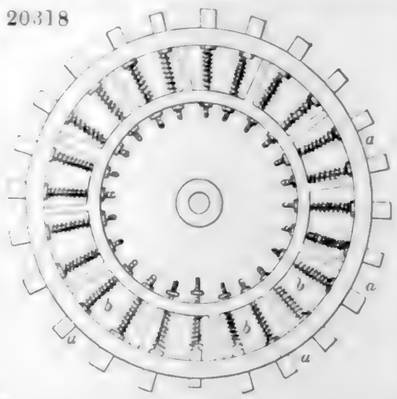


fig. 1

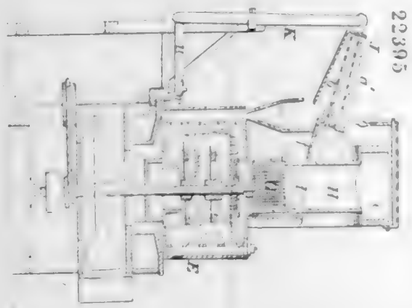
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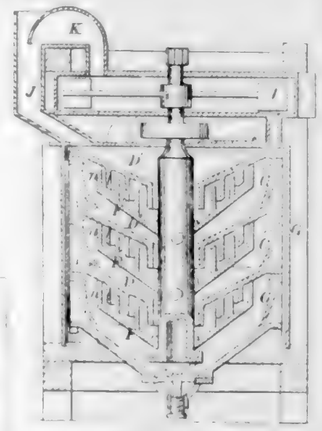
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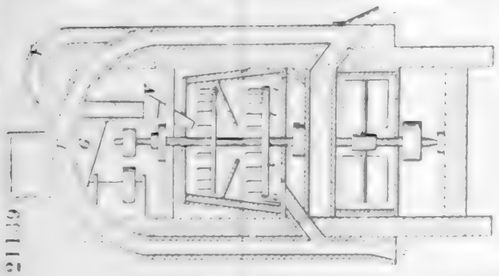
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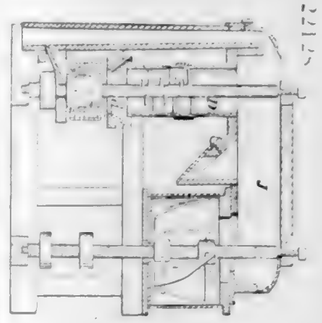
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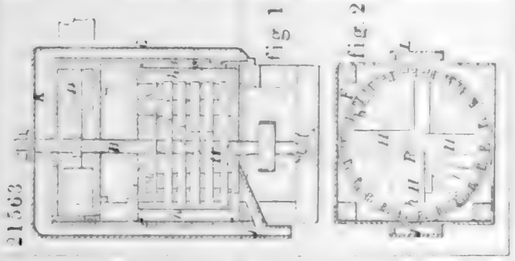
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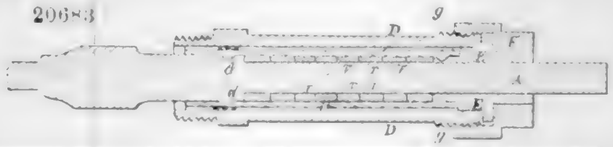
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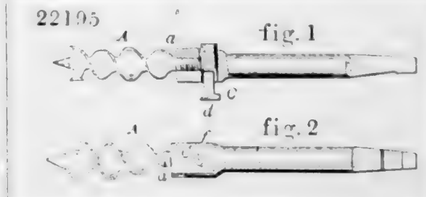
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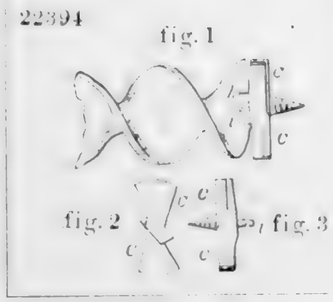
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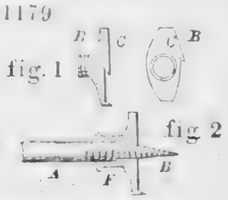
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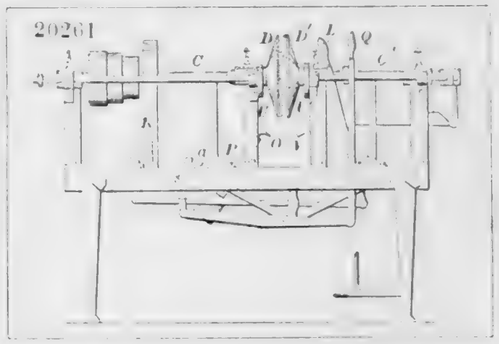
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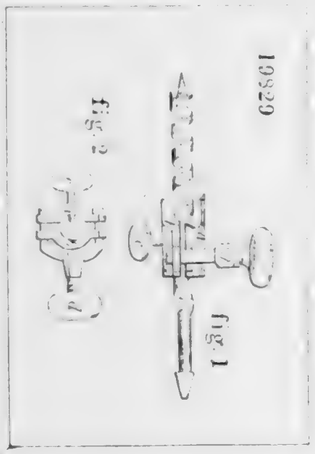
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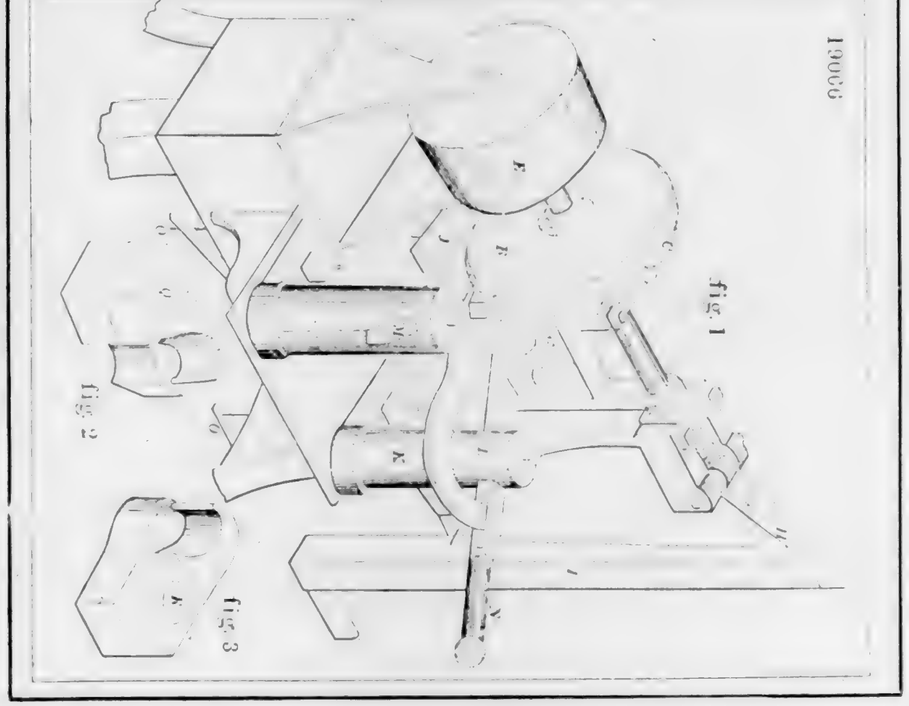
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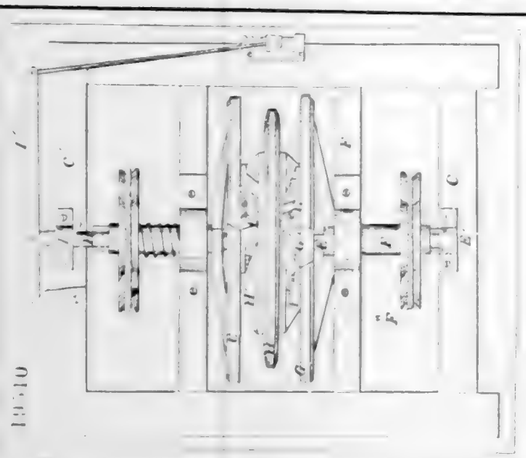
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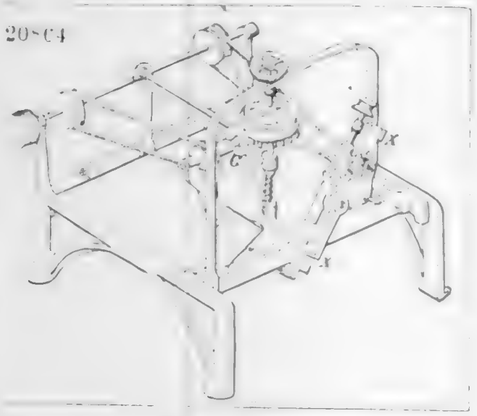
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19510



20864



20962 fig 1

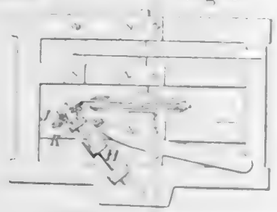


fig 2



fig. 2

21117

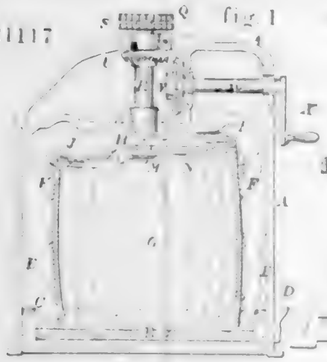


fig. 1

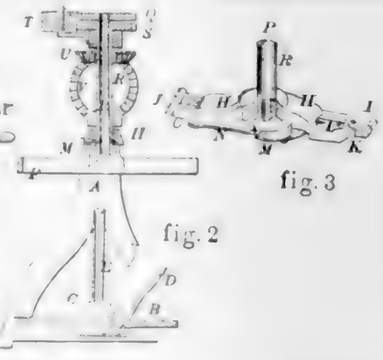


fig. 3

fig. 2

19509

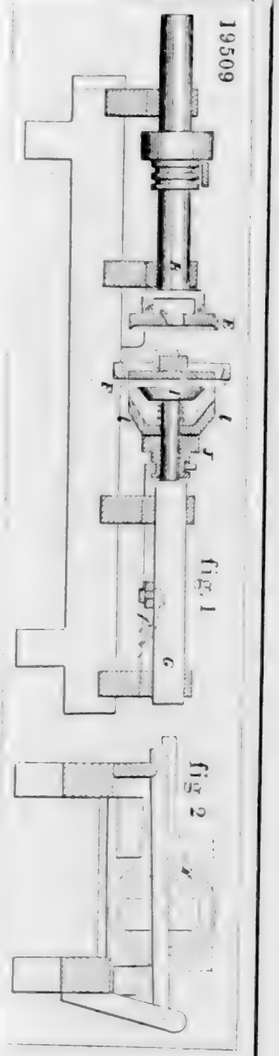


fig. 1

fig. 2

19595

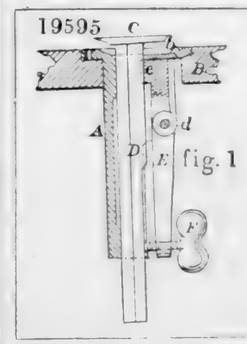
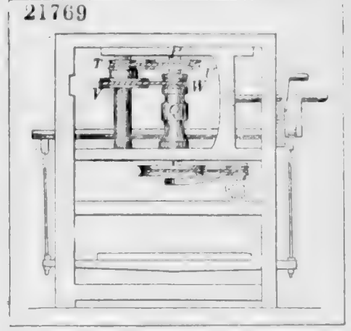


fig. 1

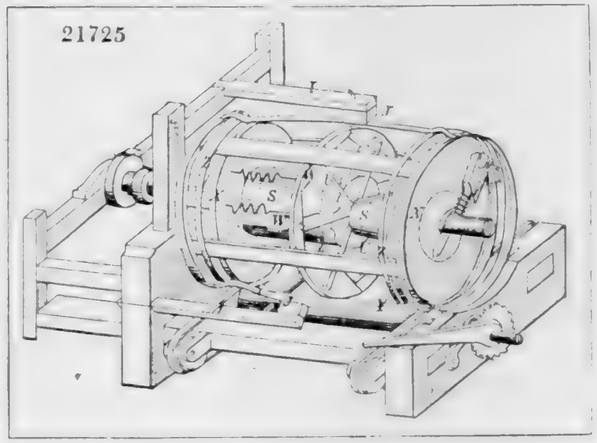


fig 2

21769



21725



21719 fig. 1

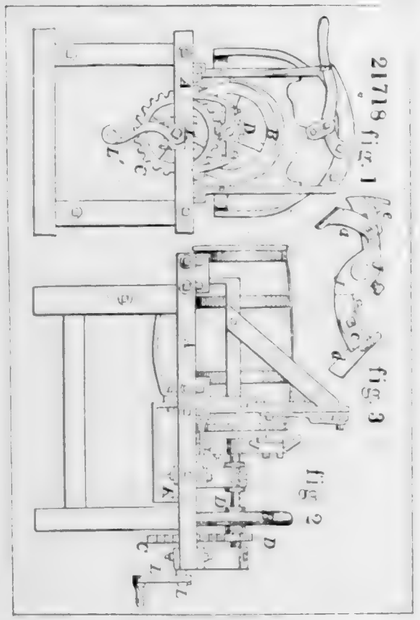


fig. 3

fig. 2

19510

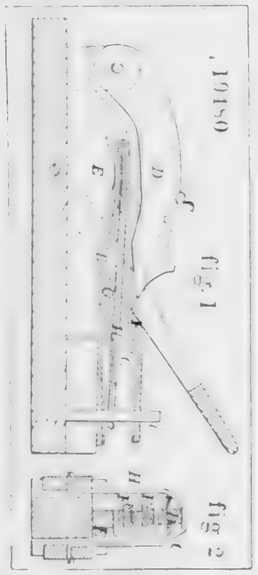


fig. 1

fig. 2

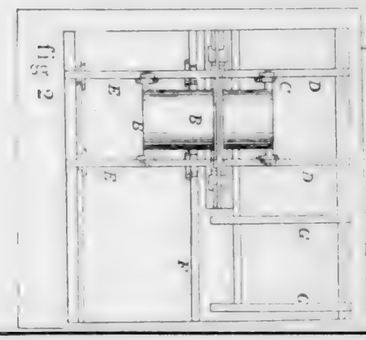


fig. 2

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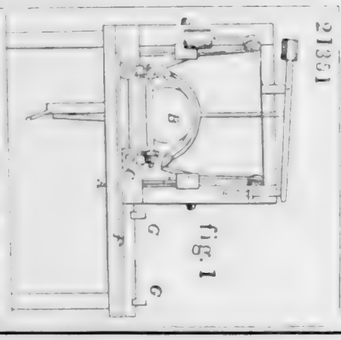


fig. 1

22474

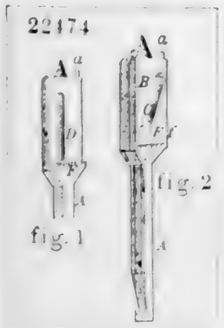


fig. 1 fig. 2

19028

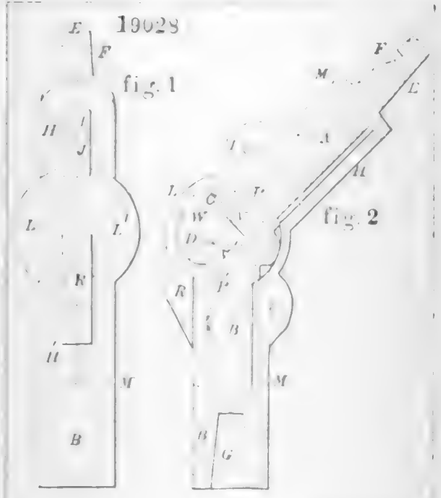


fig. 1 fig. 2

20010

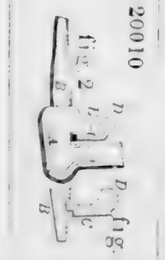


fig. 1 fig. 2

20192

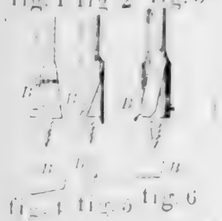


fig. 1 fig. 2 fig. 3 fig. 4 fig. 5 fig. 6

21597

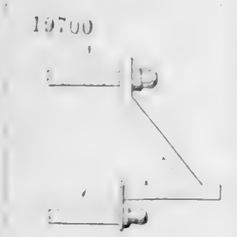


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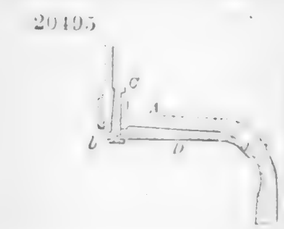


fig. 1 fig. 2

19700



20495



22379

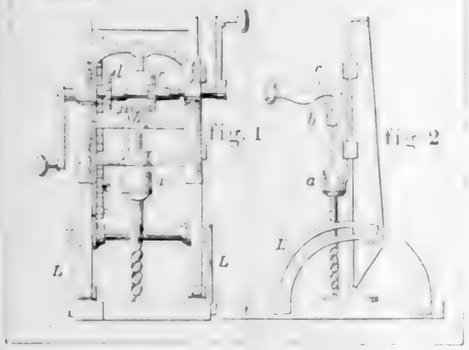


fig. 1 fig. 2

20179



22101

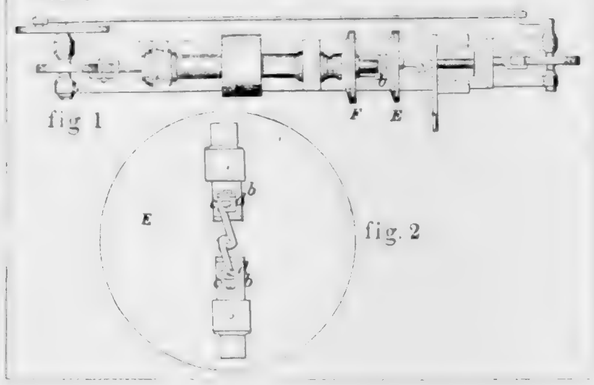


fig. 1 fig. 2

19992

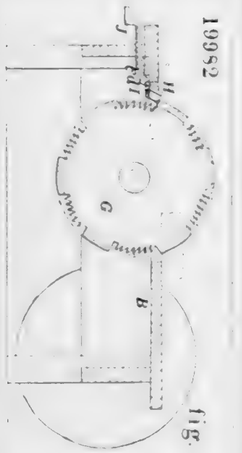
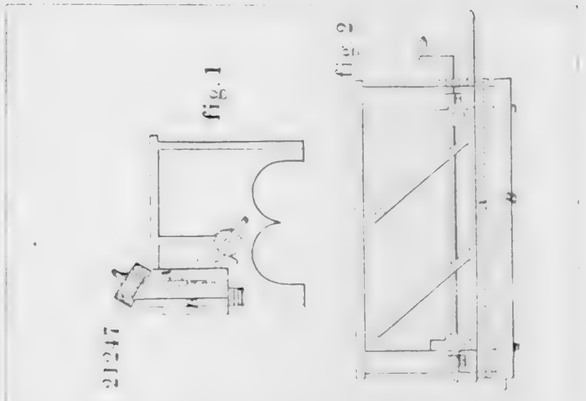


fig. 1



fig. 2

21747



19035

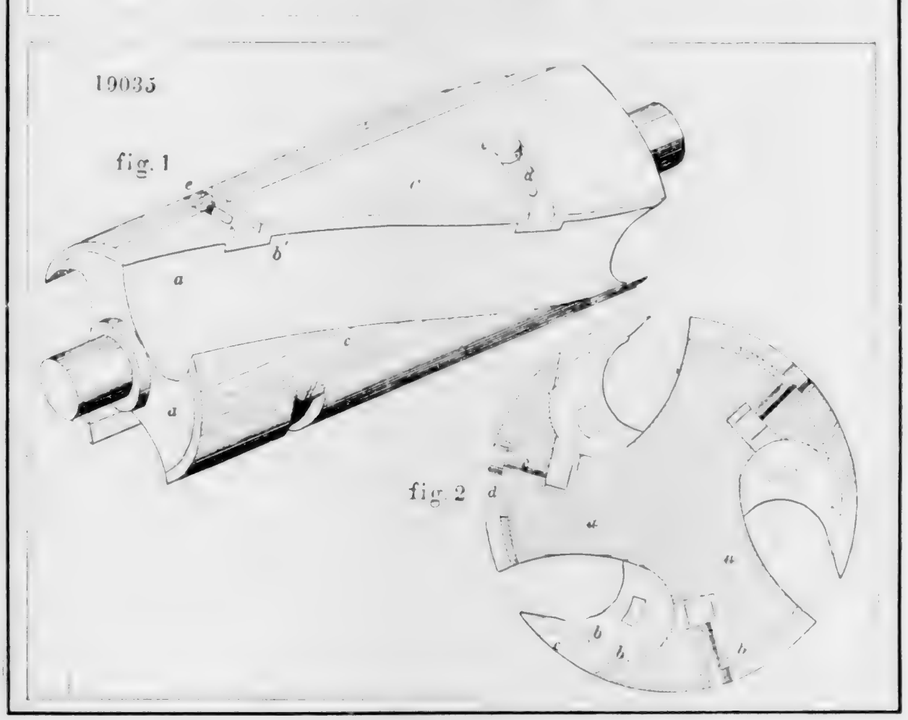


fig. 1 fig. 2

20918

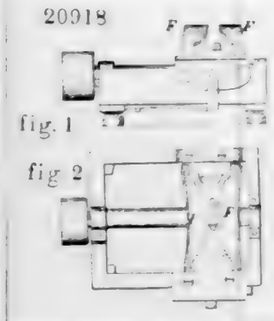
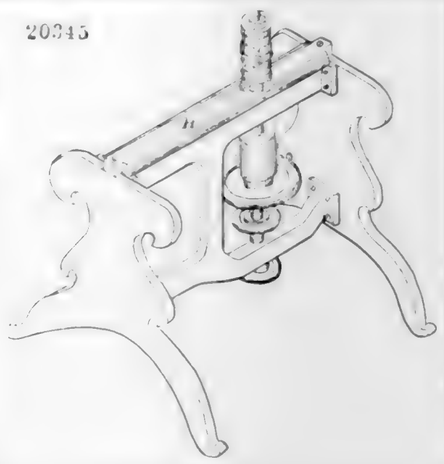


fig. 1

fig 2

20345



19406



fig. 1

fig. 2

21503

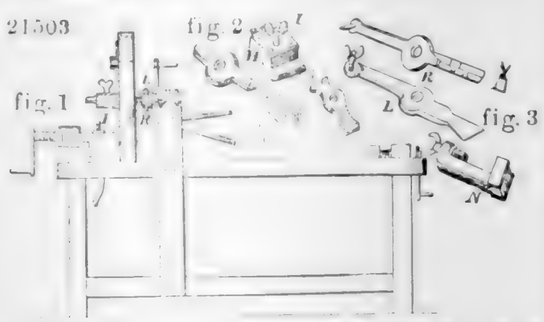


fig. 1

fig. 2

fig. 3

21507

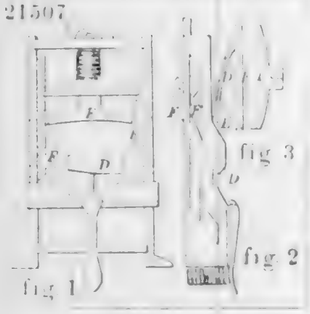


fig 3

fig 2

fig 1

22369



fig. 1

fig 2

21508

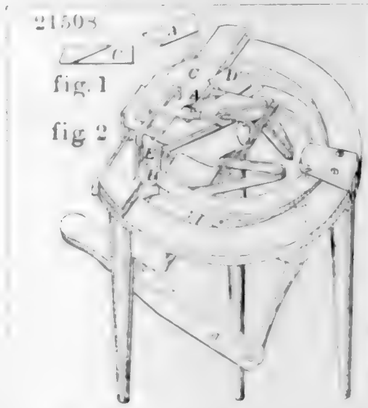


fig. 1

fig 2

20913

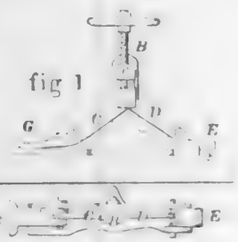


fig 1

fig 2

21579

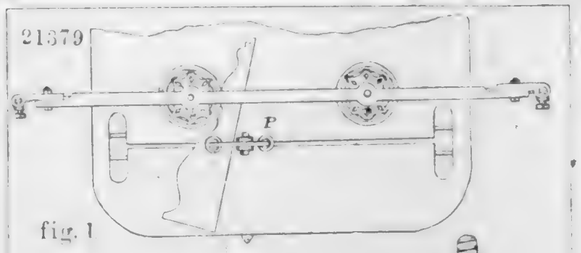


fig. 1

fig. 2

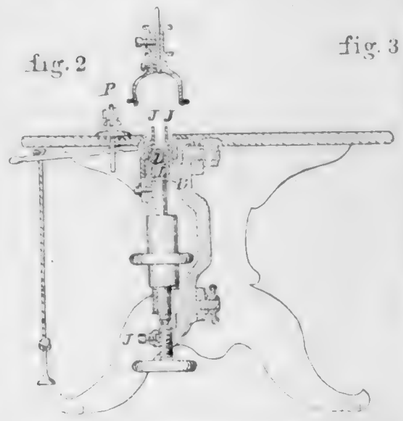
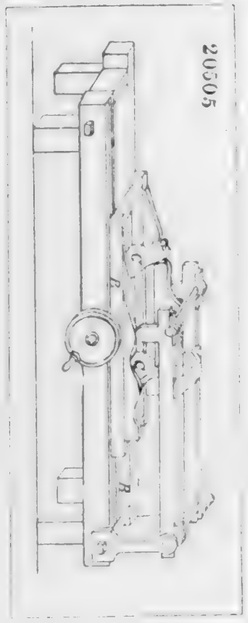


fig. 3



20505



22302



fig. 1

fig. 2

21861

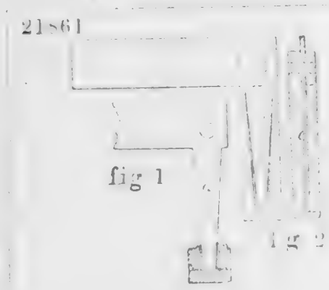
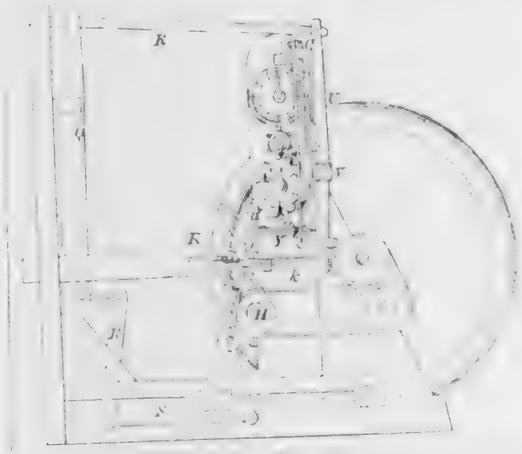
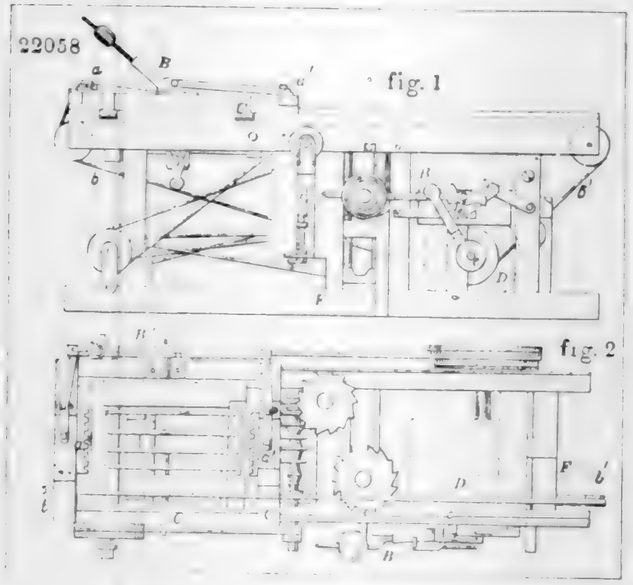


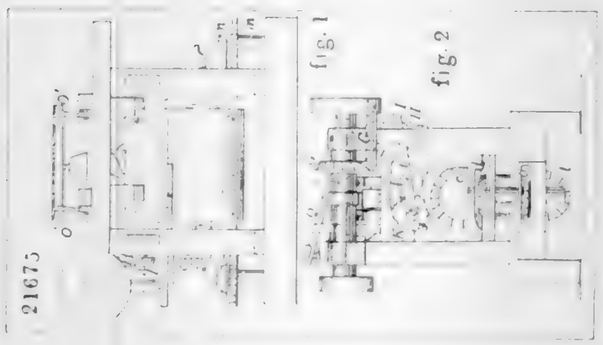
fig. 1

22419

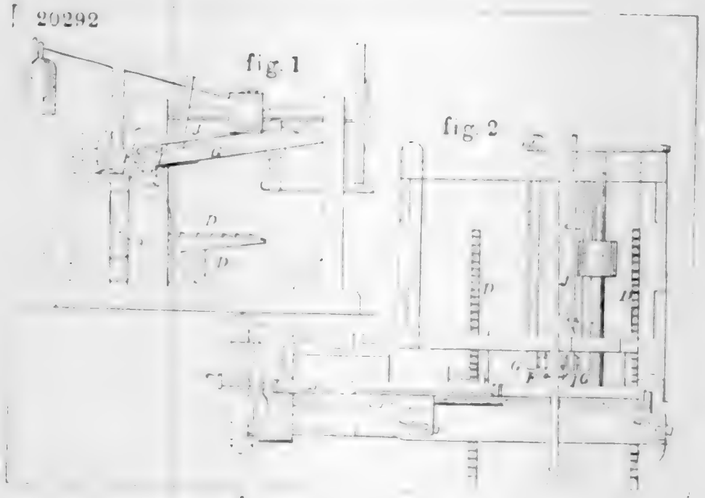


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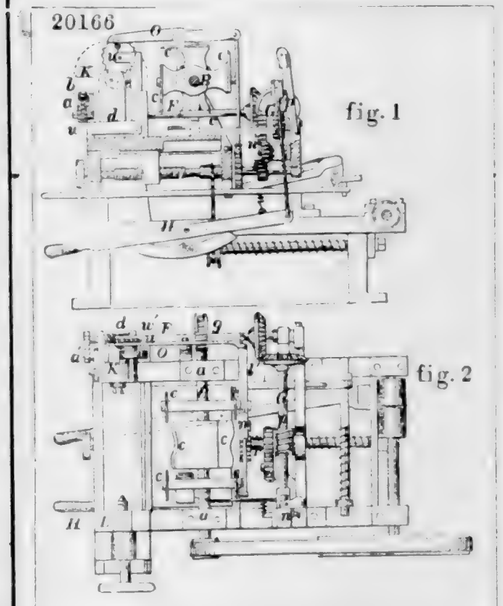




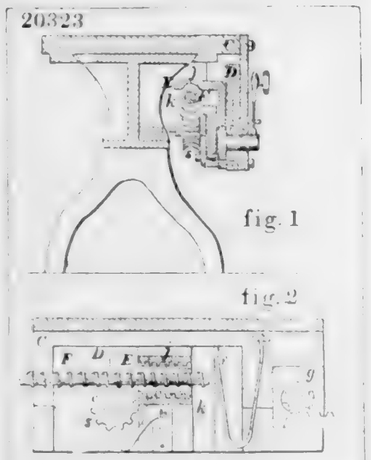
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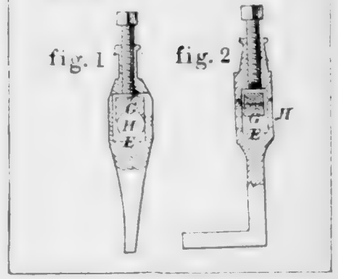
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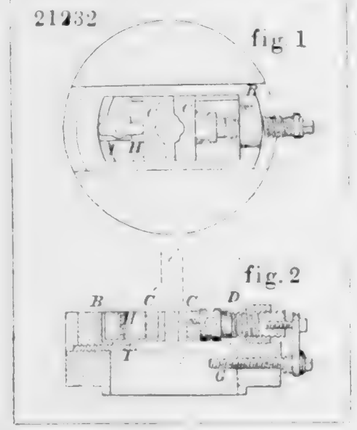
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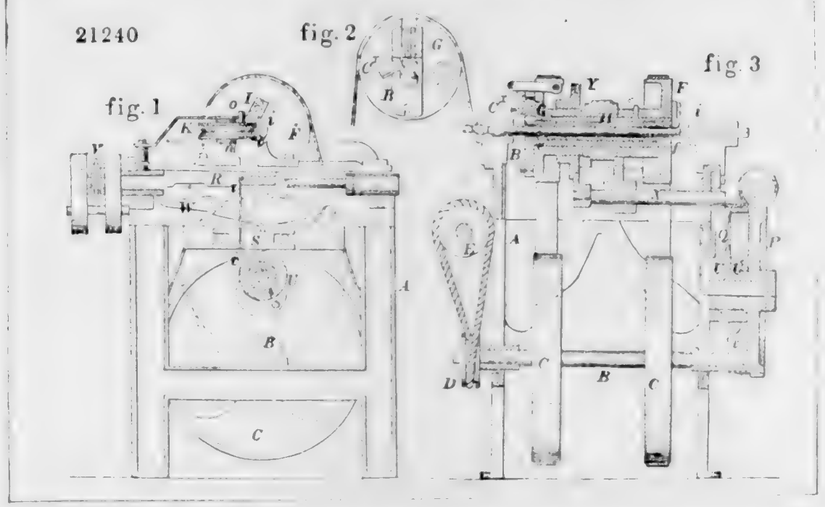
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21232



21240



22447

fig. 1

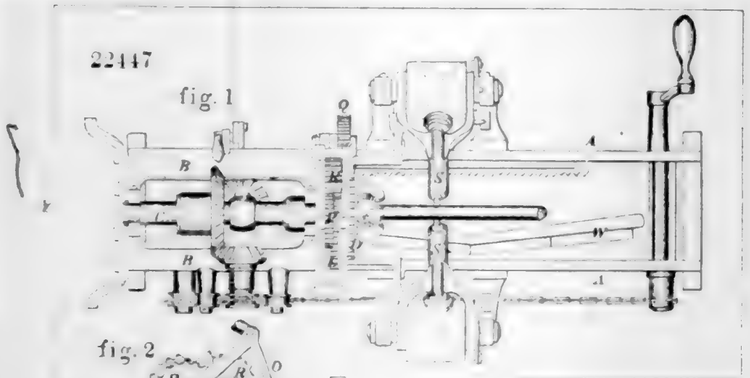


fig. 2



20705

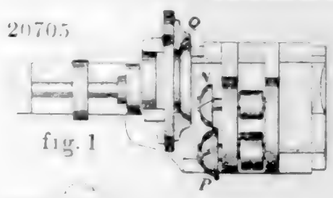


fig. 1



fig. 2

19056

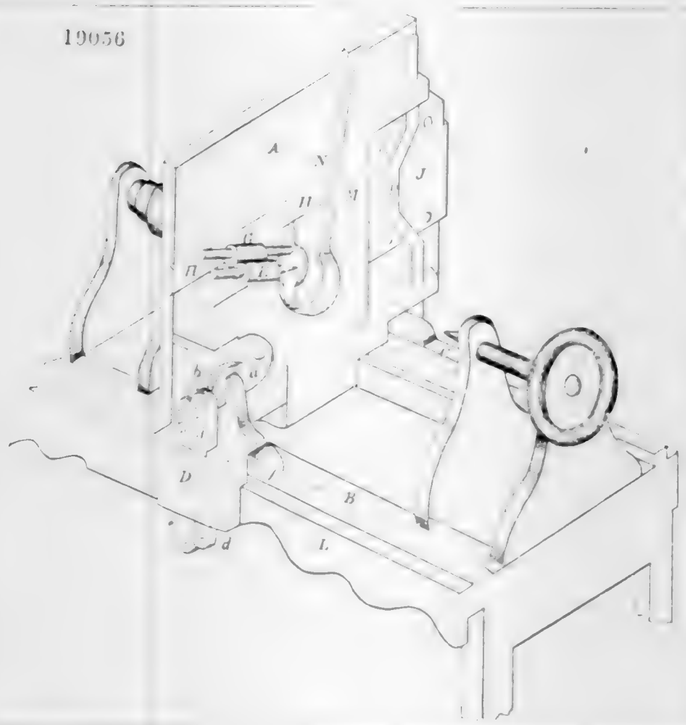


fig. 2

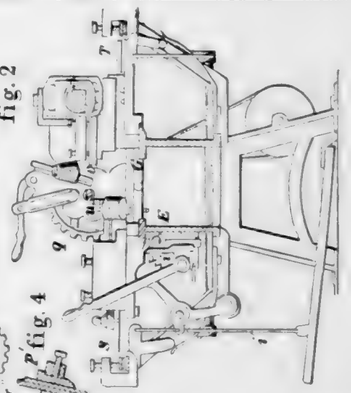
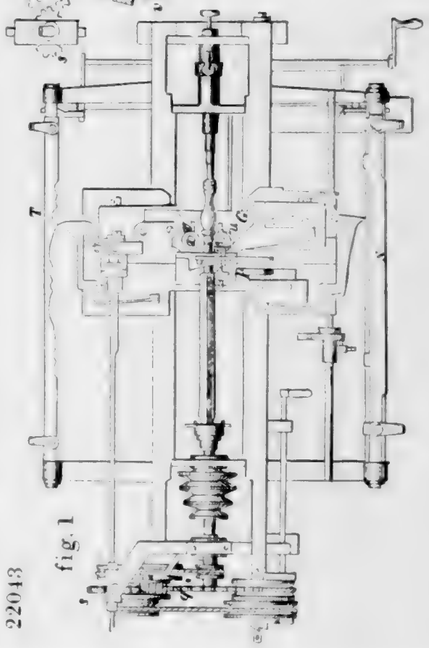


fig. 3



fig. 4





22043

fig. 1

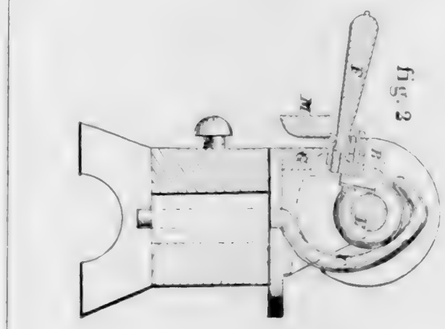
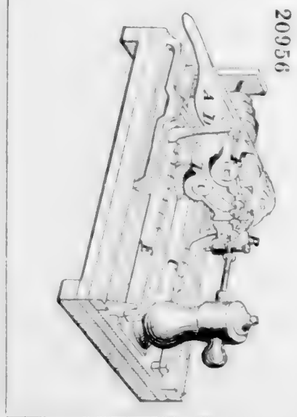


fig. 2

20956



19395

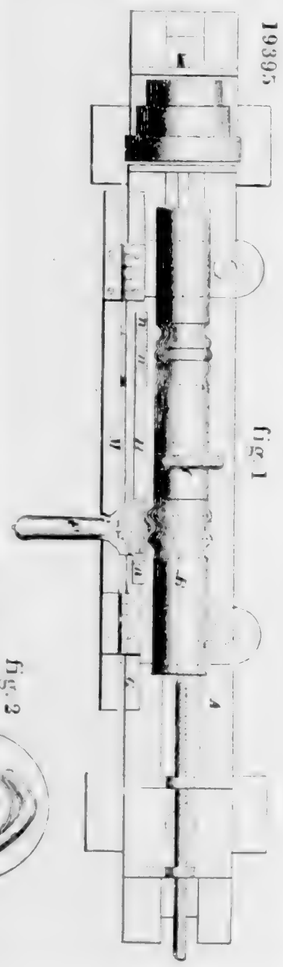


fig. 1

32

19051

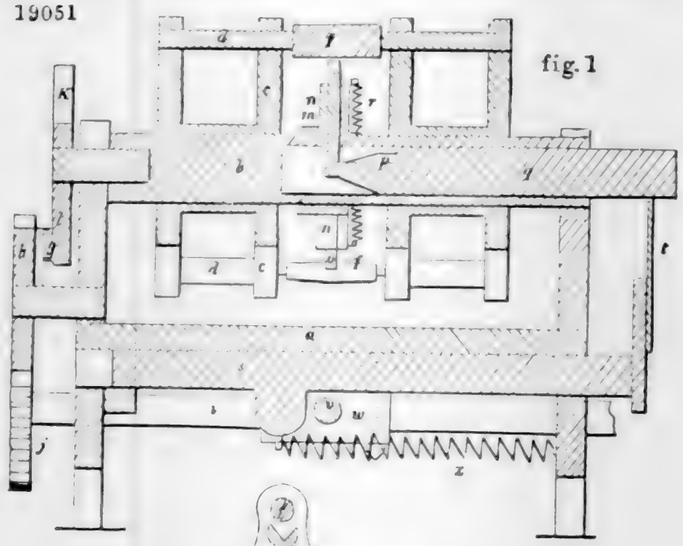


fig. 1

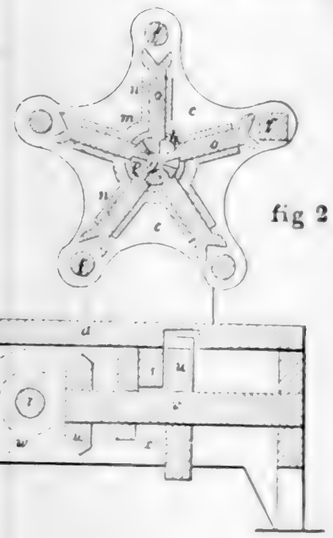
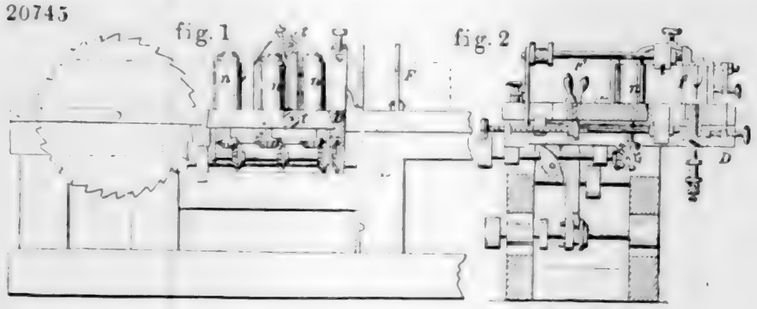


fig 2

20745



22386

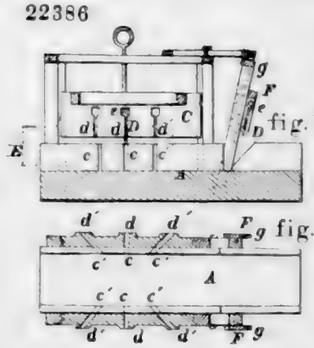


fig. 1

fig. 2

21194

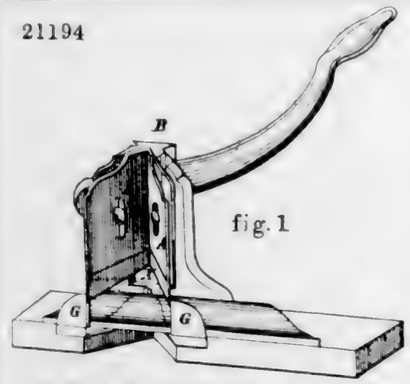
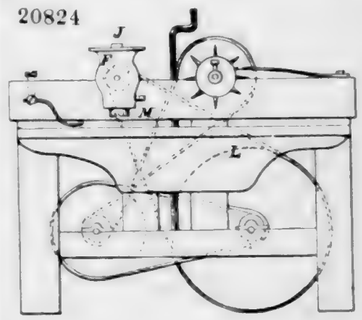


fig. 1

fig. 2

20824



21783

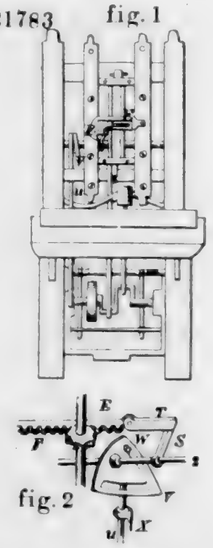


fig. 1

fig. 2

19492

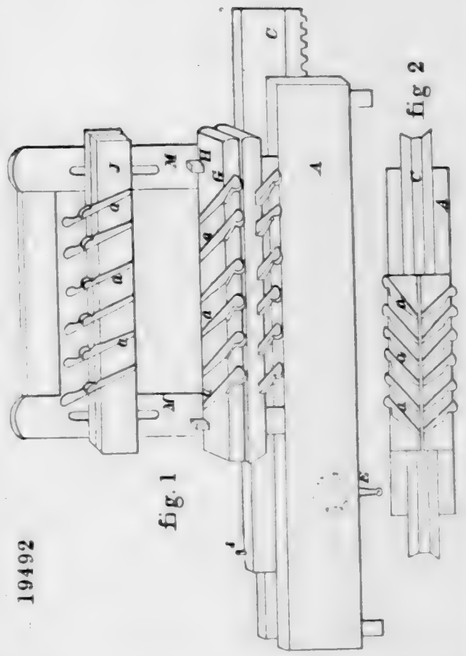
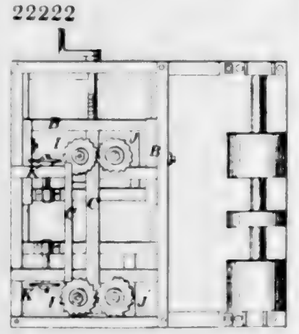


fig. 1

fig. 2

22222



20493

fig. 1

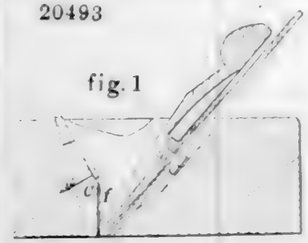
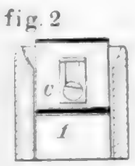


fig. 2



19539

fig. 1

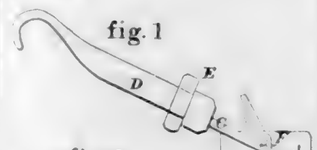
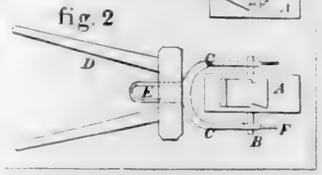


fig. 2



19130

fig 1

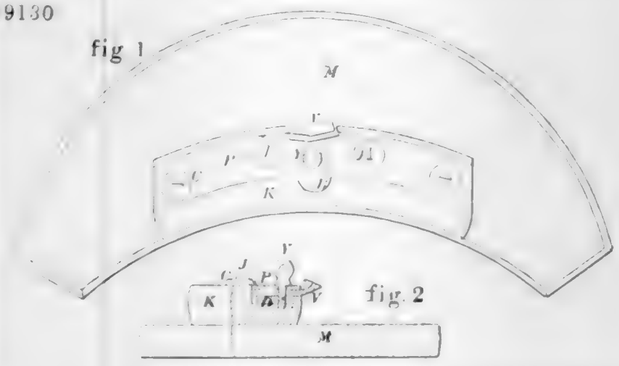


fig. 2

19359

fig. 1

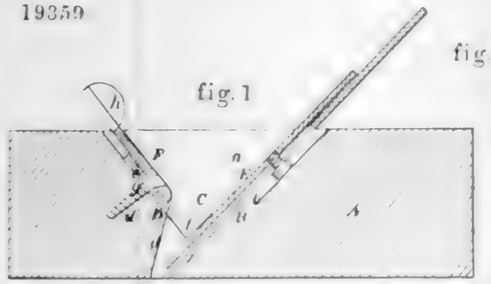
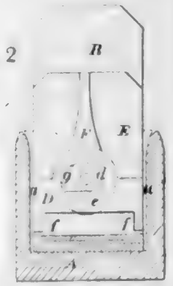


fig. 2



19620

fig. 1

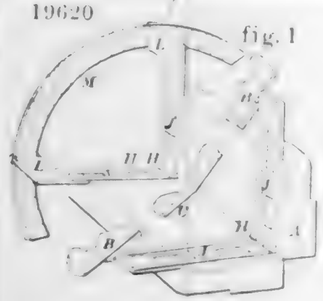
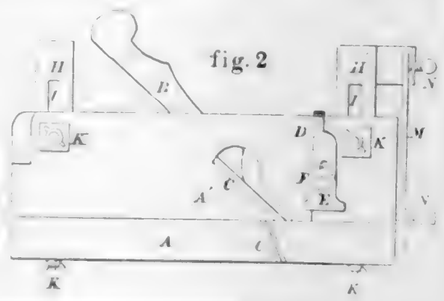


fig. 2



20615

fig. 1

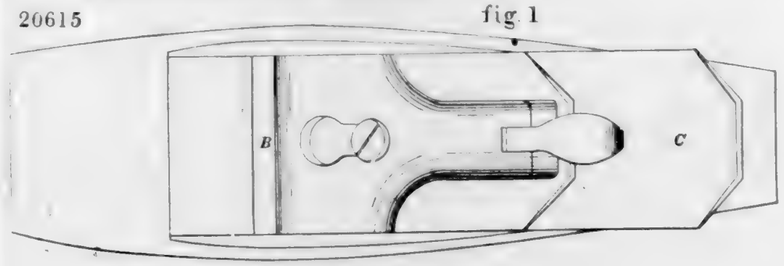


fig. 3

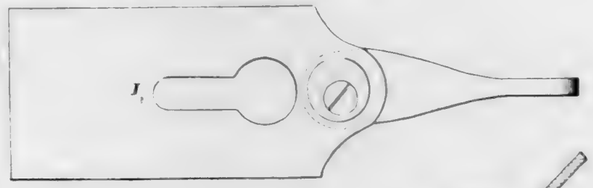
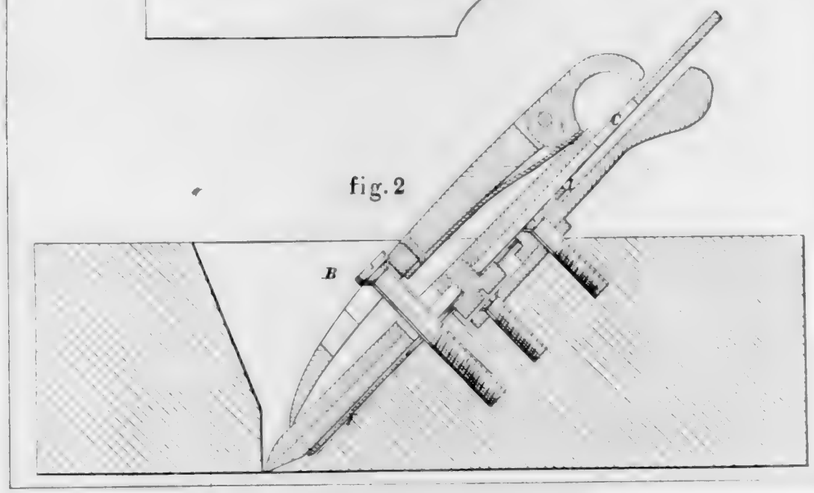
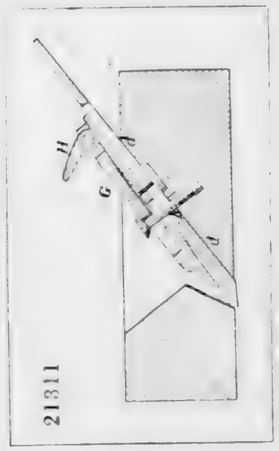


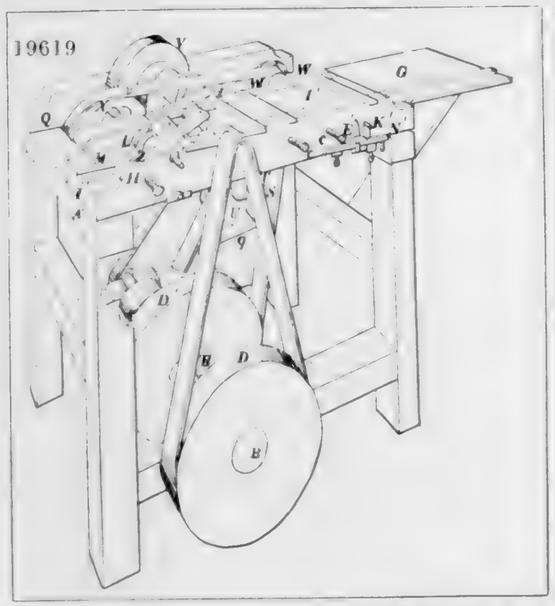
fig. 2



21311



19619



21782

fig. 1

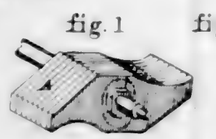
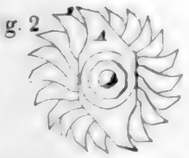


fig. 2



20527 fig. 1

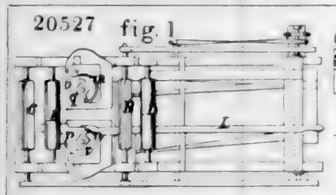
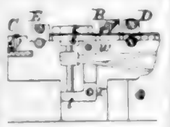


fig. 2



19702

fig. 1

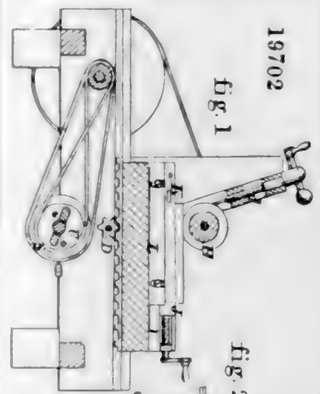
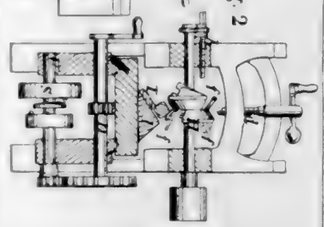


fig. 2



21618

fig. 1

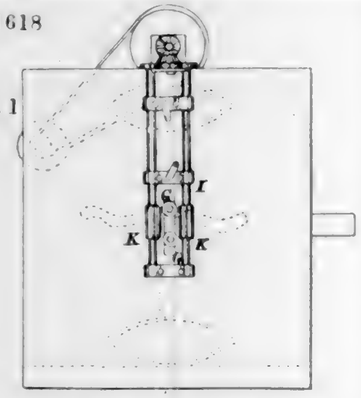
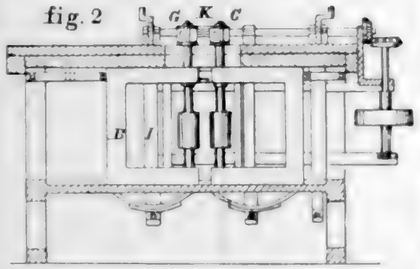


fig. 2



21720

fig. 1

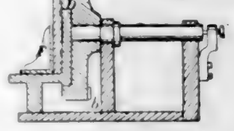
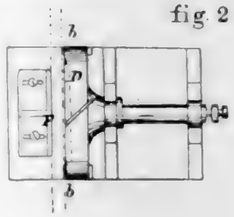


fig. 2



20762

fig. 1

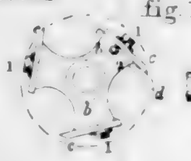
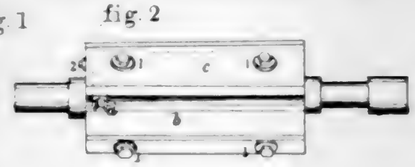


fig. 2



19110

fig. 2

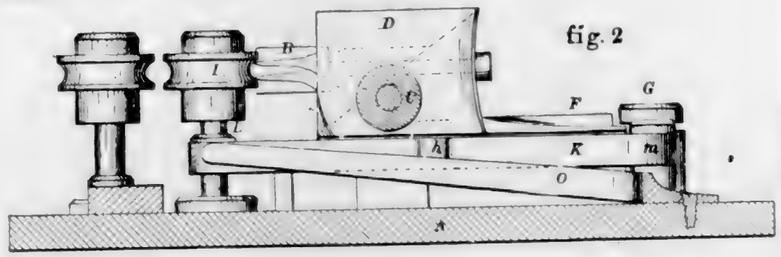
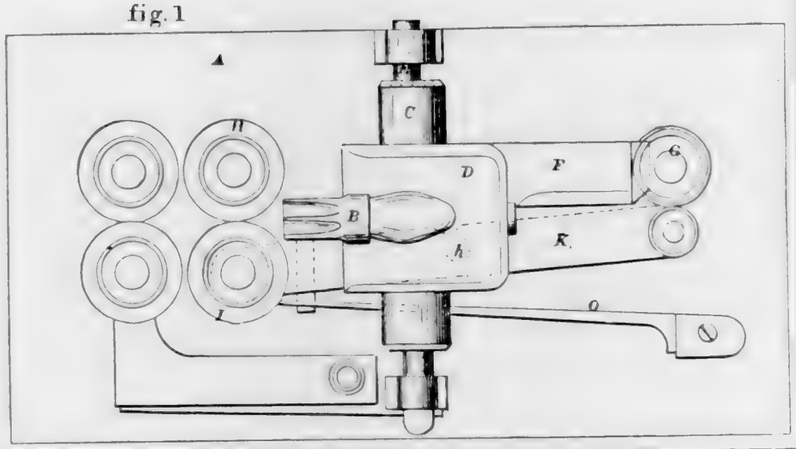


fig. 1



20999

fig 1



fig 2



19454

fig. 2

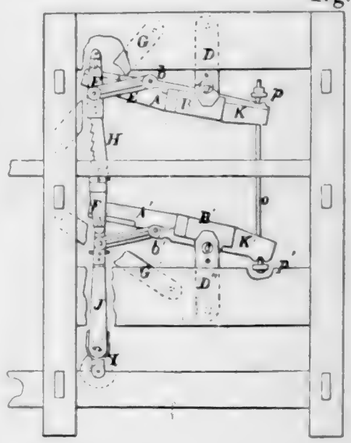
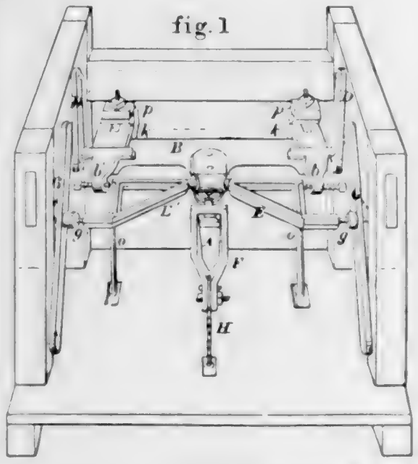


fig. 1



21588

fig. 1

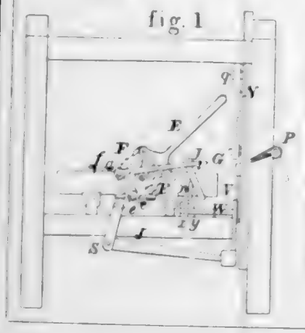
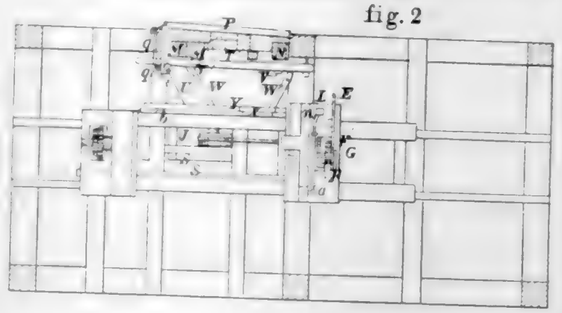


fig. 2



22268

fig 1

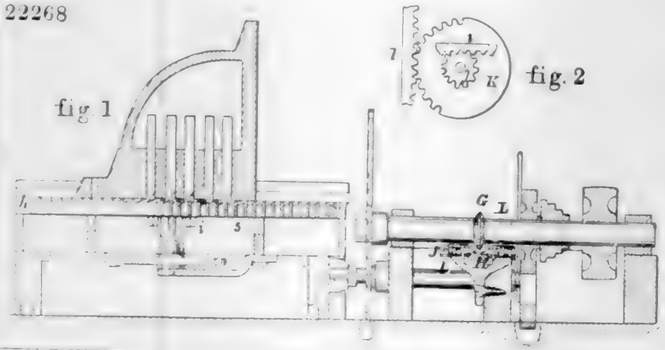


fig. 2

20660

fig. 1

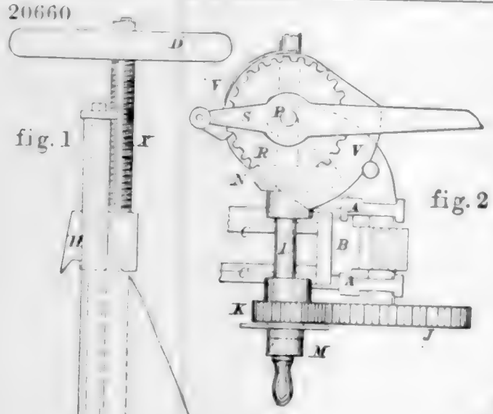
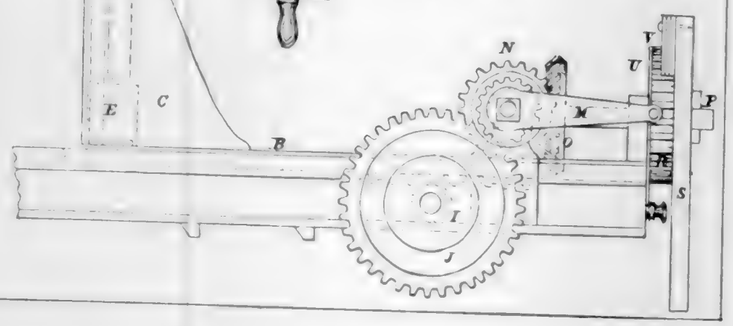


fig. 2



20910

fig 1

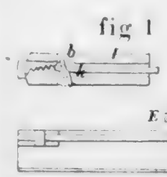


fig. 2

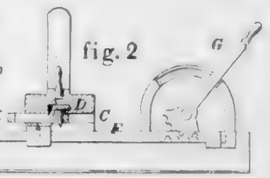
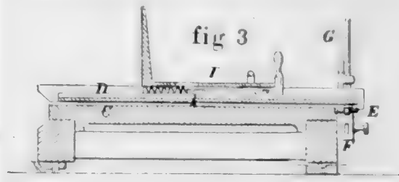
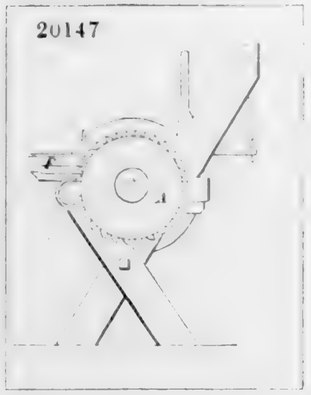


fig 3



20147



19099

fig. 1

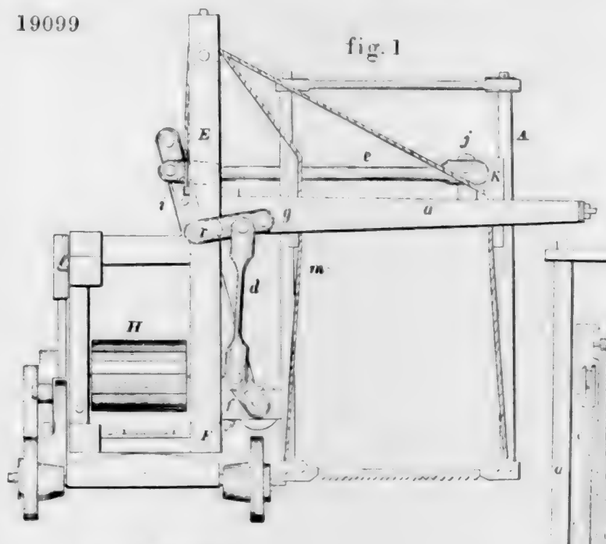
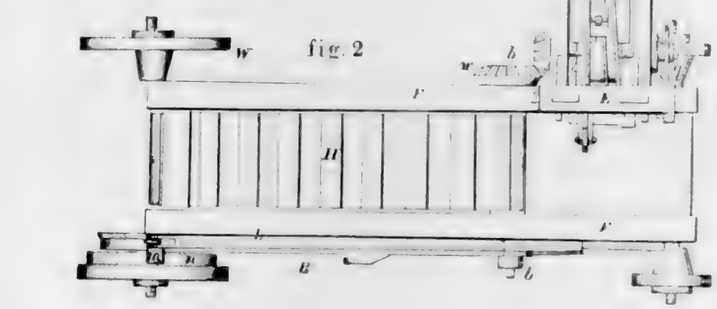


fig. 2



19536

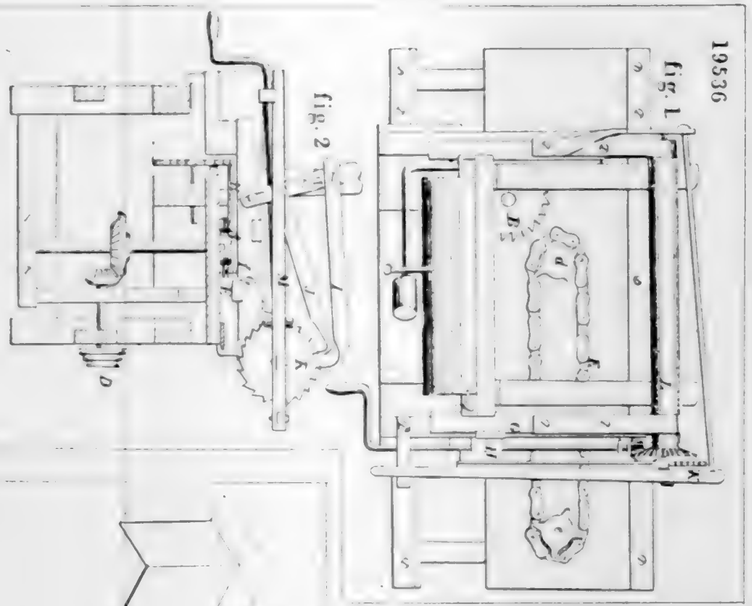


fig. 1

fig. 2

19128

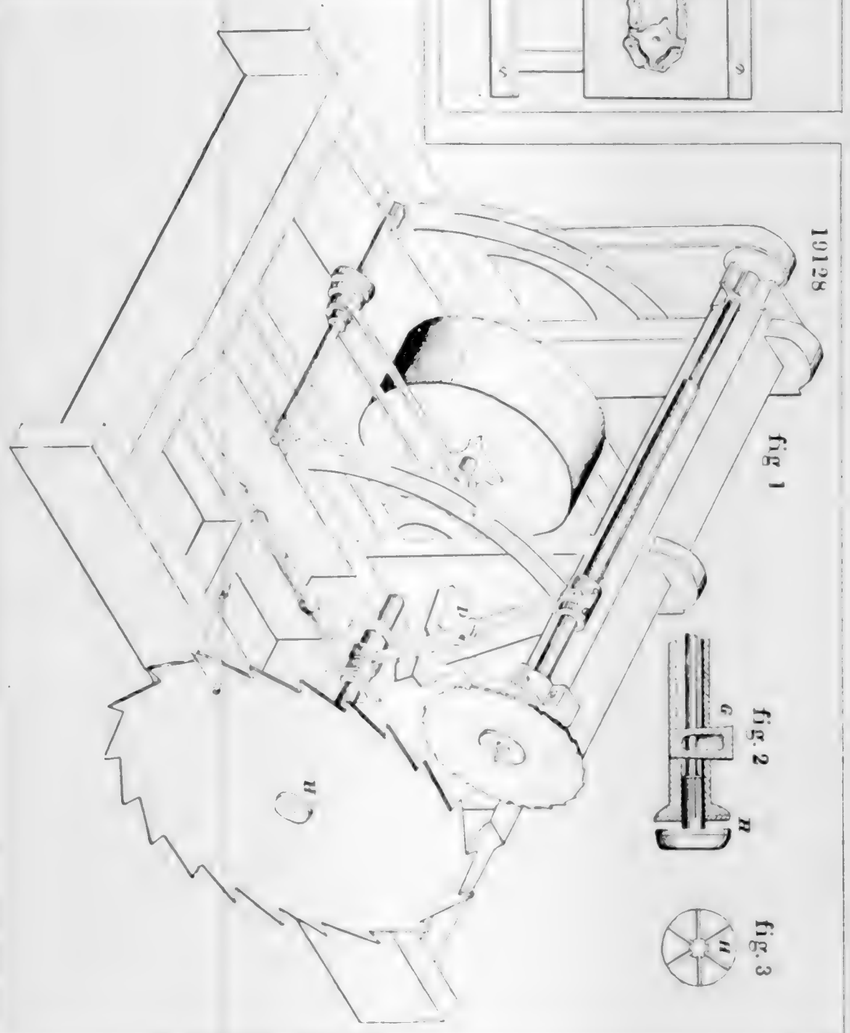


fig. 1

fig. 2

fig. 3

19145

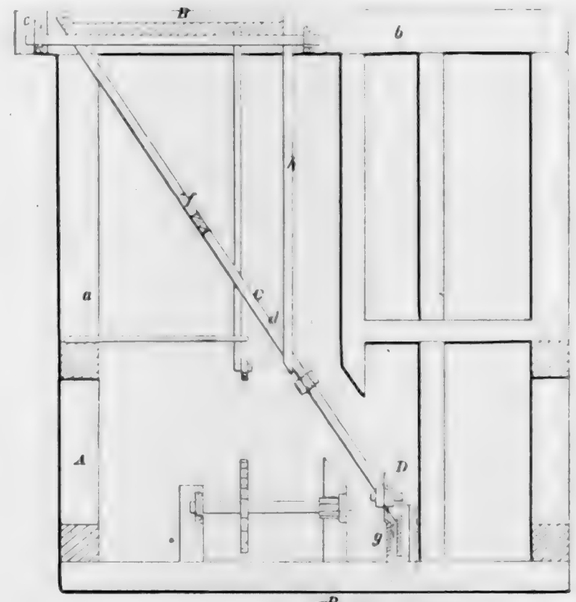


fig. 1

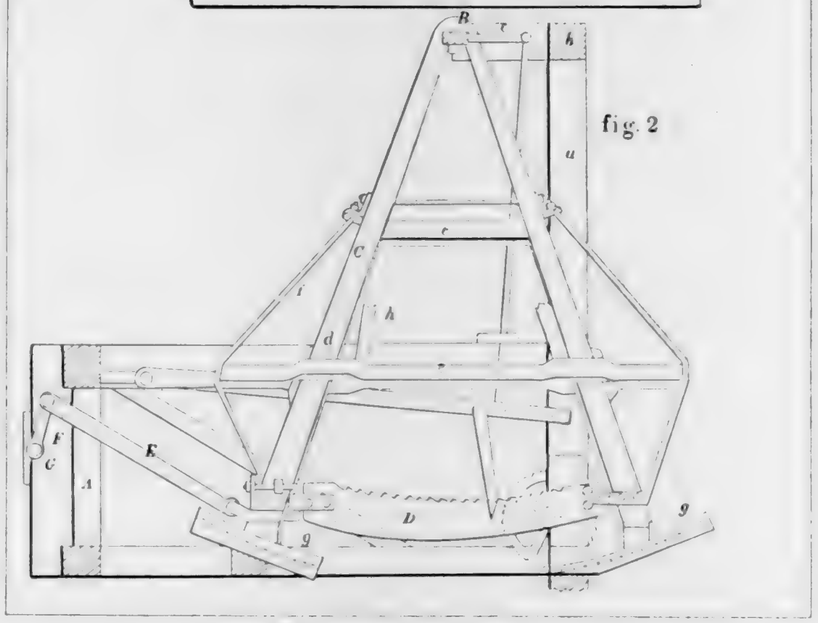
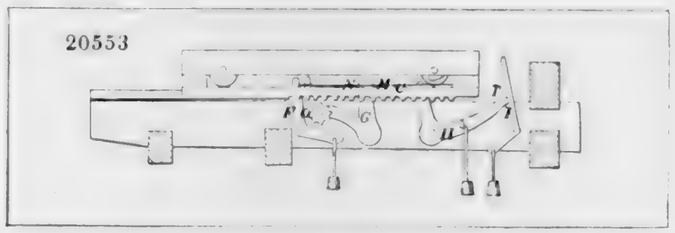


fig. 2

20553



19644

fig. 1

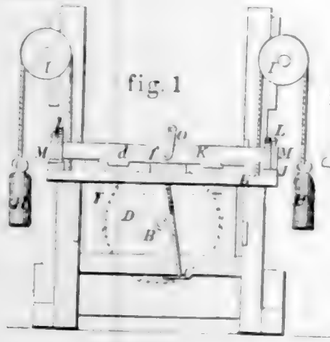
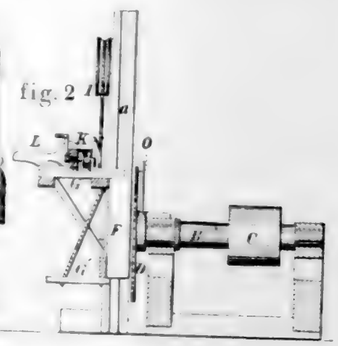


fig. 2



20184

fig. 1

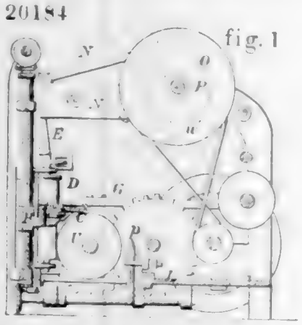
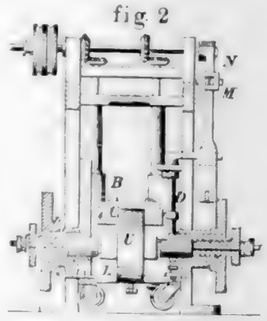


fig 2



19906

fig. 1

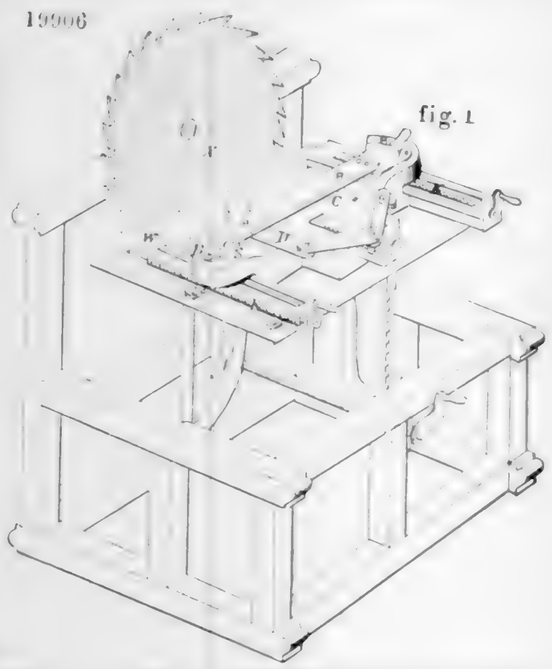
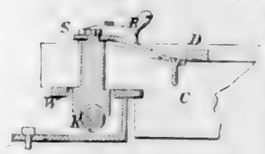


fig 2



19870

fig. 1

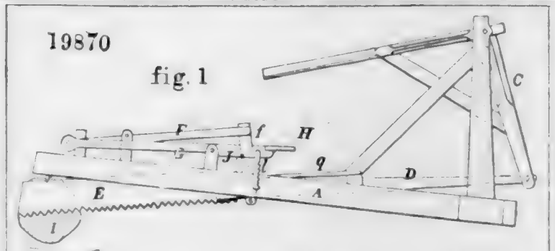
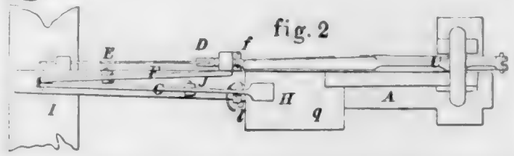


fig. 2



20995

fig. 1

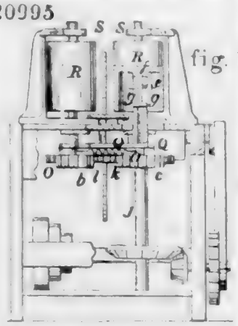
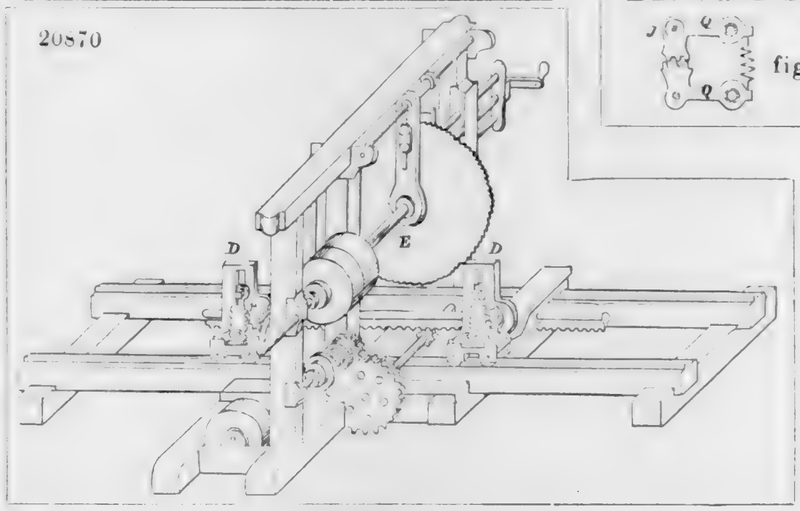


fig. 2

20870



19901

fig. 1

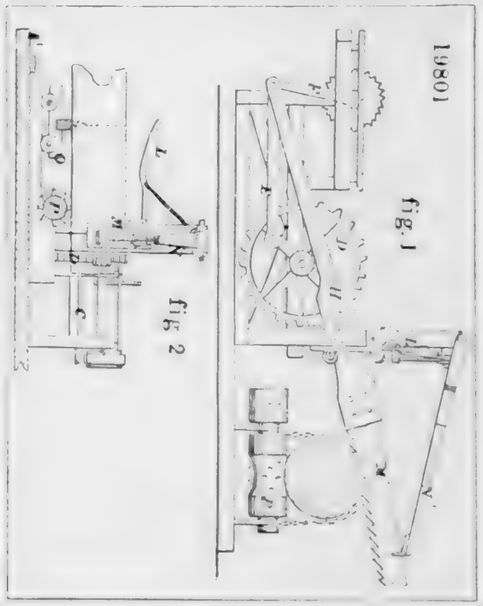
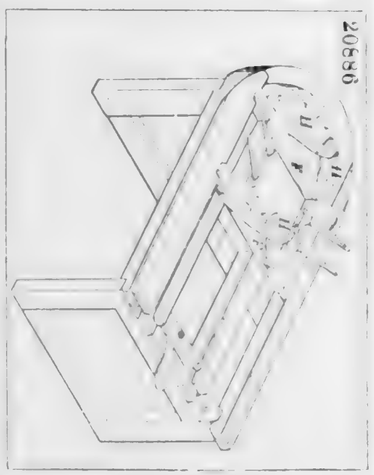


fig 2

20886



21177

fig. 1

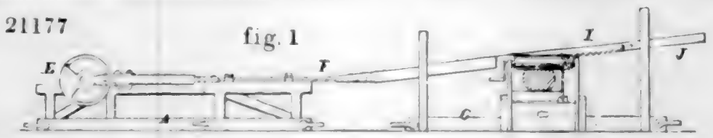
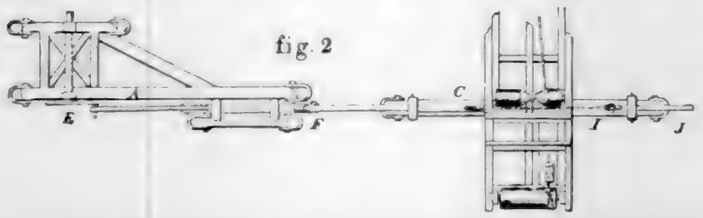


fig. 2



21482

fig 1

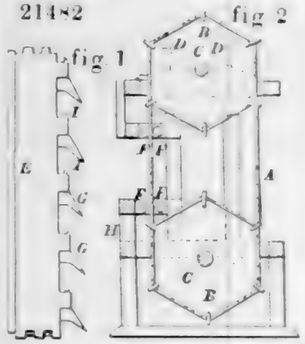
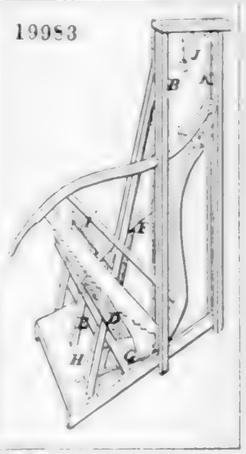


fig 2

19983



21250



21200

fig 1



fig 2



fig 3



fig 4

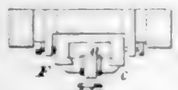


fig 5



20696

fig 1

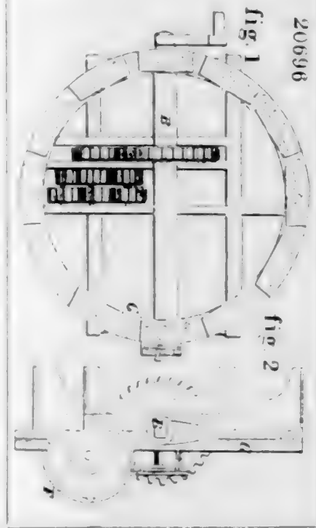


fig 2

19168

fig 1

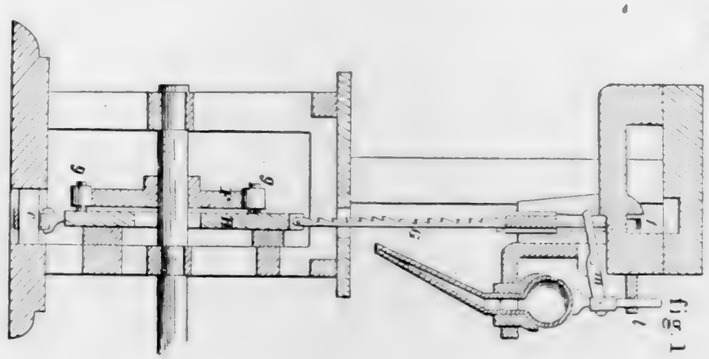
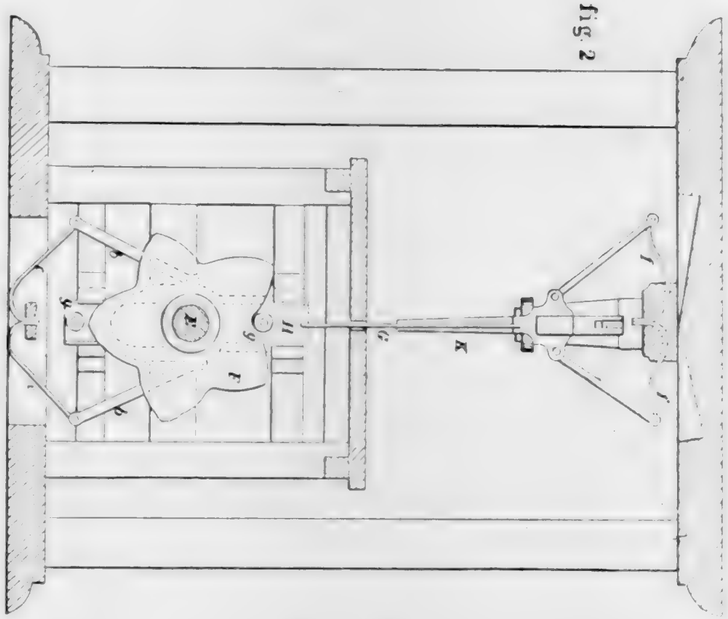


fig 2



20900

fig. 1

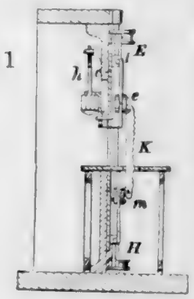
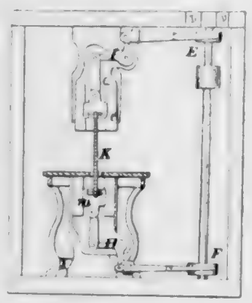


fig. 2



19166

fig. 1

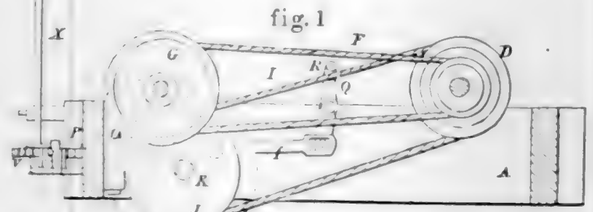
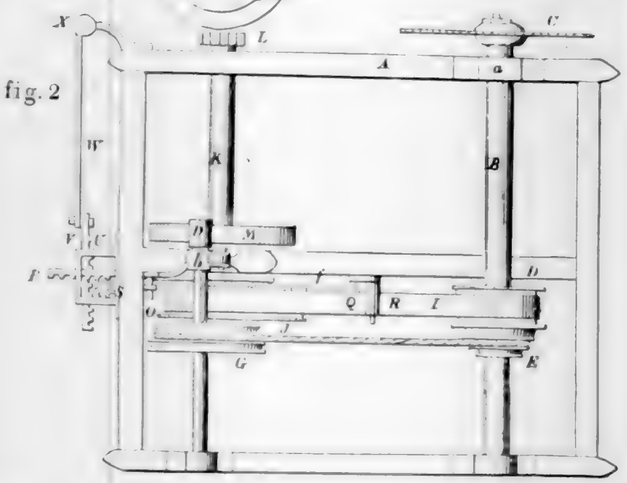
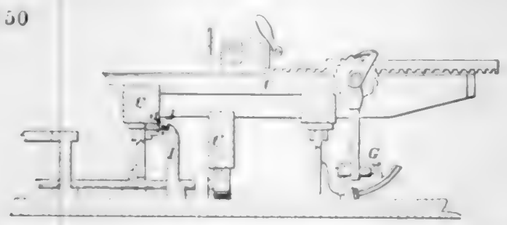


fig. 2



20150



21345

fig. 1

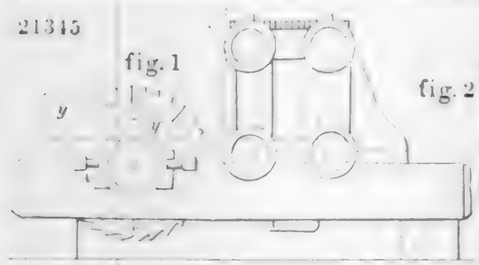
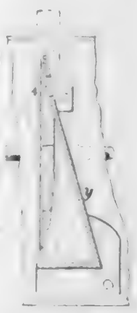


fig. 2



21838

fig. 1

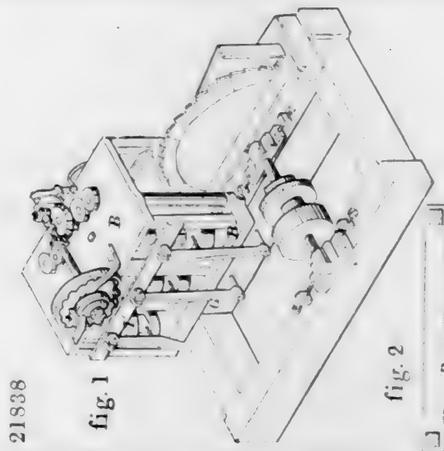
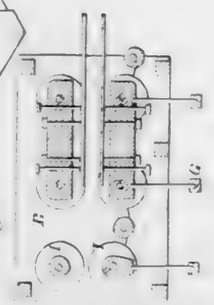


fig. 2



22107

fig. 1

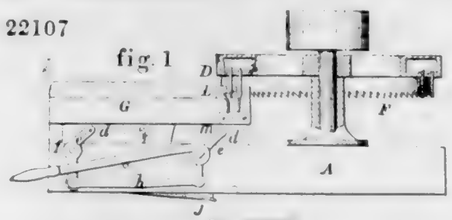
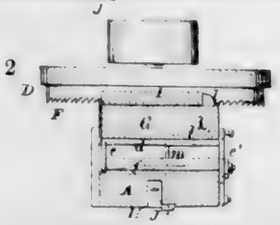


fig. 2



19774

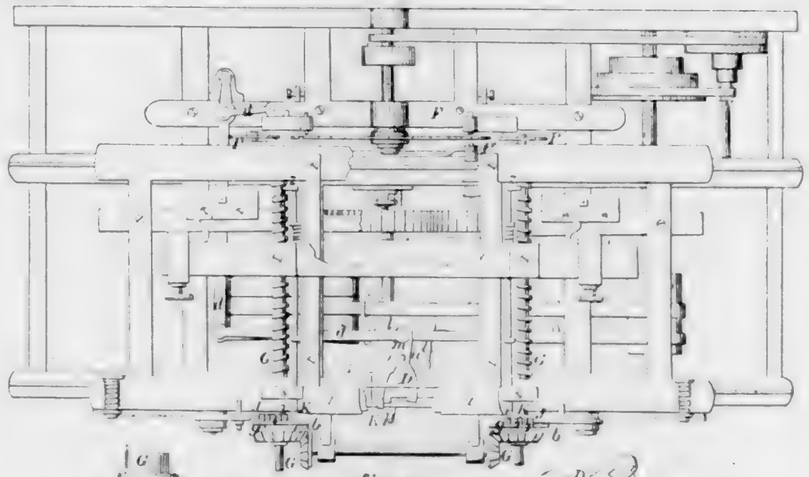


fig. 1

fig. 2

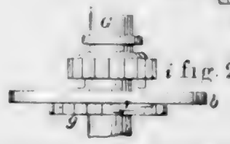
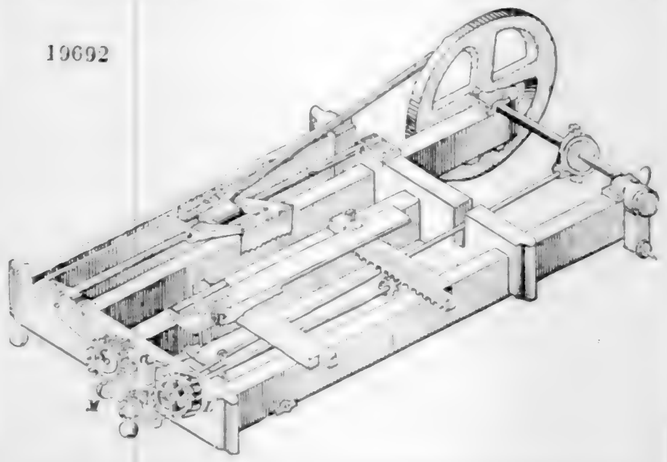


fig. 3



33

19692



20135

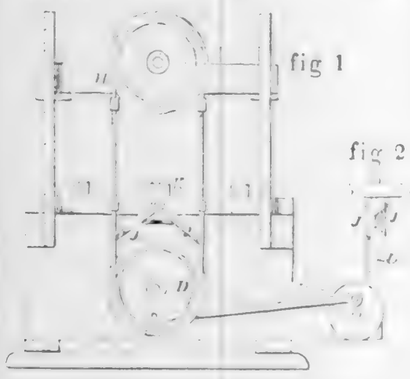


fig 1

fig 2

21651

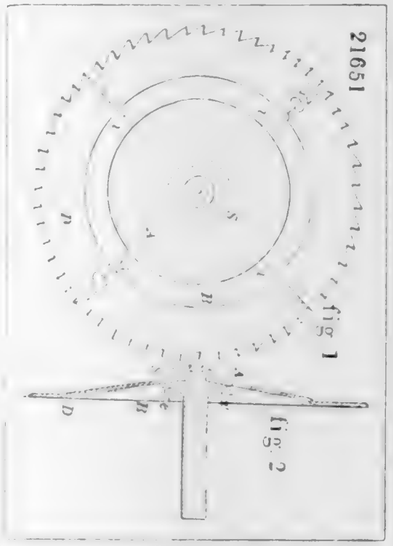


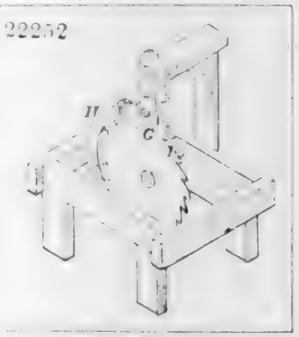
fig 1

fig 2

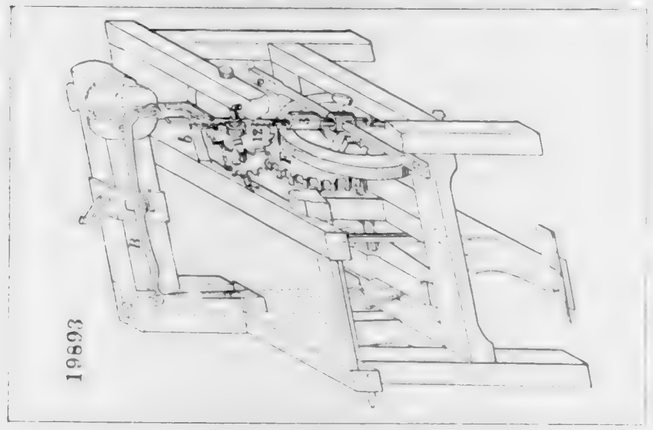
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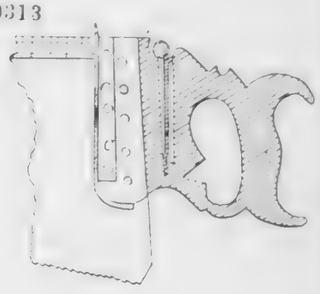
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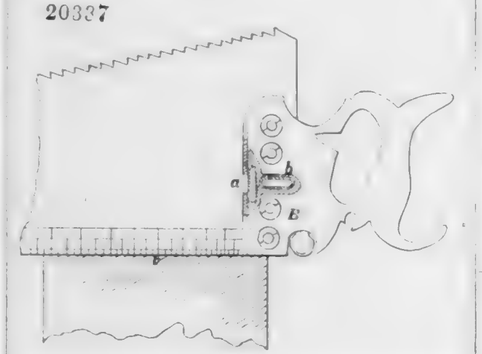
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20337



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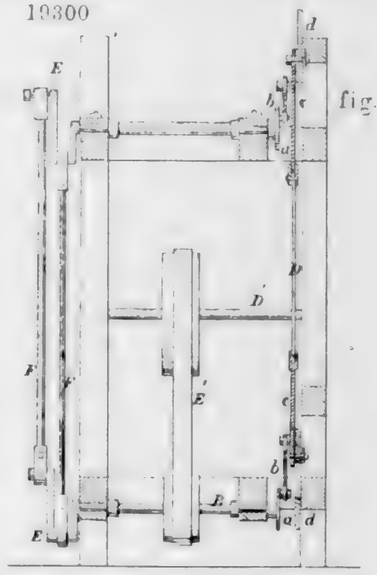
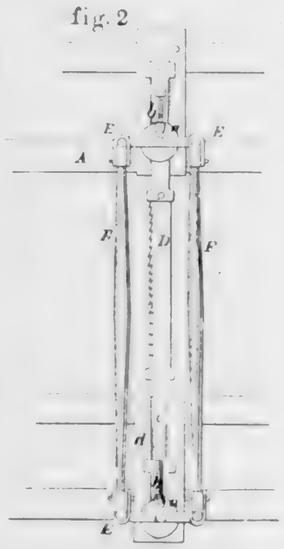


fig. 1

fig. 2



19694



19695

19696

19697

19698

19699



19700



19701

19702

19534

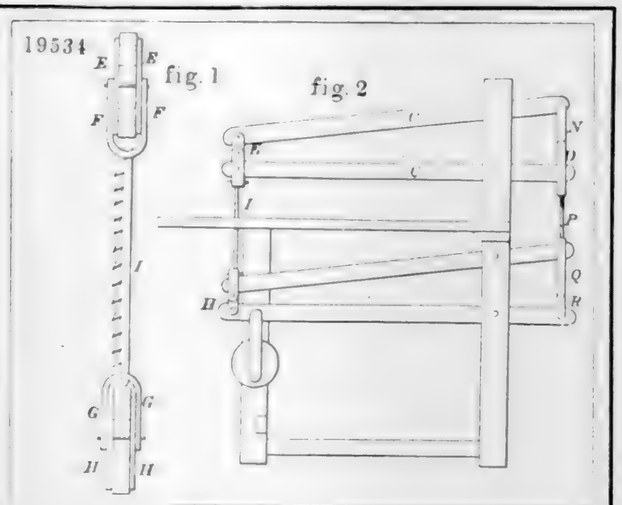


fig. 1

fig. 2

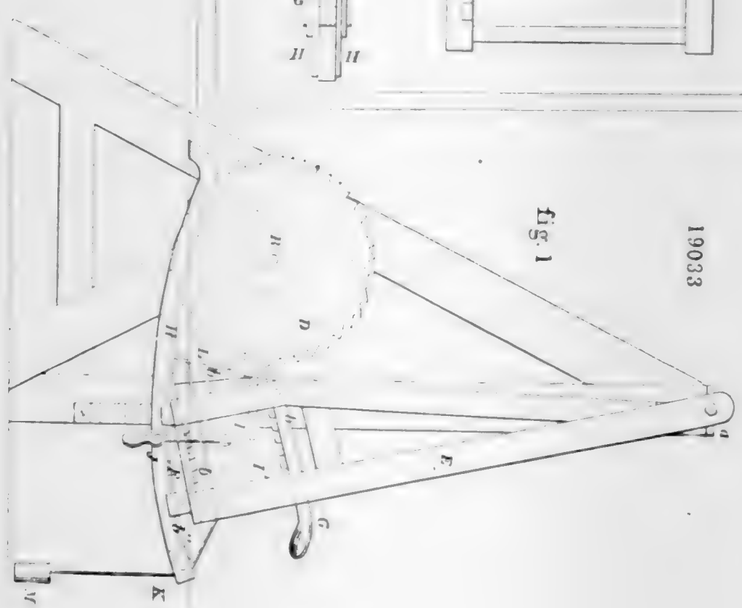


fig. 1

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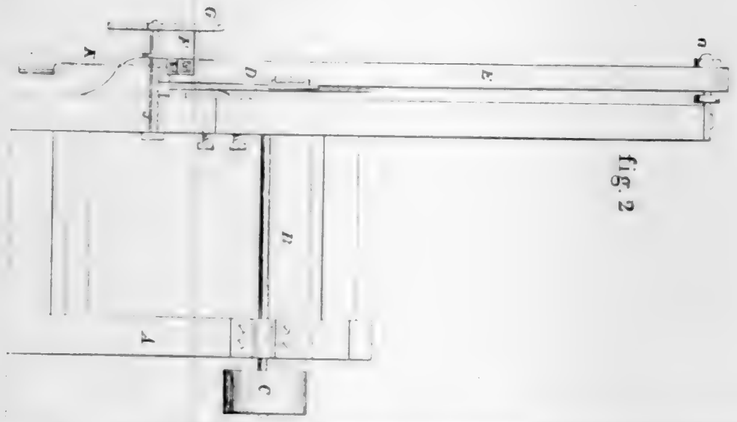


fig. 2

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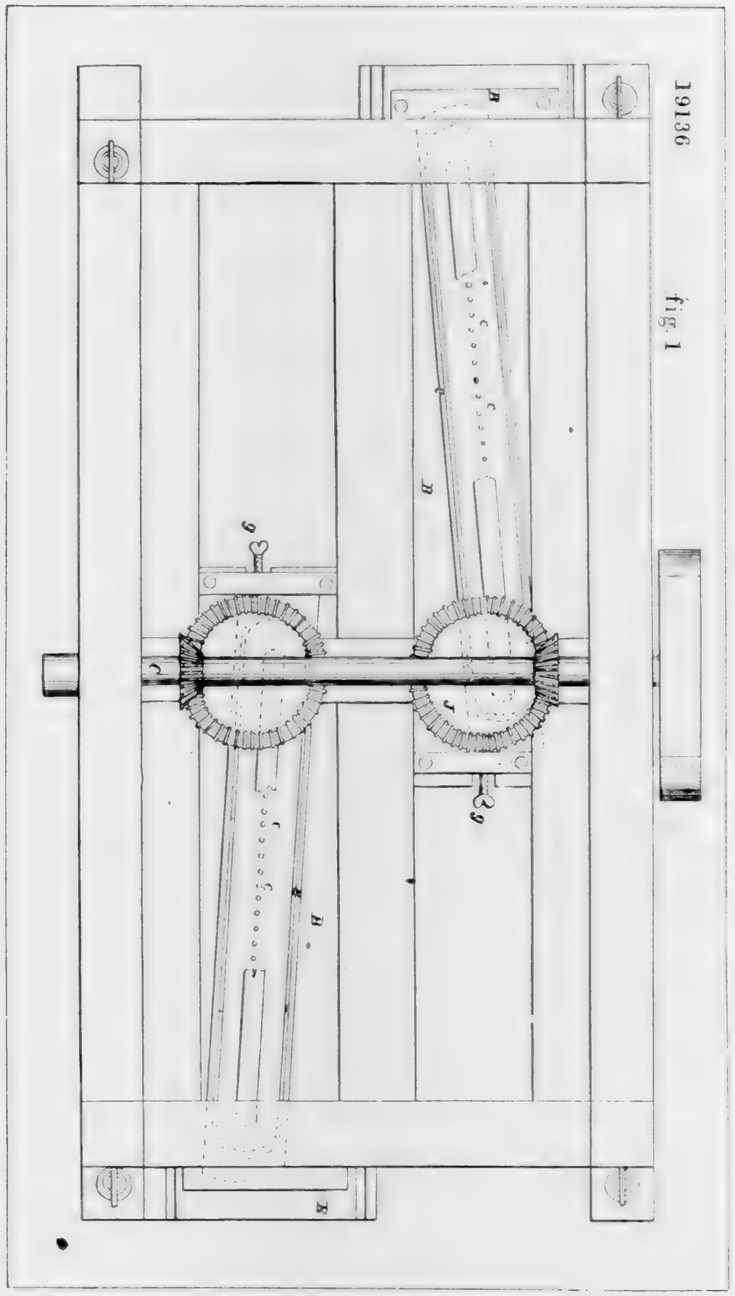


fig. 1

ad 19136

fig. 3

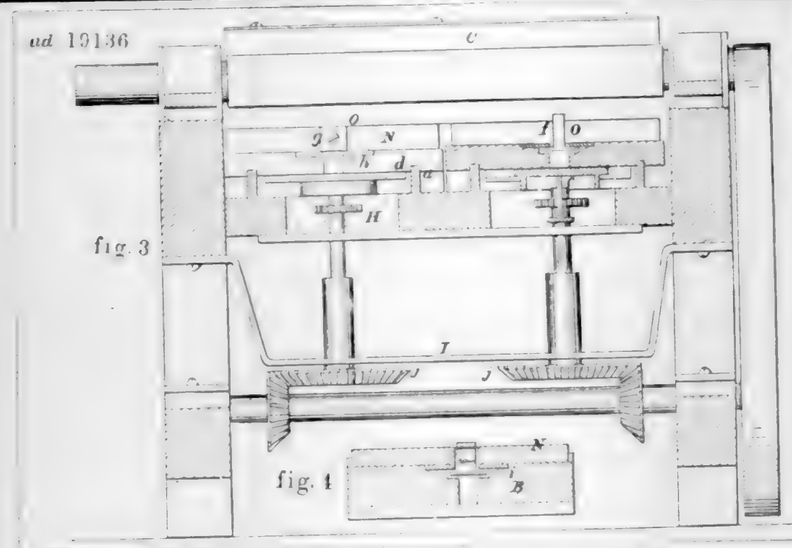


fig. 4

19199

fig. 1

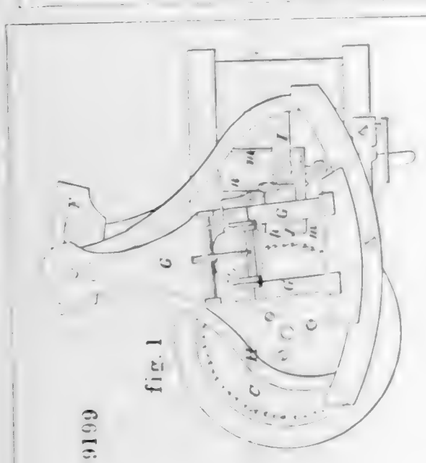
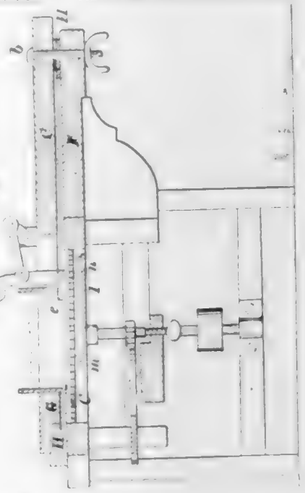
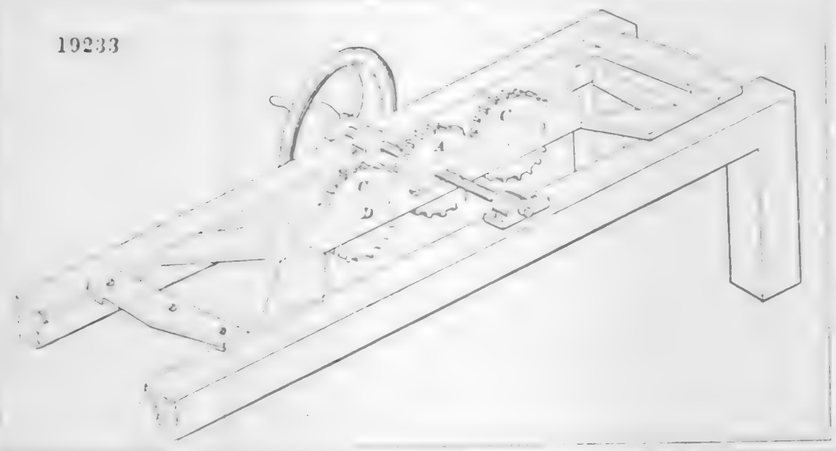


fig. 2



19233



19293

fig. 1

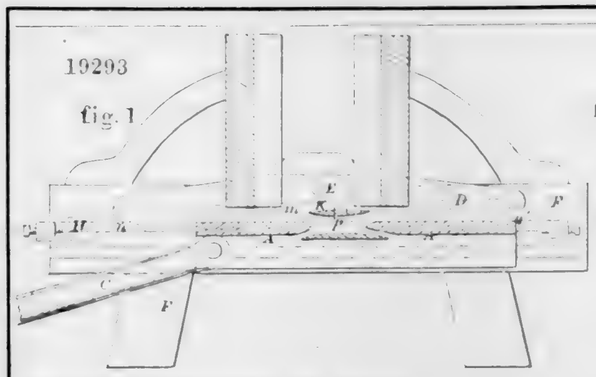


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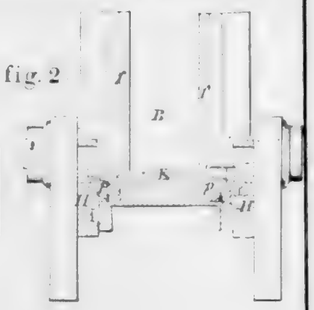
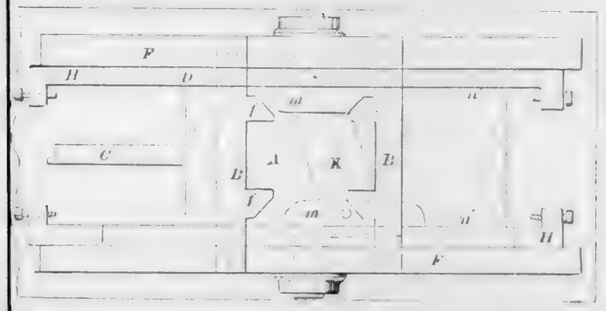
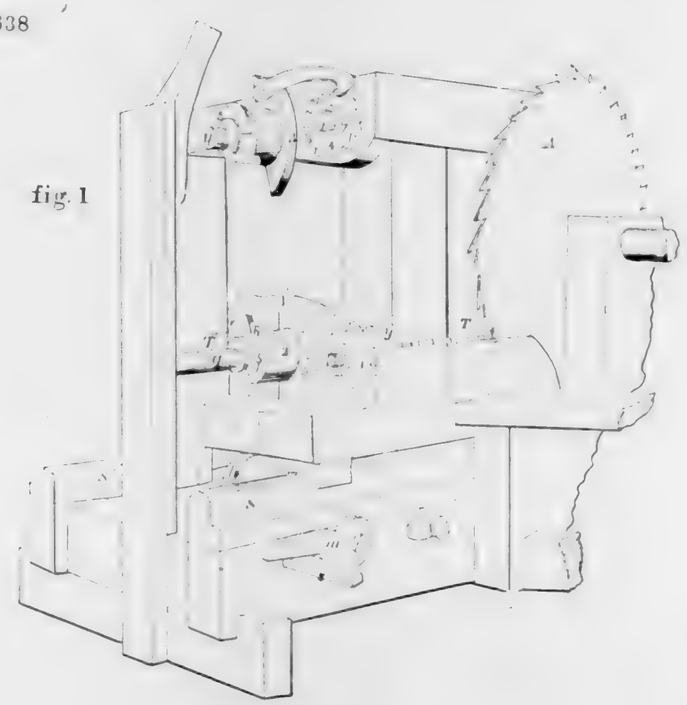


fig. 3



20638

fig. 1



ad 20638

fig. 3

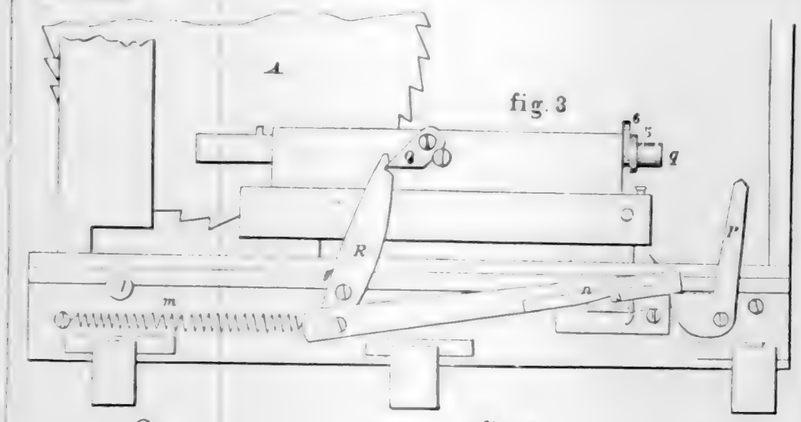


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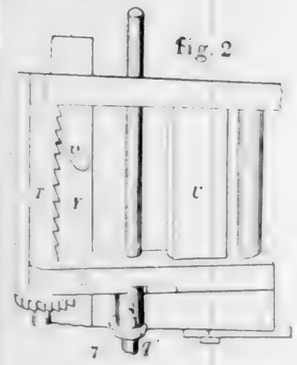


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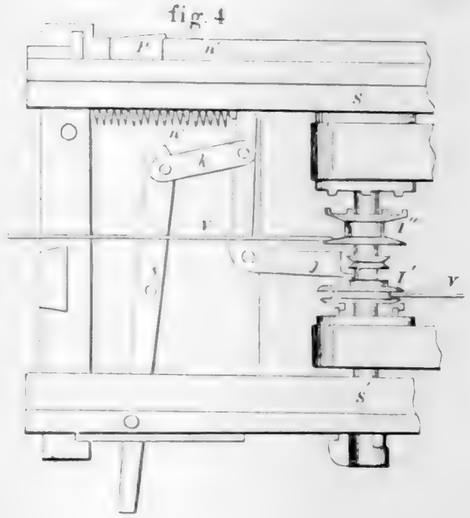
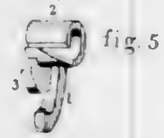


fig. 5



20876

fig. 1

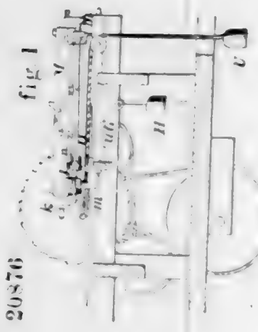


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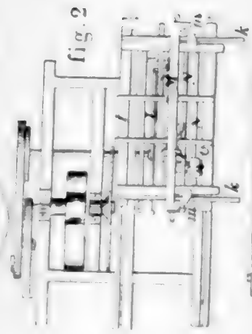


fig. 3



19349

fig 1

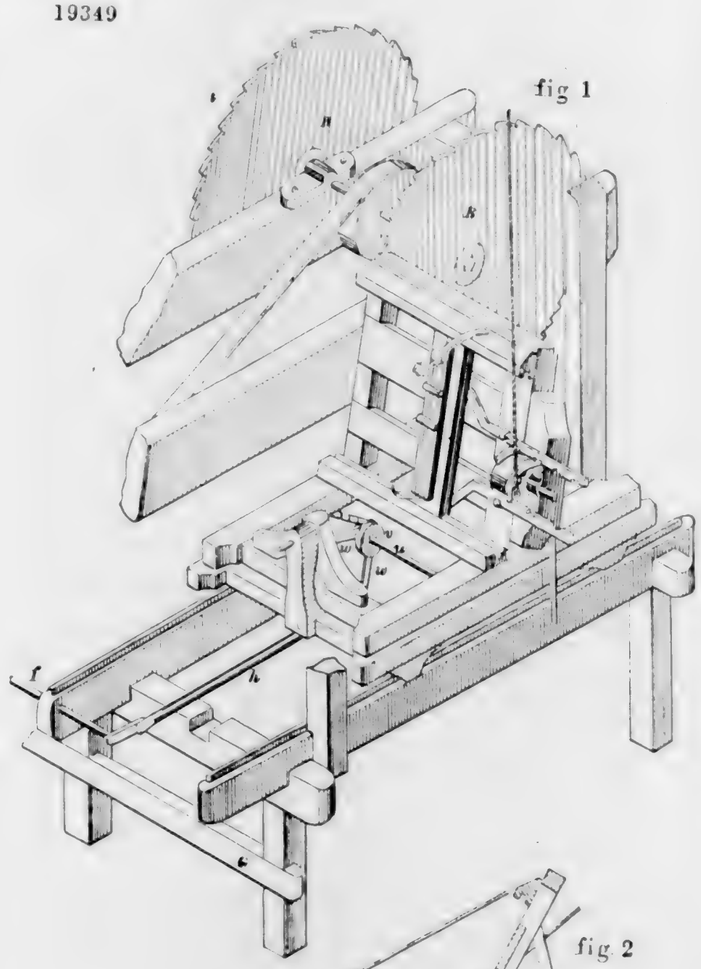
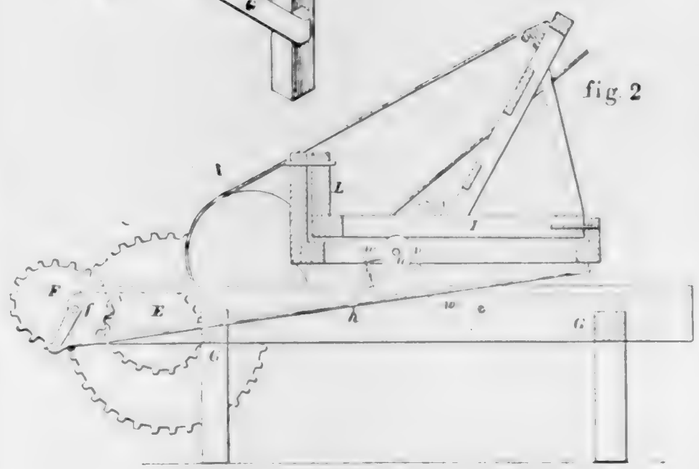


fig. 2



21490

fig. 1

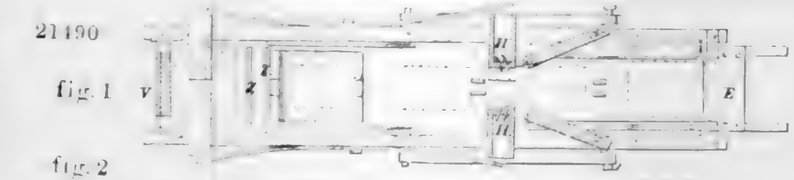


fig. 2

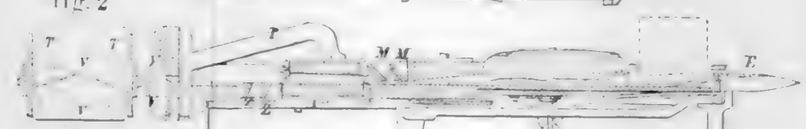


fig. 3

21741

fig. 1

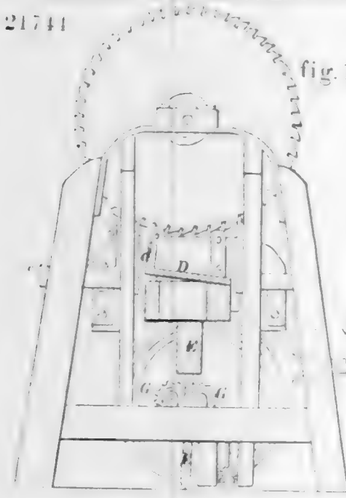
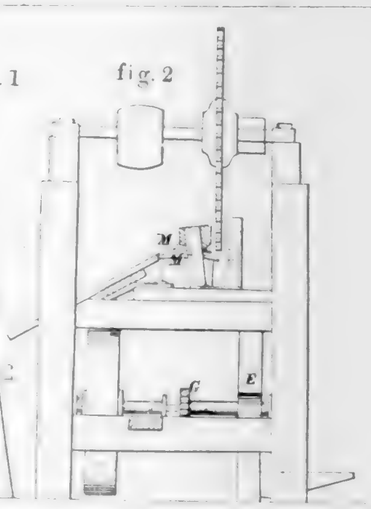


fig. 2



20704

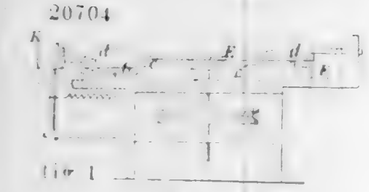


fig. 1

fig. 2



20174

fig. 1

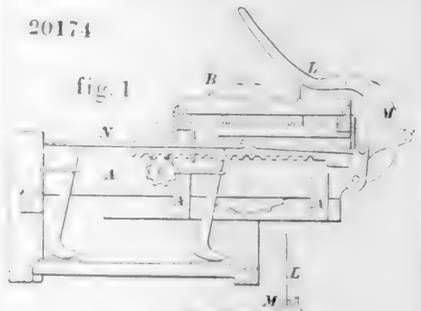
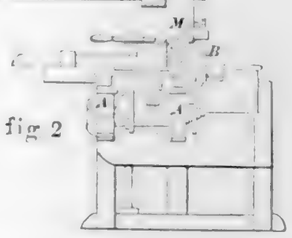


fig. 2



19193

fig. 1

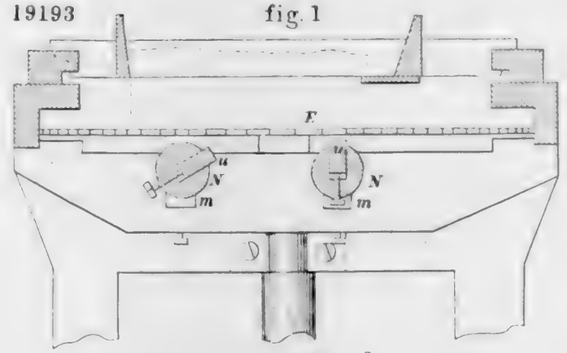
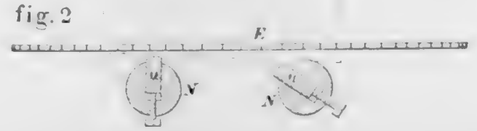
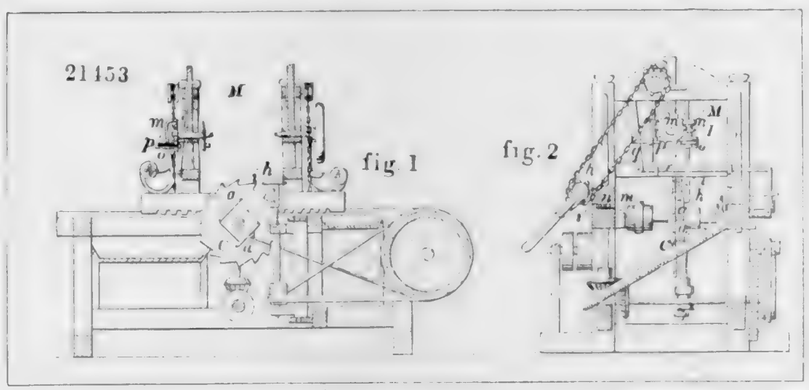


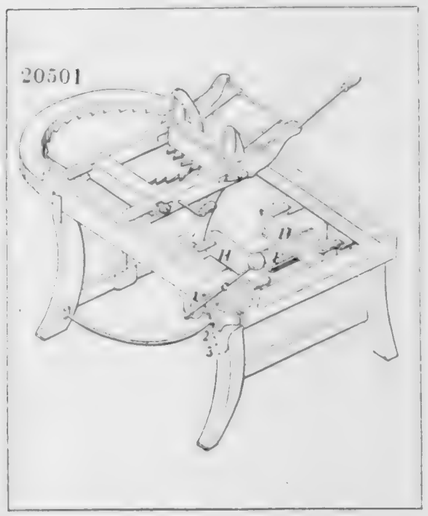
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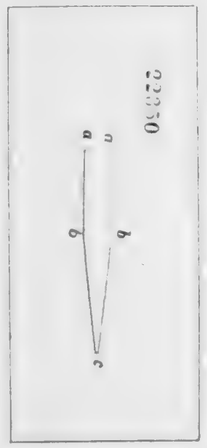


21153



20501





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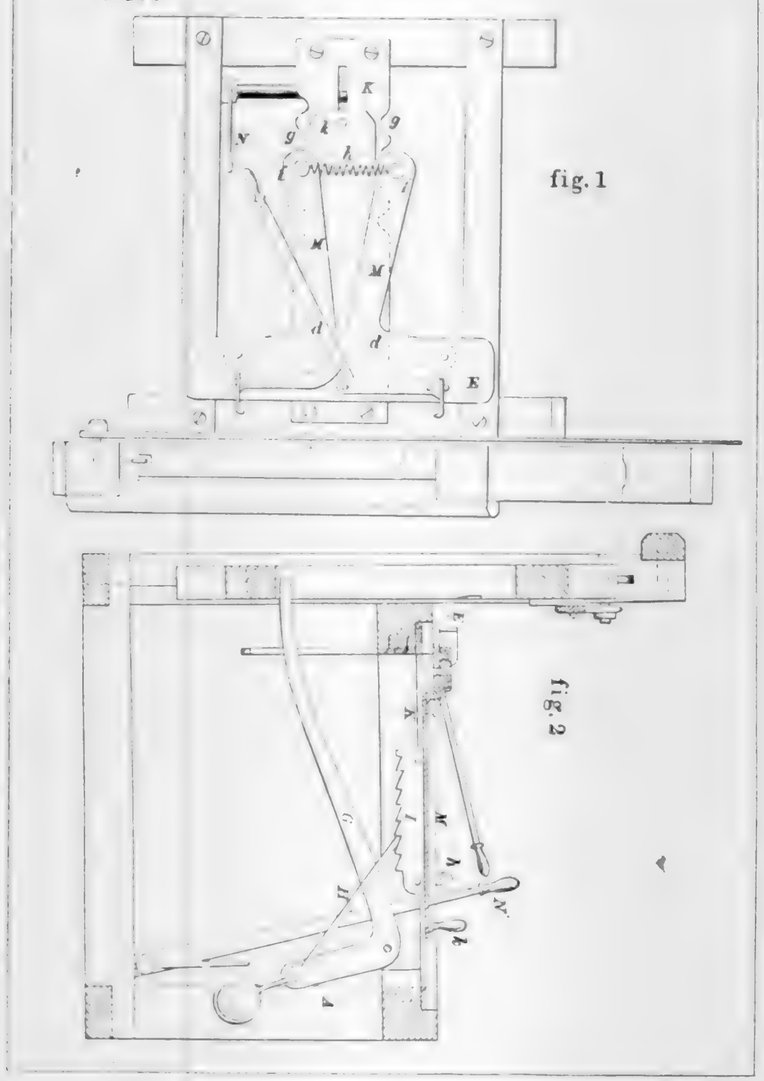


fig. 1

fig. 2

22083

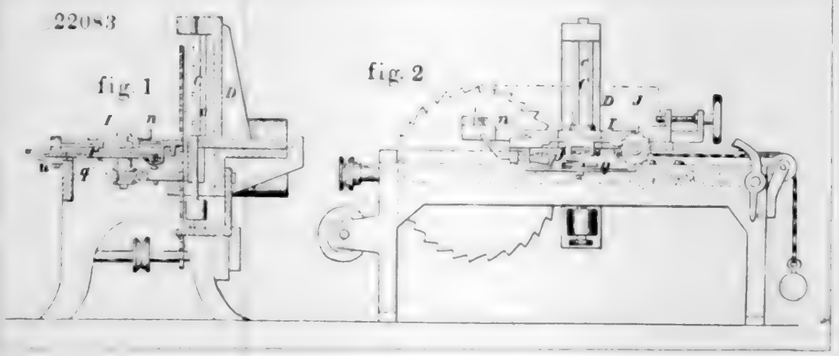


fig. 1

fig. 2

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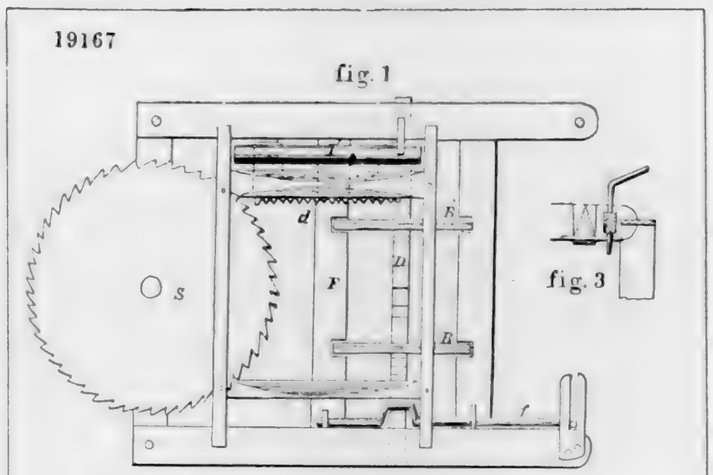


fig. 1

fig. 3

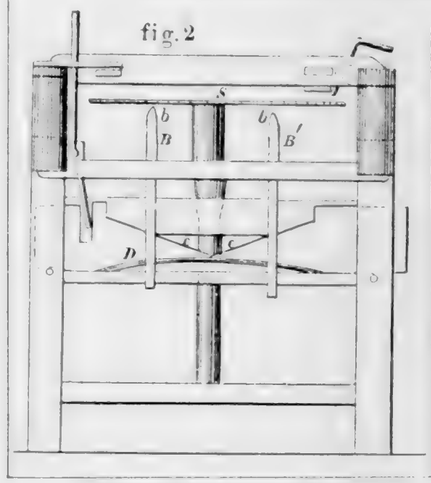


fig. 2

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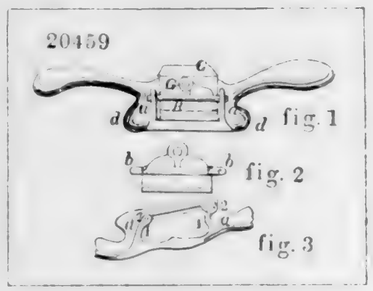


fig. 1

fig. 2

fig. 3

21886

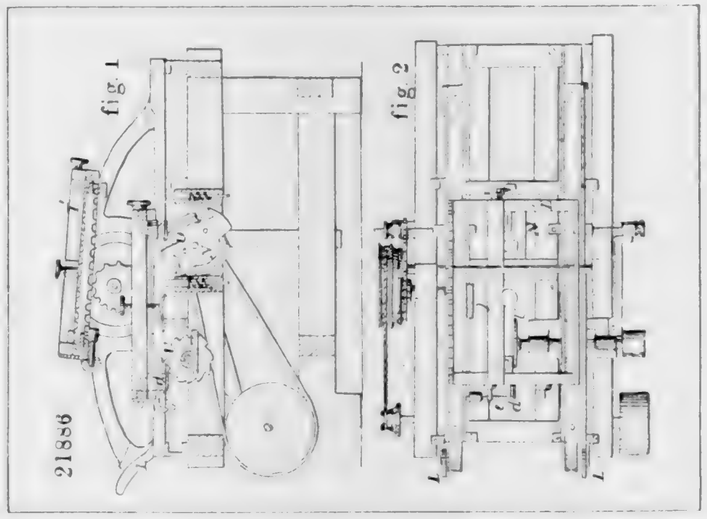


fig. 1

fig. 2

20642

fig. 1

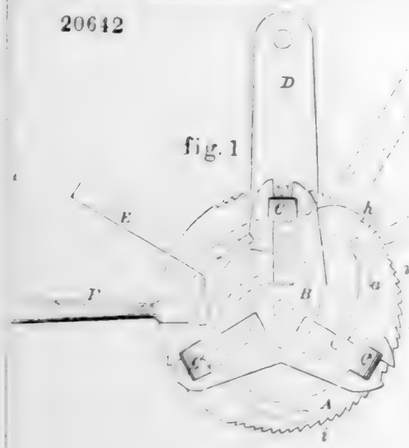
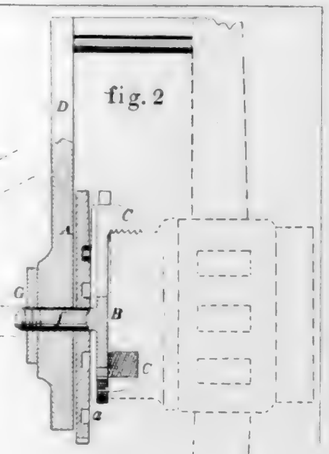
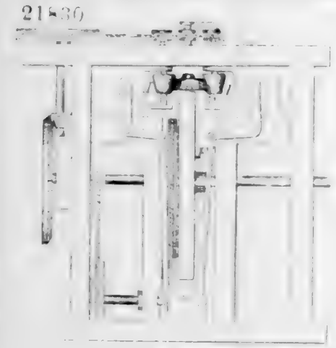


fig. 2



21830



20855

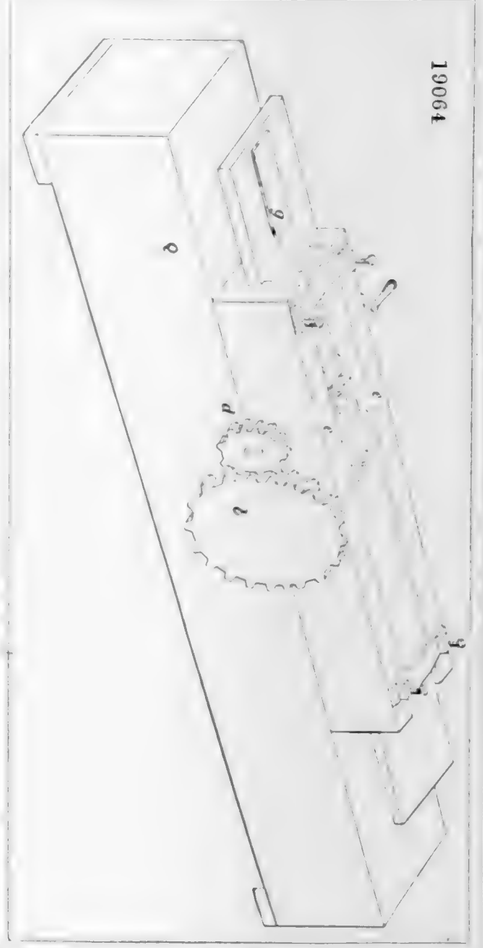
fig. 2



fig. 1



19064



19444

fig. 1

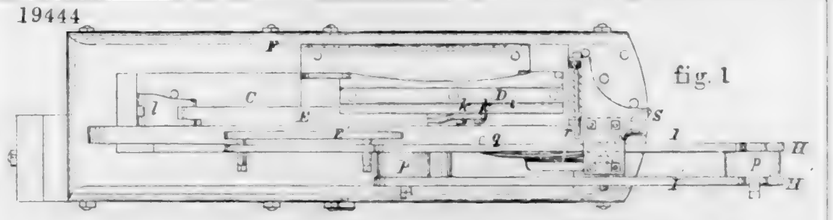


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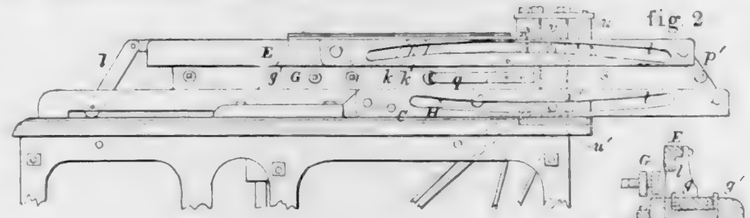
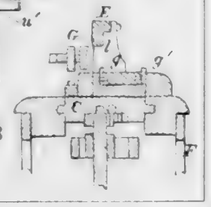


fig. 3



20737

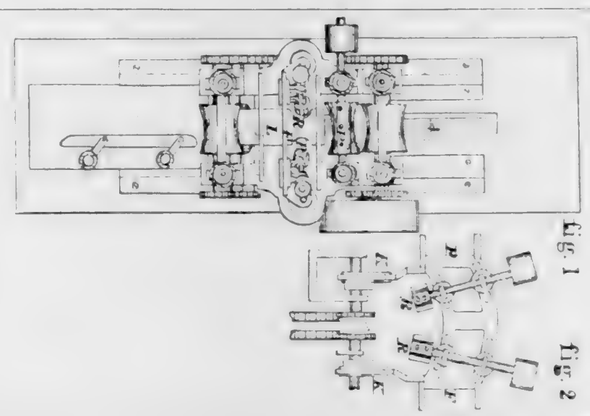


fig. 1

fig. 2

19308

fig. 1

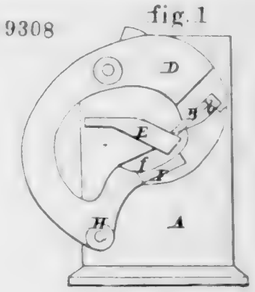


fig. 2

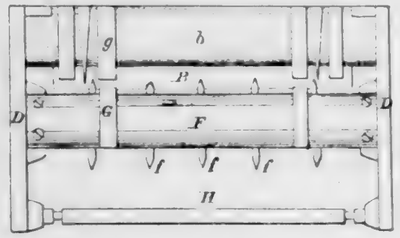
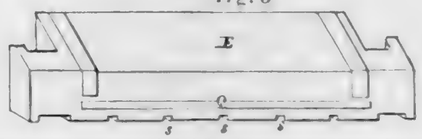


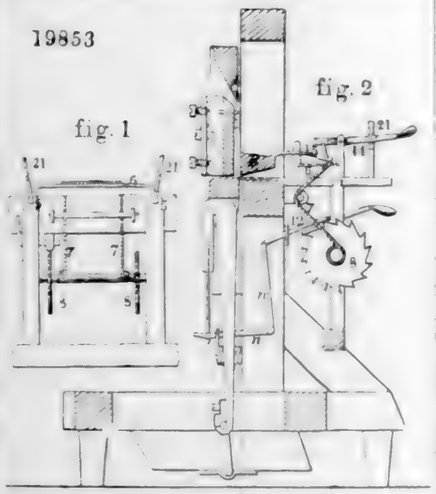
fig. 3



19853

fig. 1

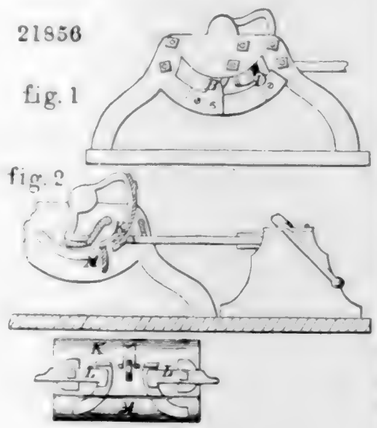
fig. 2



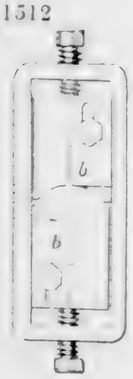
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fig. 1

fig. 2



21512



19760

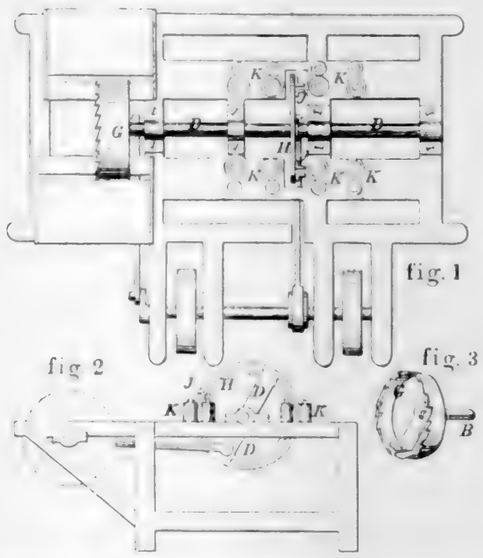


fig. 1

fig. 2

fig. 3

22231

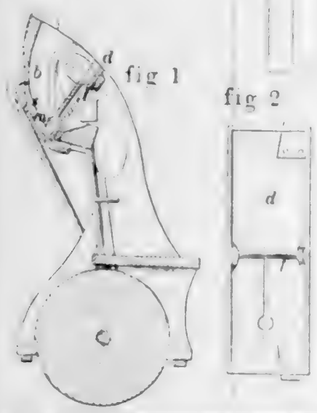


fig. 1

fig. 2

19806

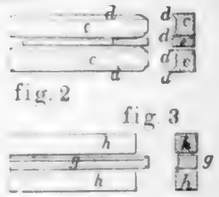


fig. 2

fig. 3

fig. 1



19292

fig. 1

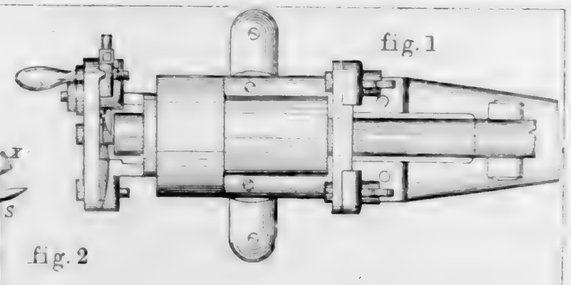


fig. 2

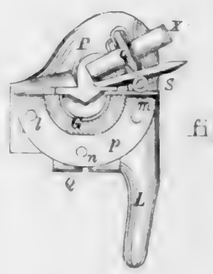
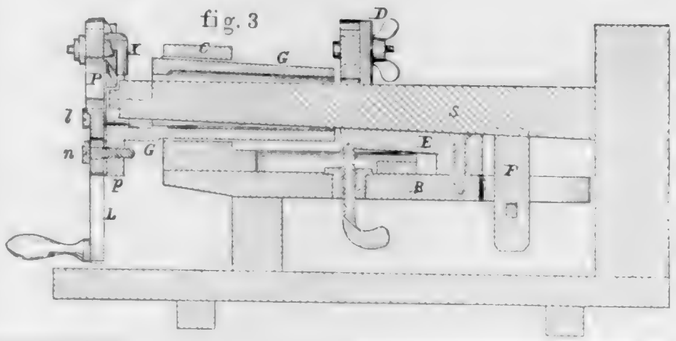
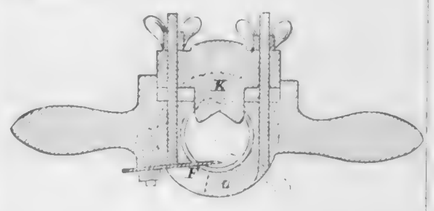


fig. 3



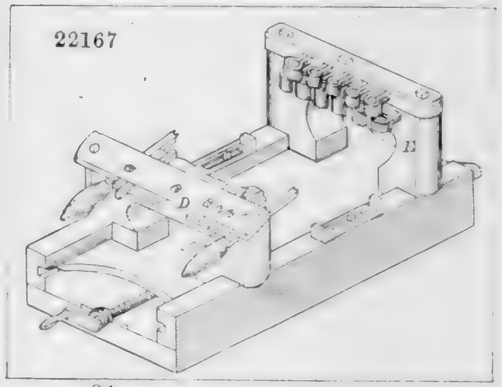
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20693



22167



22430

fig. 1

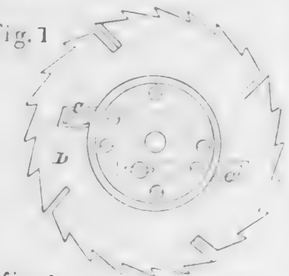
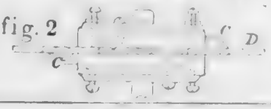


fig. 3

fig. 2



21443 fig. 1

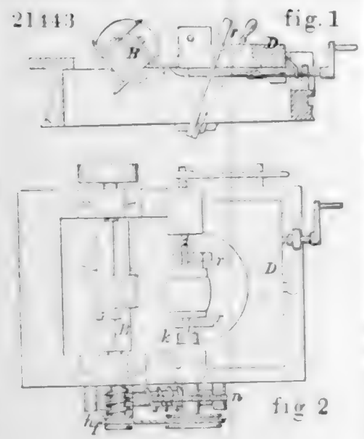
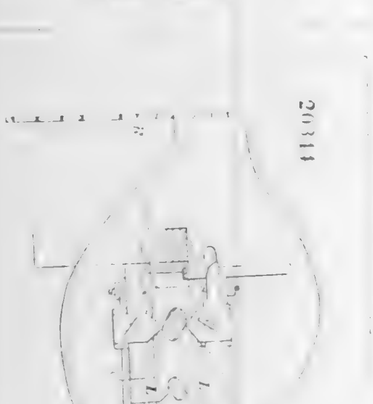
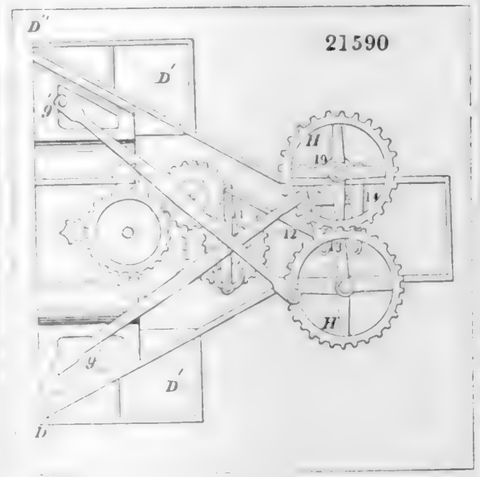


fig 2

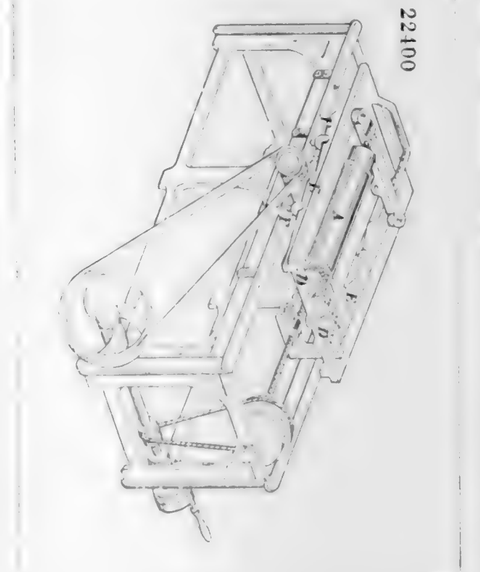


21590



20314

22400



19711

fig. 1

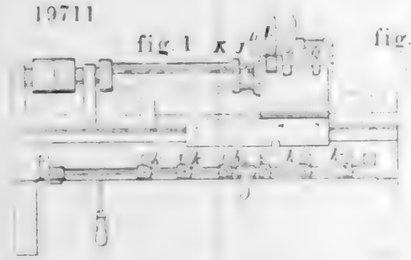
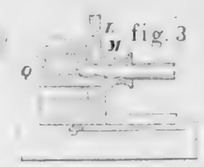


fig. 2



fig. 3



19243

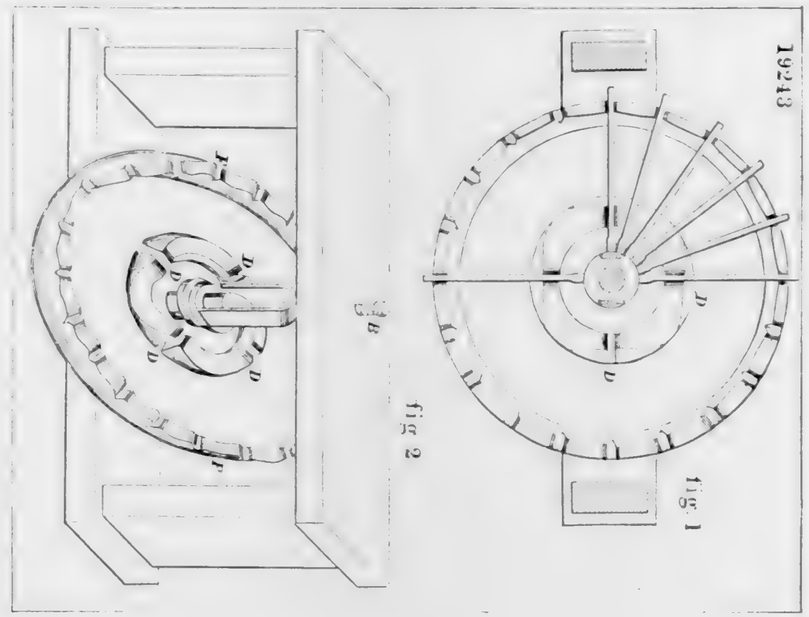
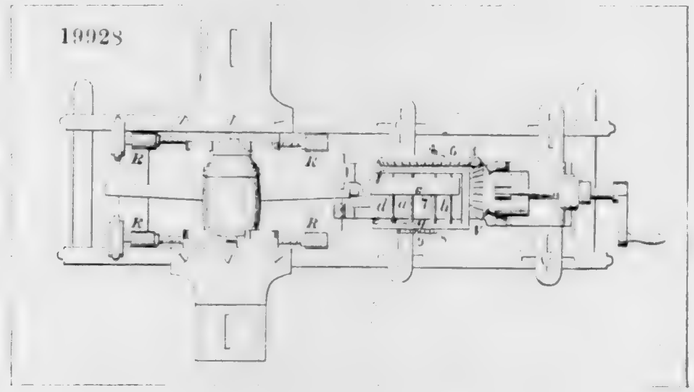


fig 2

fig 1

19928



22193

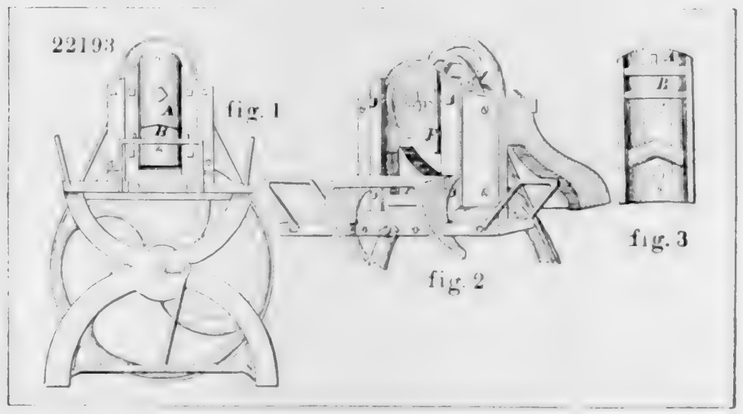


fig. 1

fig. 2

fig. 3

21002

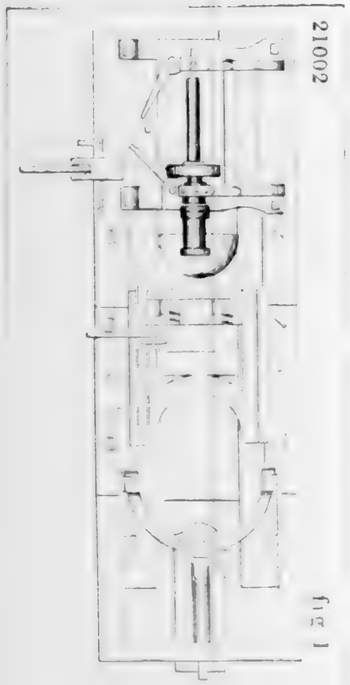


fig. 1

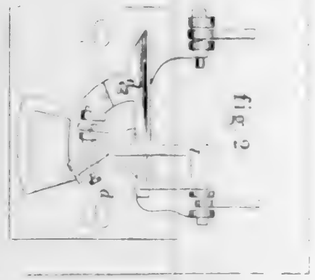


fig. 2

19867

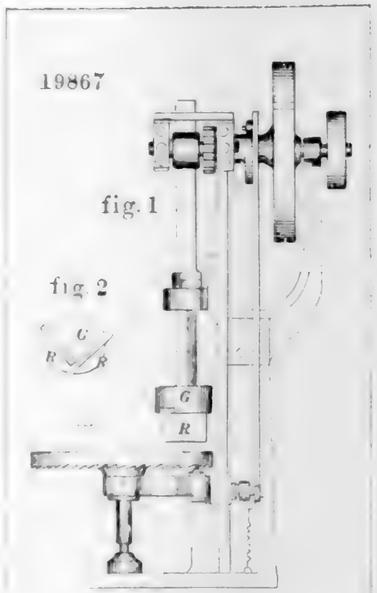


fig. 1

fig. 2

19807

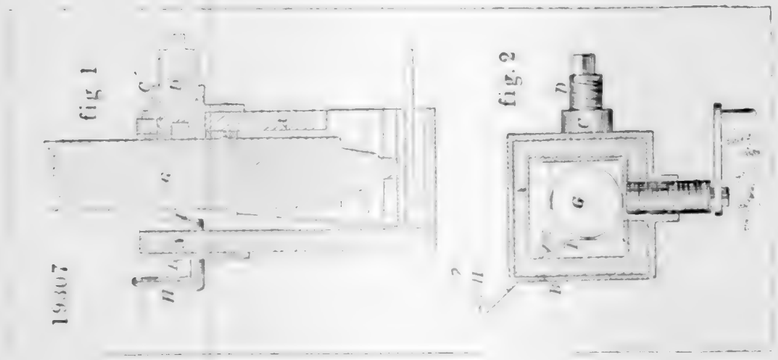


fig. 1

fig. 2

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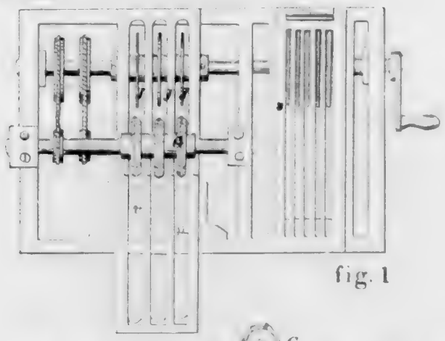
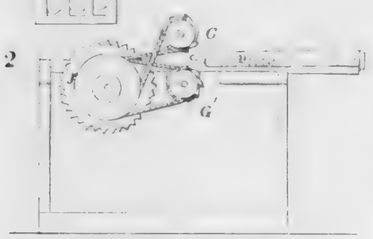


fig. 1

fig. 2



20137

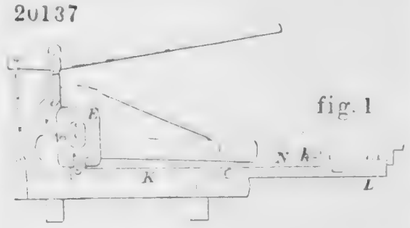


fig. 1

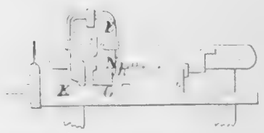


fig. 2

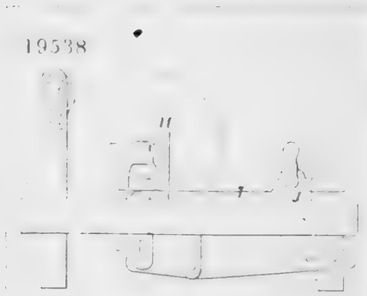


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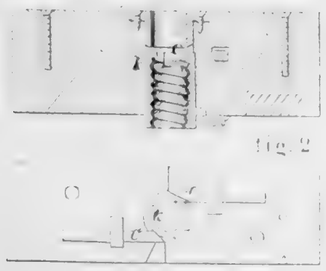
fig. 2

fig. 1

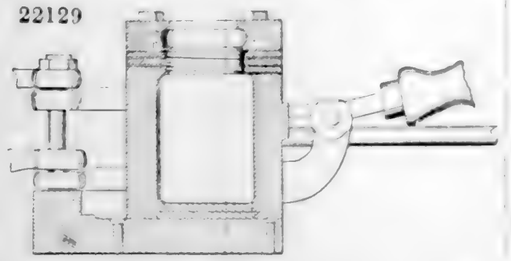
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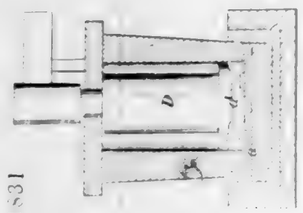


21961 fig. 1



22129





21831

20146

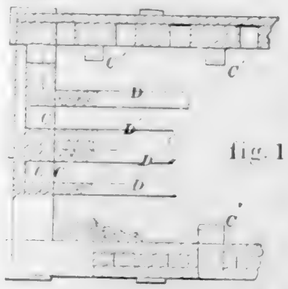
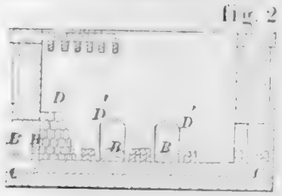


fig. 1

fig. 2



19236

fig. 1

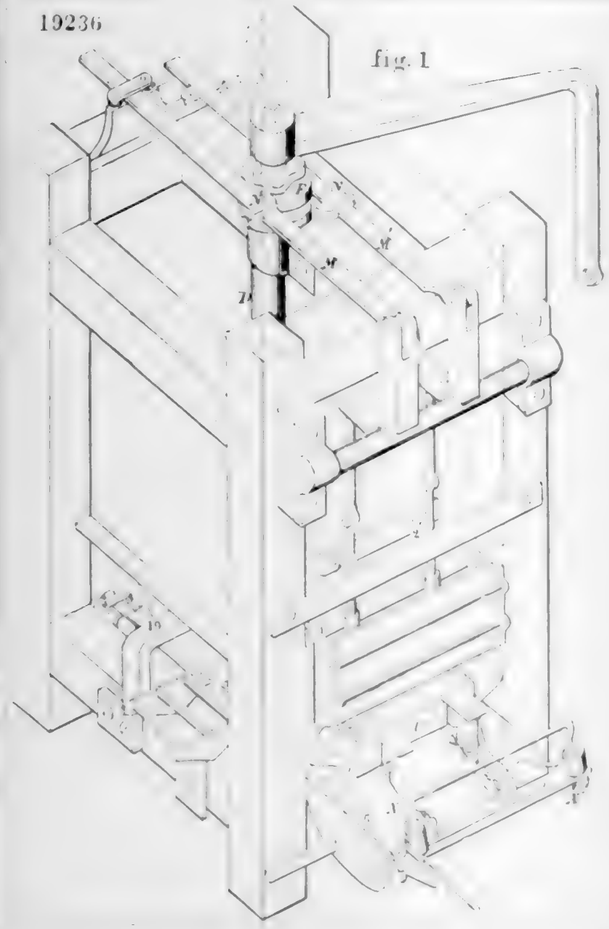
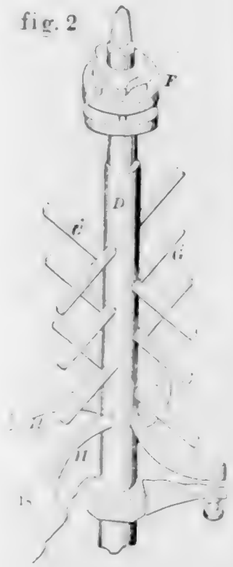


fig. 2



19366

fig. 1

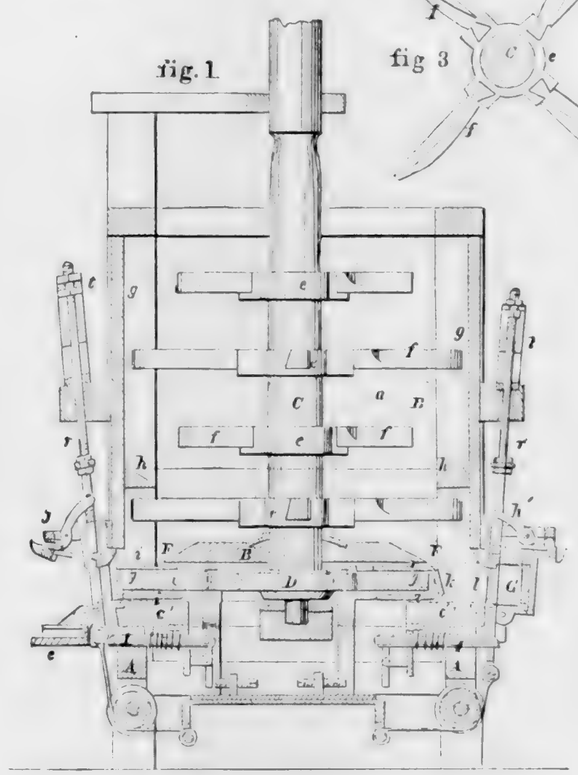


fig 3

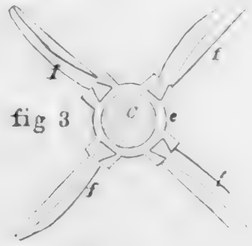
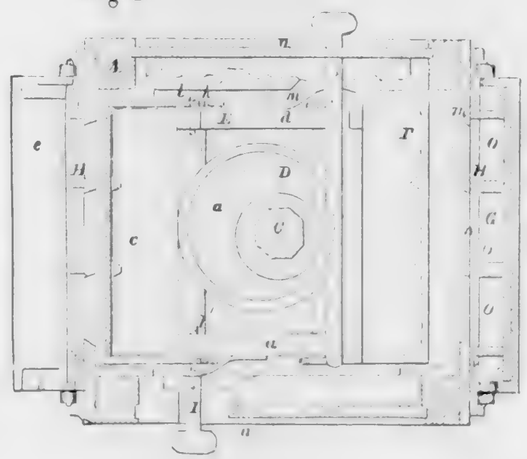


fig. 2



20107

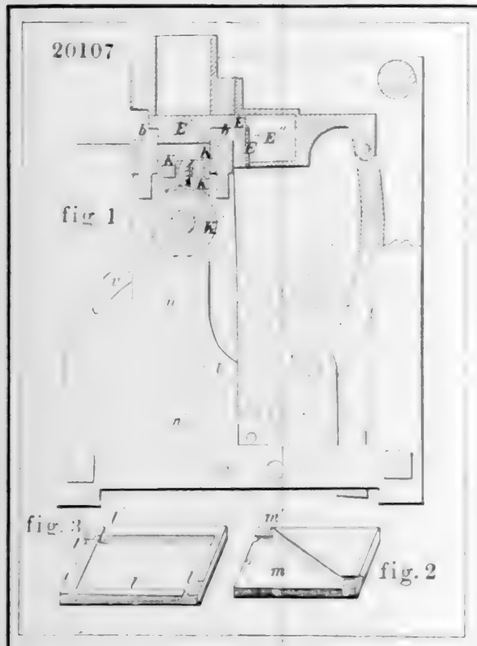


fig. 1

fig. 3

fig. 2

20109

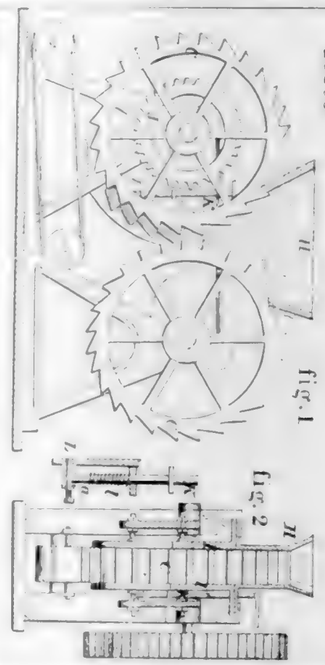
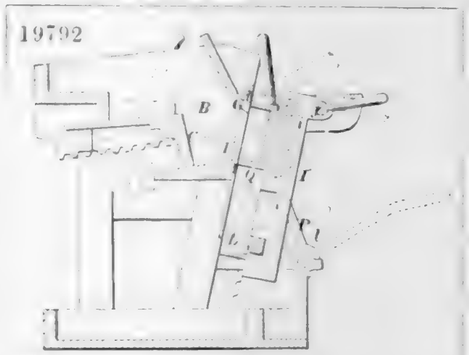


fig. 1

fig. 2

19792



19790

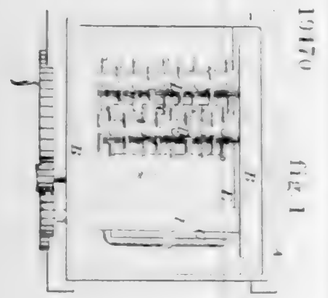


fig. 1

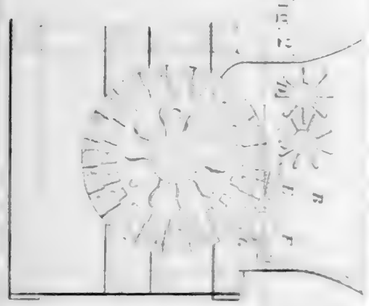
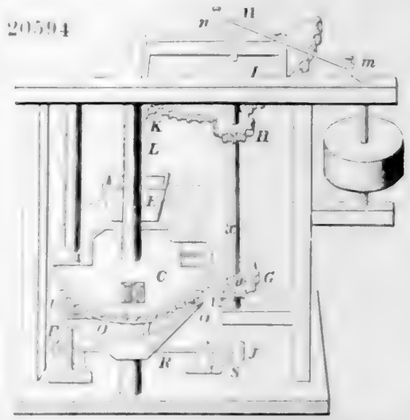


fig. 2

20594



20536

fig. 1

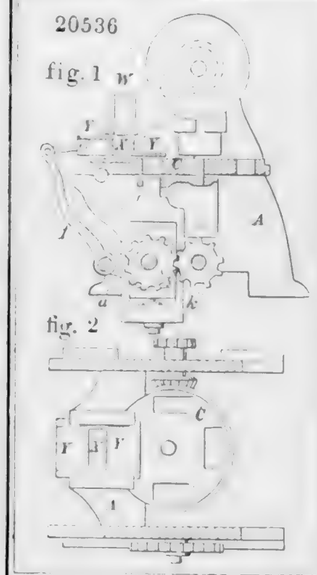


fig. 2

21025

fig. 1

fig. 2

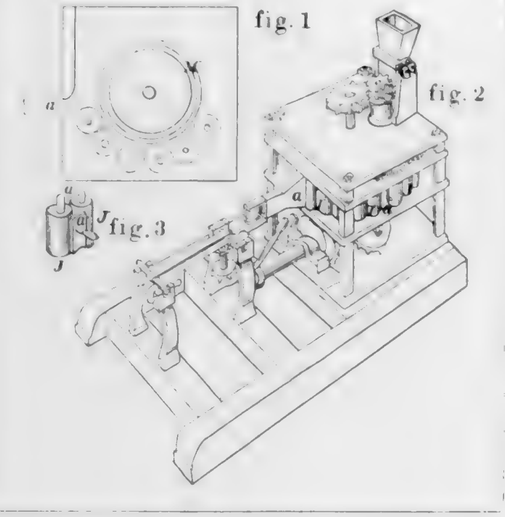


fig. 3

20612

fig. 1

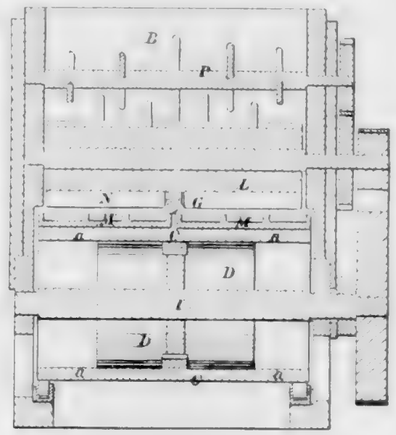
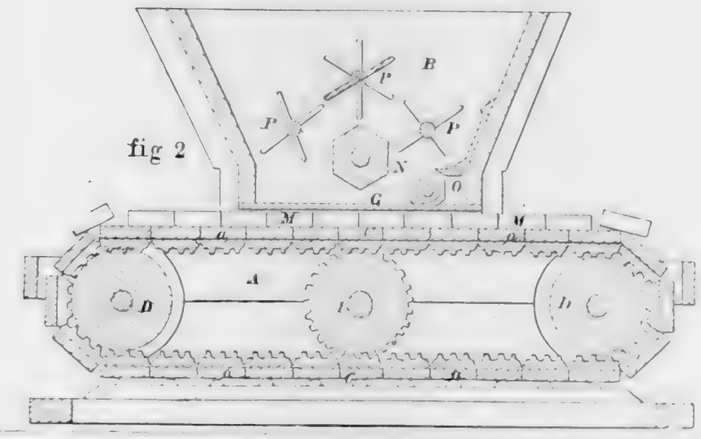


fig 2



21186

fig. 1

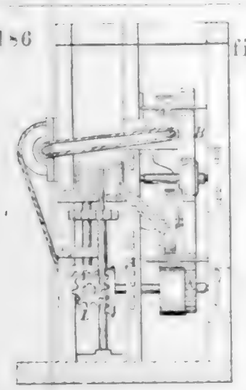
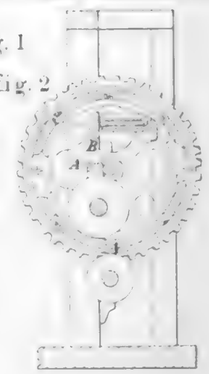


fig. 2



21515

fig. 1

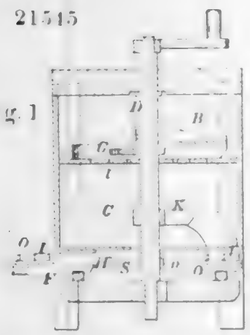


fig 2

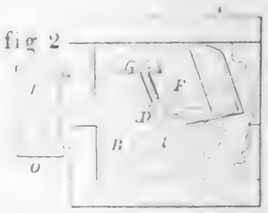
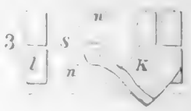


fig. 3



21158

fig. 1

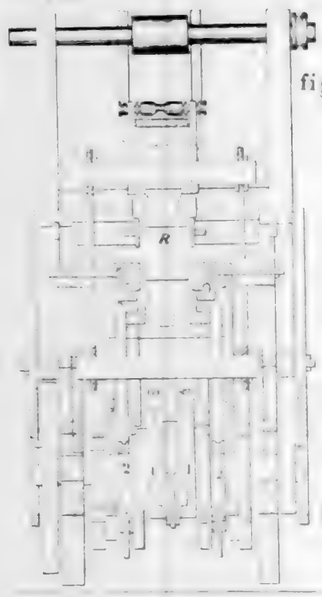
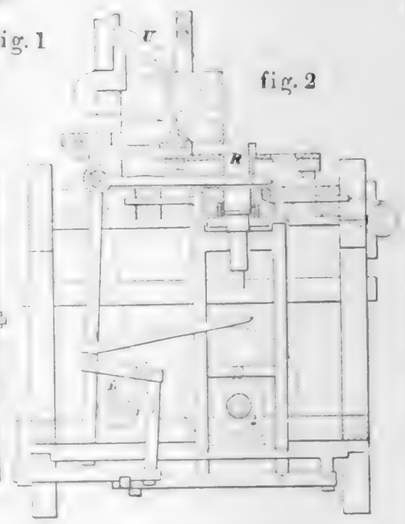


fig. 2



21876

fig. 1

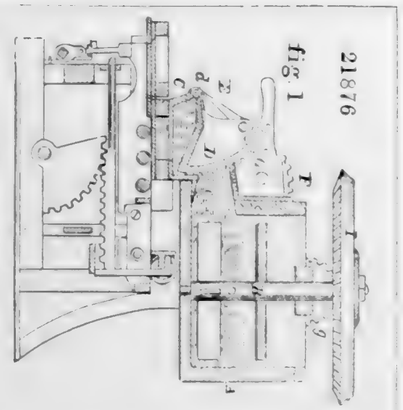
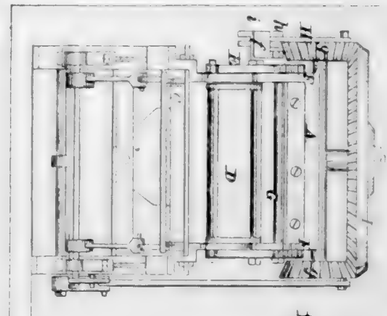
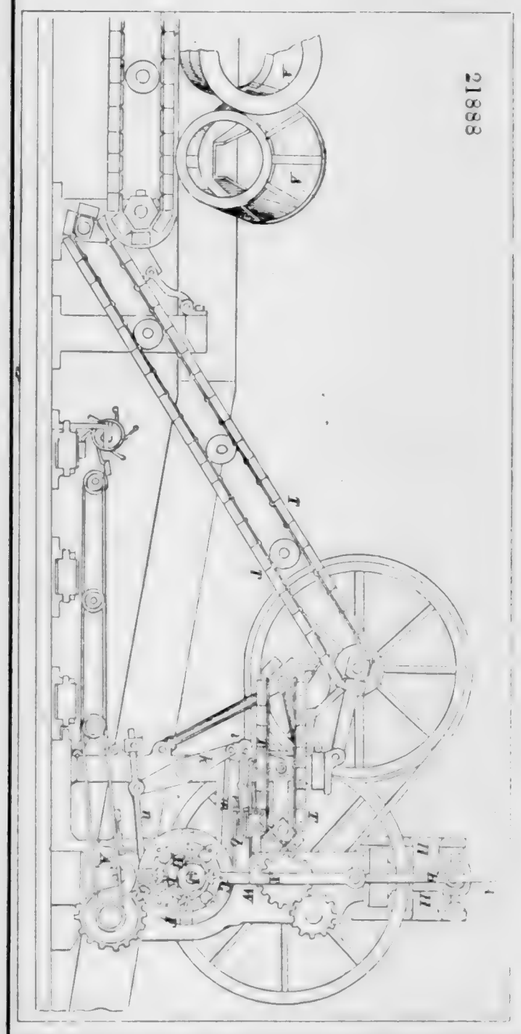


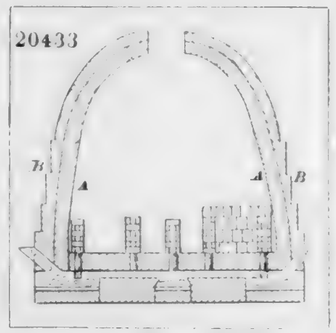
fig. 2



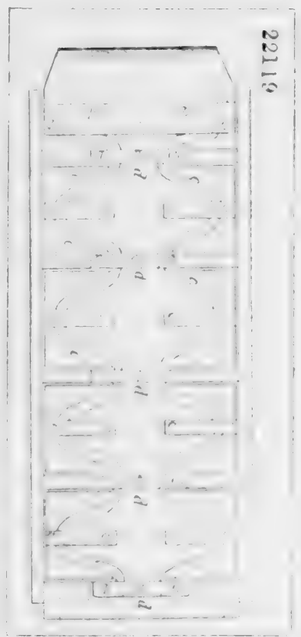
21888



20433



22119



19309

fig. 1

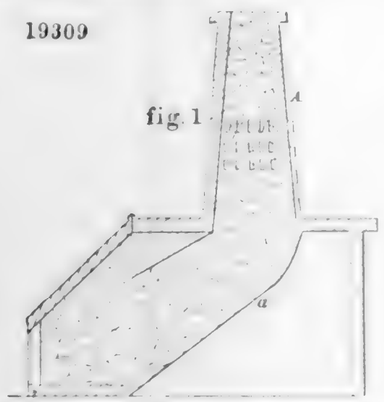
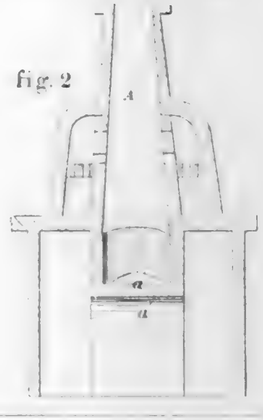
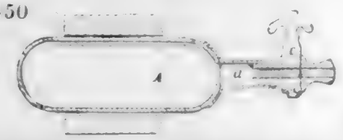


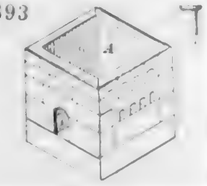
fig. 2



22450



22393



21119

fig. 1

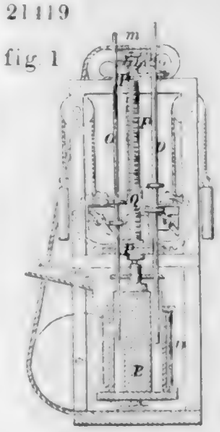


fig. 2



21506

fig. 1

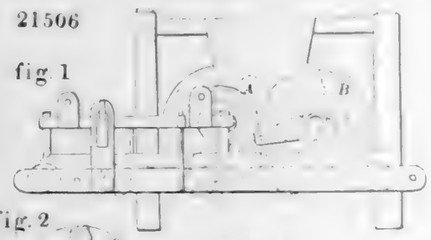


fig. 2



fig. 3

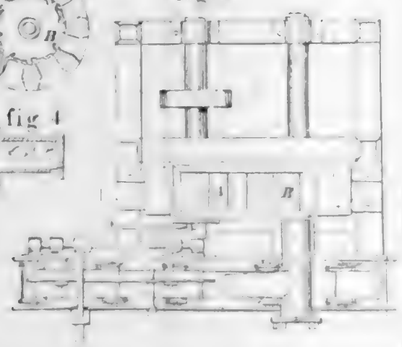
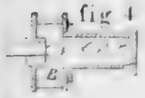
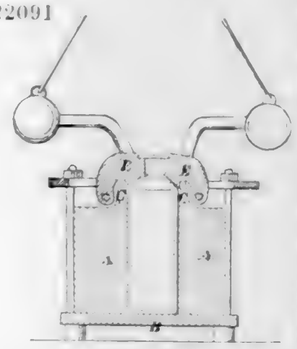


fig. 4



22091



19569

fig. 1

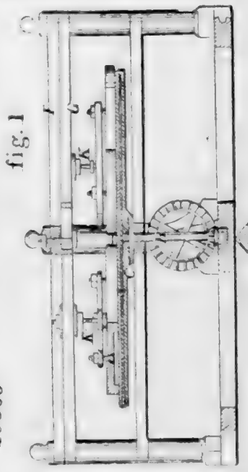
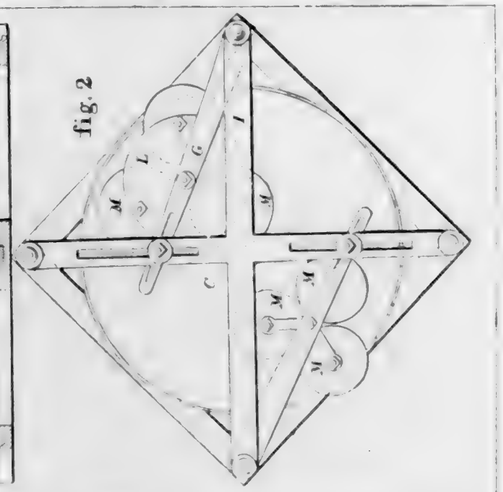


fig. 2



19525

fig. 1

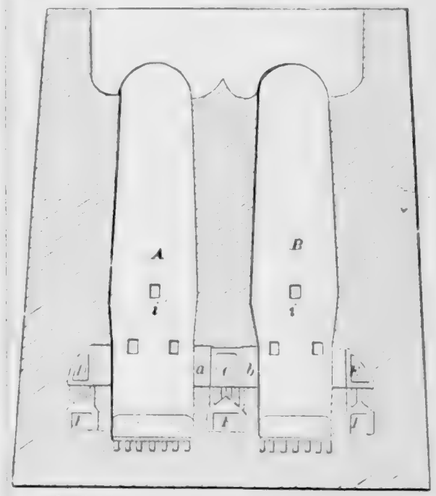
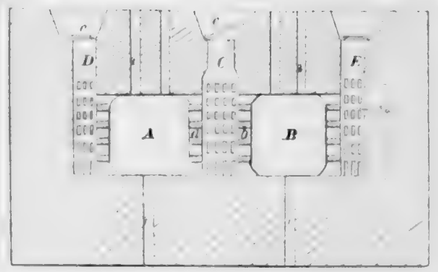


fig. 2



19023

fig. 1

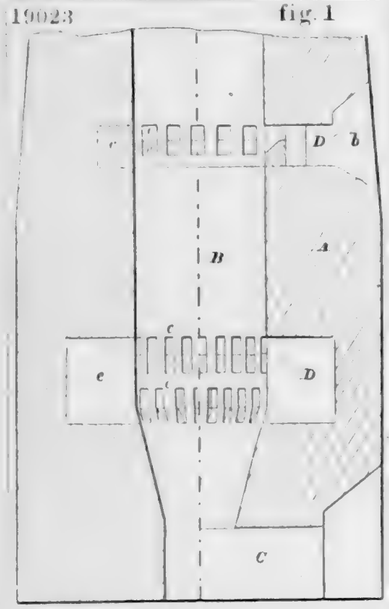
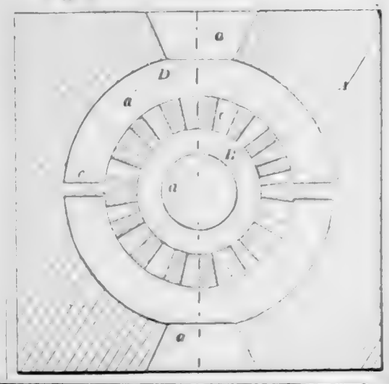


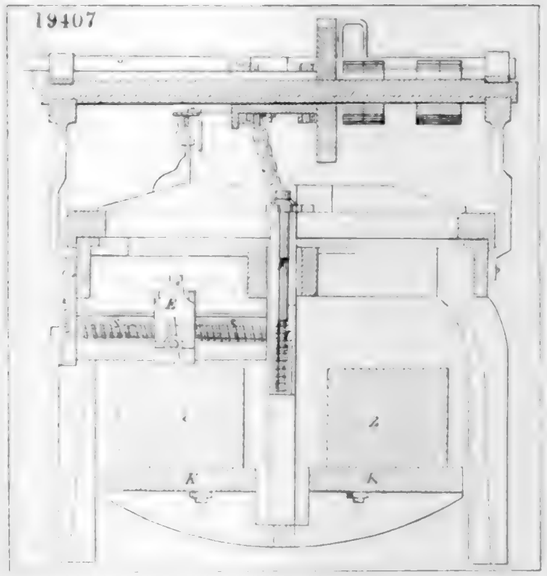
fig. 2



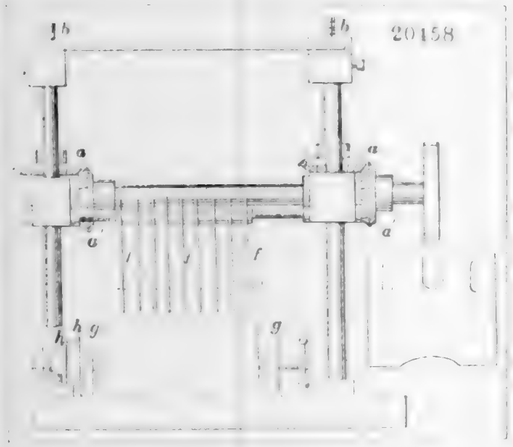
21622



19407



20158



22239

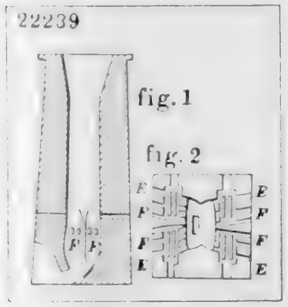
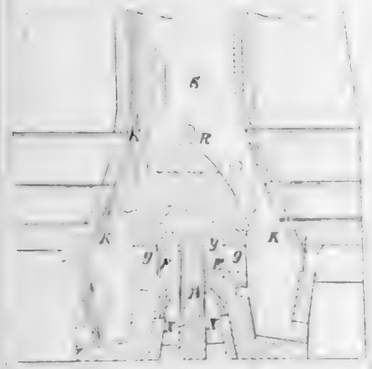


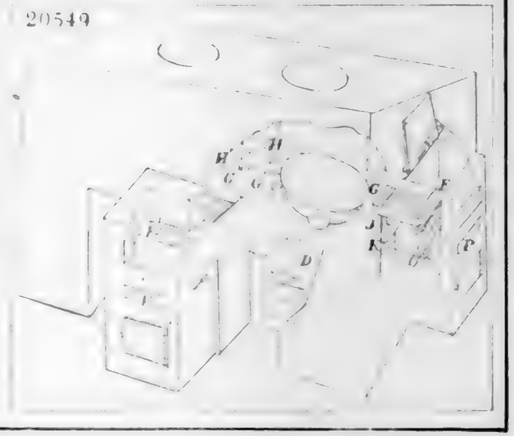
fig. 1

fig. 2

20015



20549



19194

fig 1

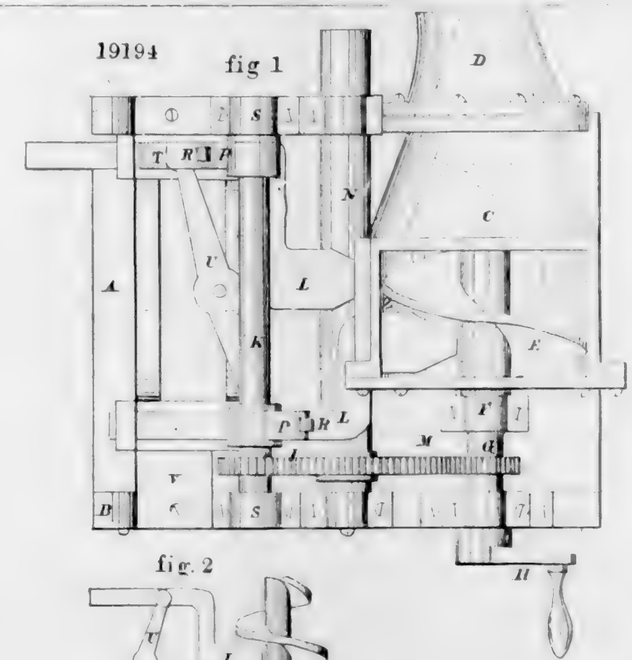
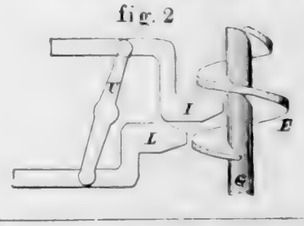


fig. 2



22113 A

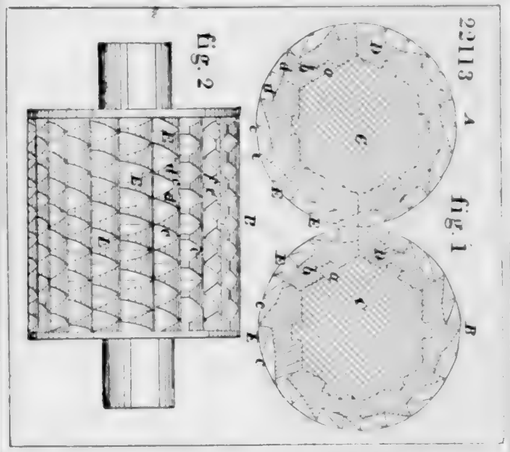
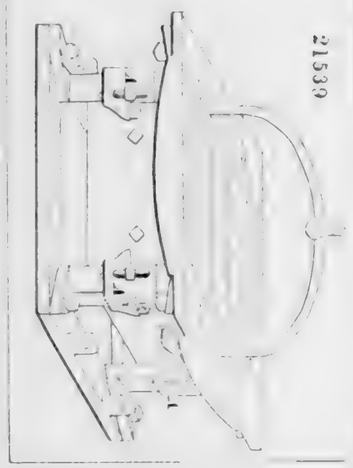


fig 1

21539



20542

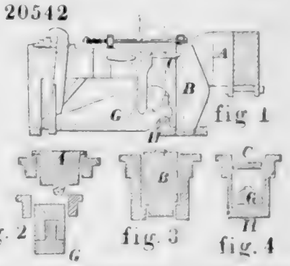


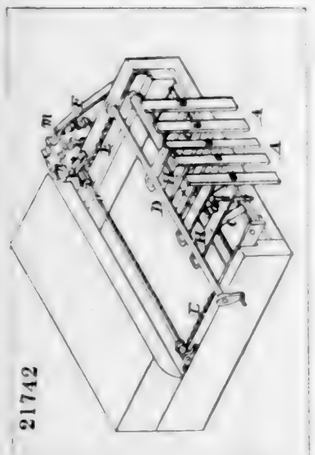
fig 1

fig. 2

fig. 3

fig. 4

21742



20885

fig. 1

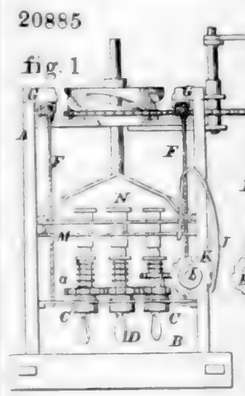
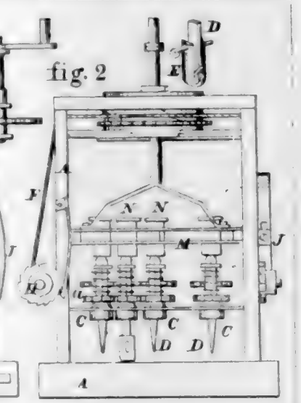


fig. 2



20981

fig. 1

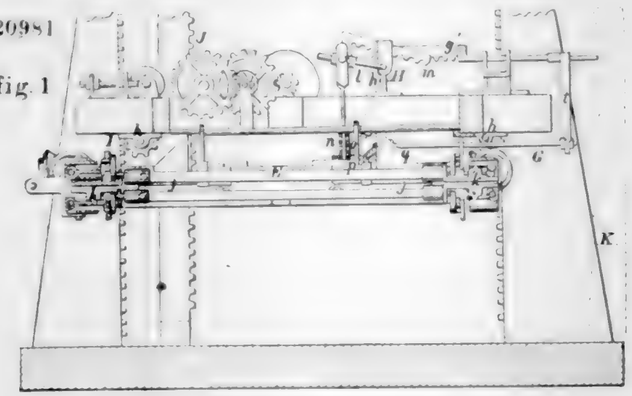
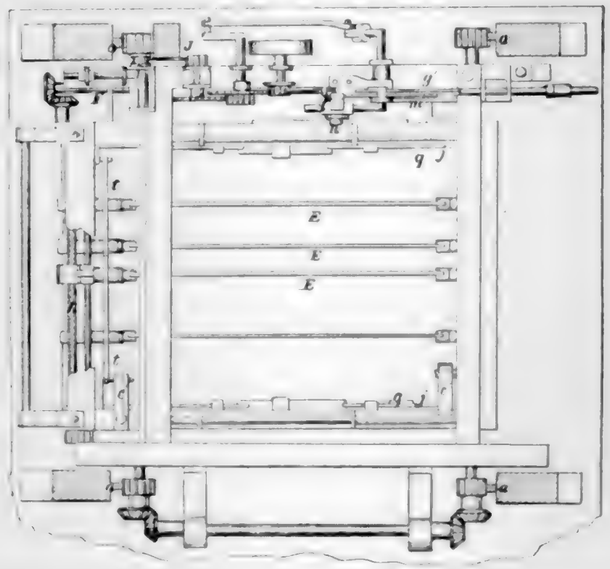


fig. 2



20434

fig. 1

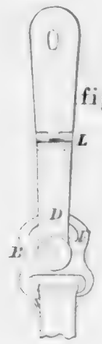
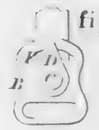


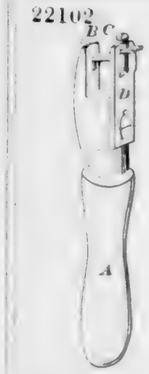
fig. 2



fig. 3



22102



22095

fig. 1

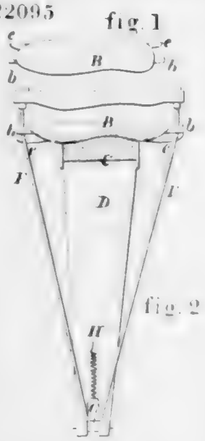
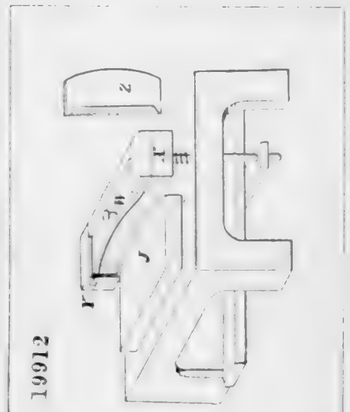
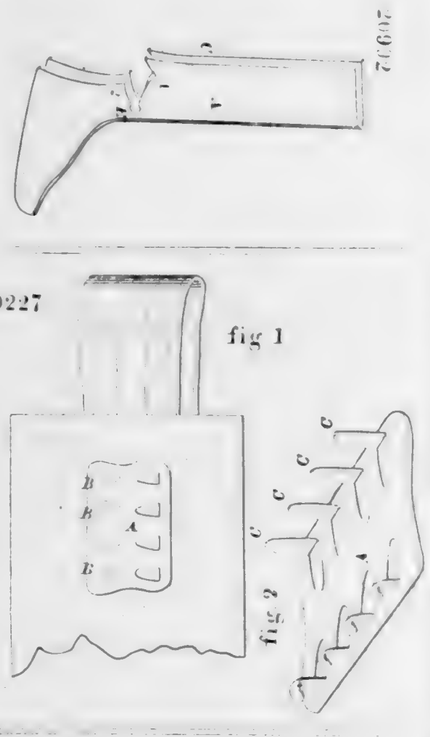


fig. 2



19912



19227

fig 1

fig 2

22205

fig. 1

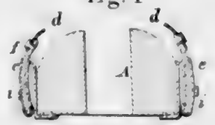
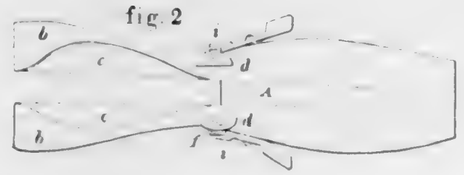


fig. 2



19508

fig. 1

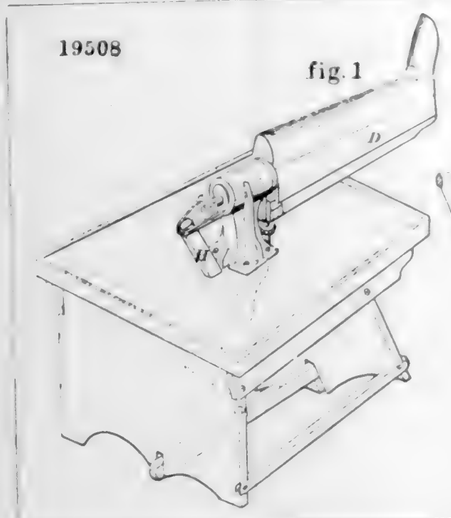
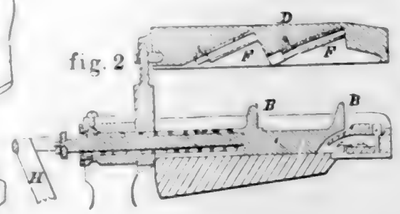


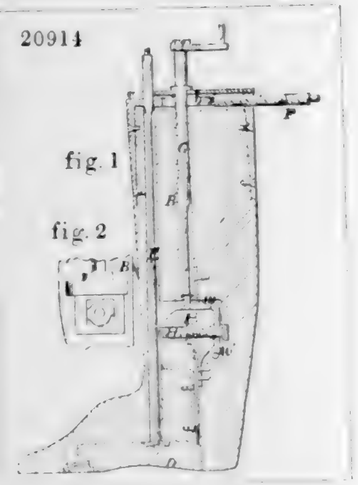
fig. 2



20914

fig. 1

fig. 2



21424

fig. 1

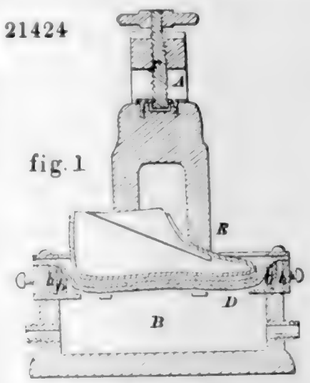
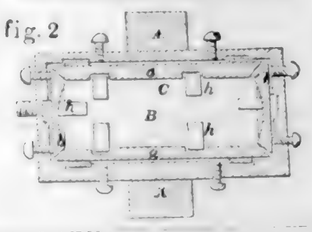


fig. 2



21564

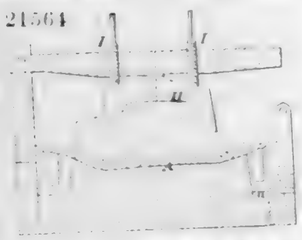


fig. 1

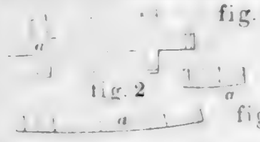


fig. 2

fig. 3

20155

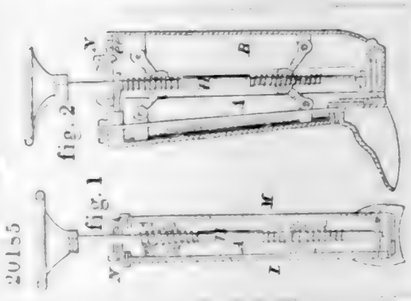


fig. 2

fig. 1

20960

fig. 1

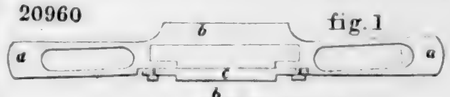


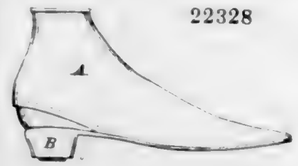
fig. 3



fig. 2



22328



20936

fig. 1

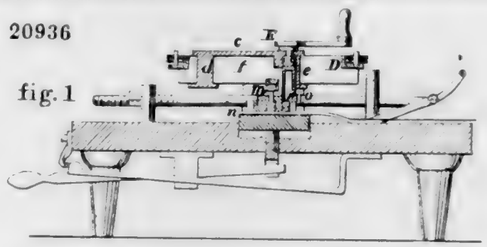
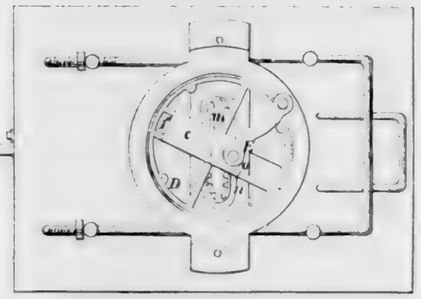


fig. 2



21593

fig. 1

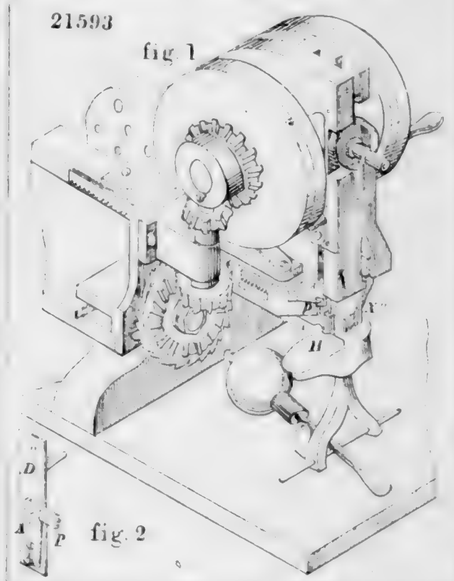
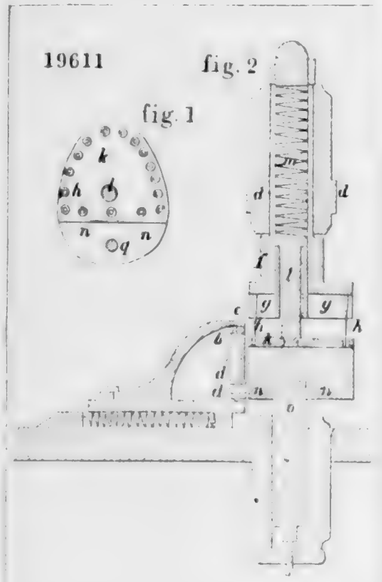


fig. 2

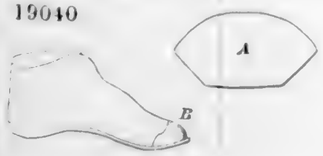
19611

fig. 2

fig. 1



19040



19305

fig. 1

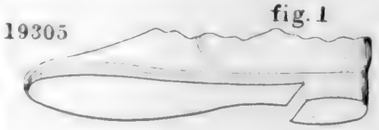


fig. 2

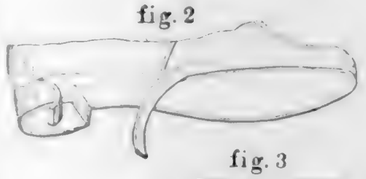


fig. 3



20510

fig. 1

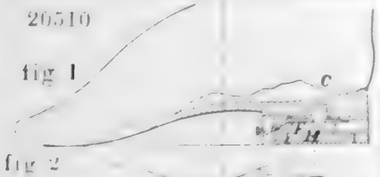


fig. 2



21760

fig. 1

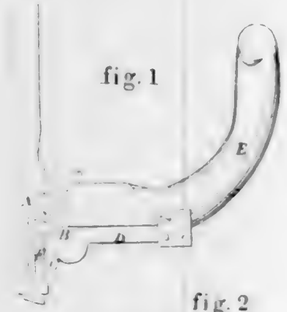


fig. 2



21334

fig. 1

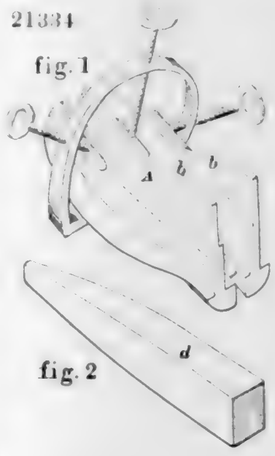


fig. 2

22218



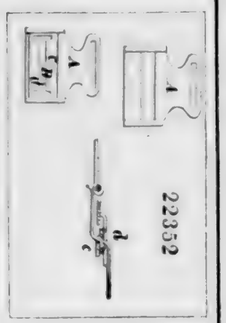
19269

fig. 1



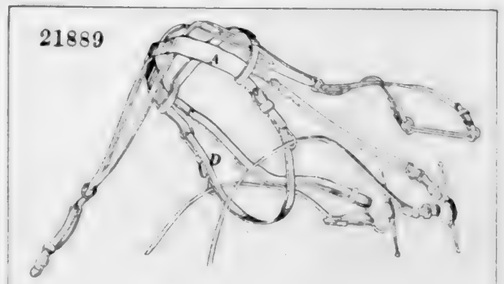
fig. 2





22352

21889



19816

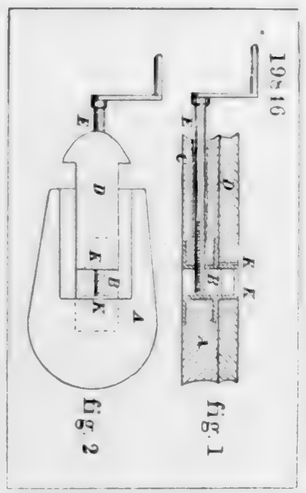
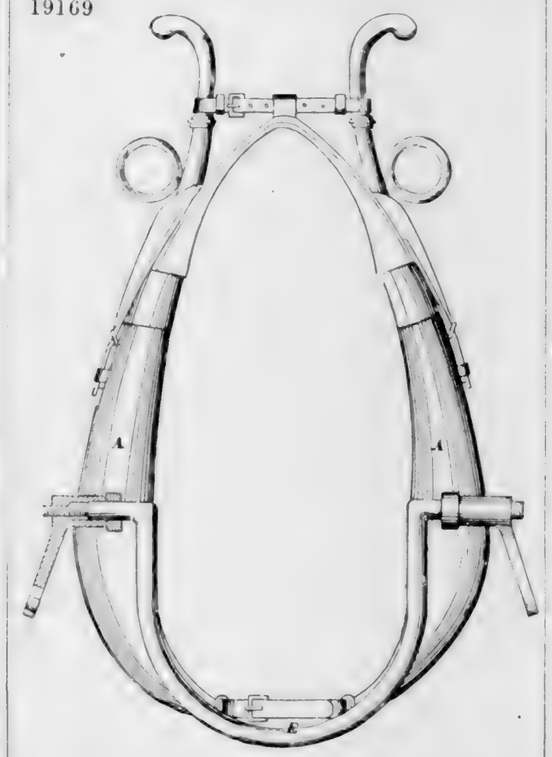


fig. 2

fig. 1

19169



21301

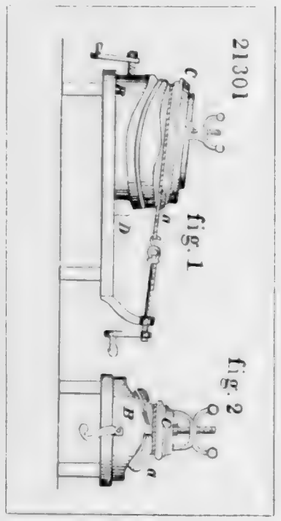


fig. 1

fig. 2

21821

fig. 1



fig. 2

21674

fig. 1

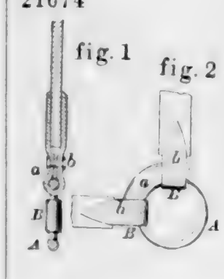


fig. 2

20816

fig. 1

fig. 2

fig. 3

22096

20278

fig. 1

fig. 2

22383

fig. 1

fig. 2

21989

fig. 1

fig. 2

21267

20246

20588

fig. 1

fig. 2

fig. 3

fig. 4

20463

fig. 1

fig. 2

22290

fig. 1

fig. 2

19371

19048

fig. 1

fig. 2

fig. 3

20228

fig. 1

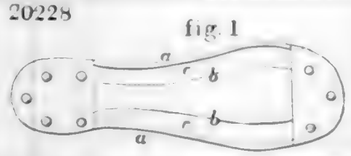


fig. 2



20222

fig. 1

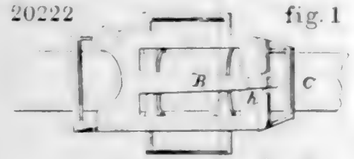
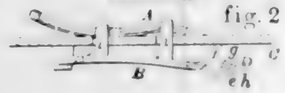


fig. 2



20997

fig. 1



fig. 2

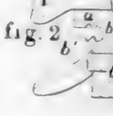


fig. 3



19078

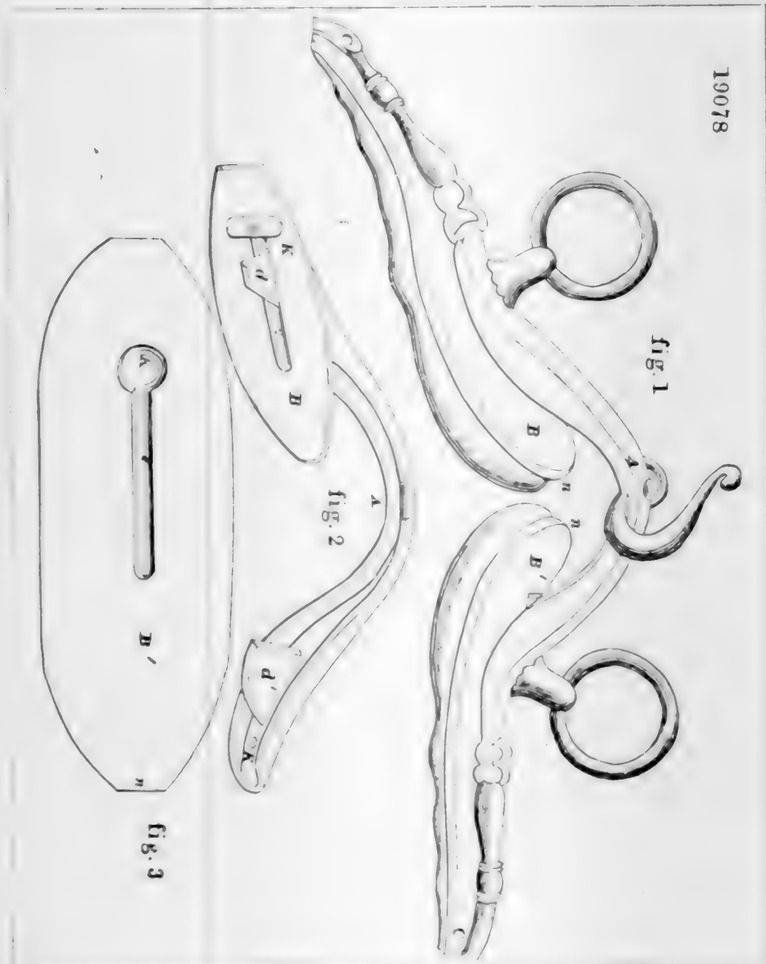


fig. 1

fig. 2

fig. 3

20861

fig. 1

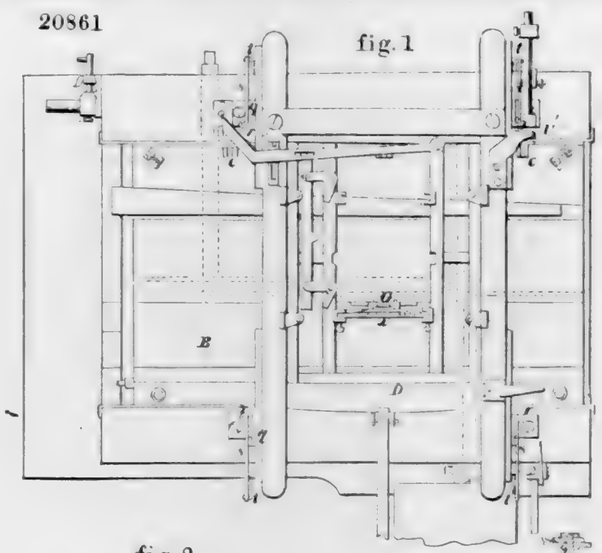


fig. 2

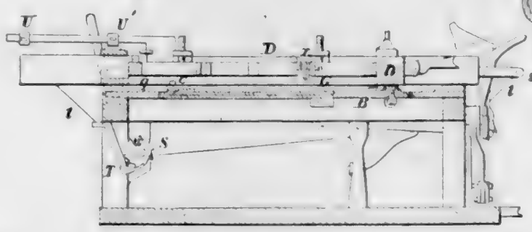
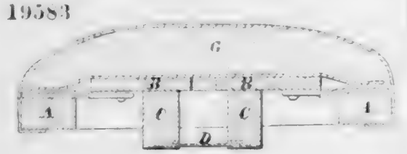


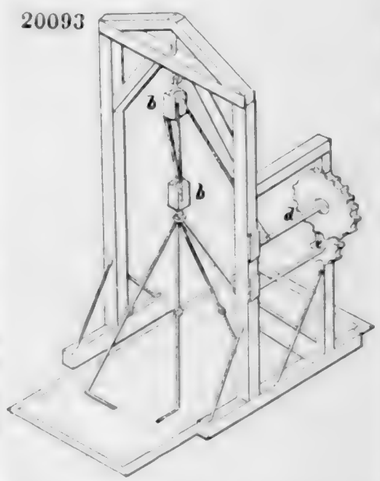
fig. 3



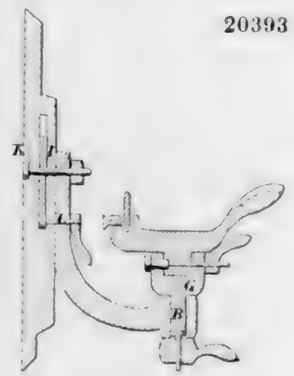
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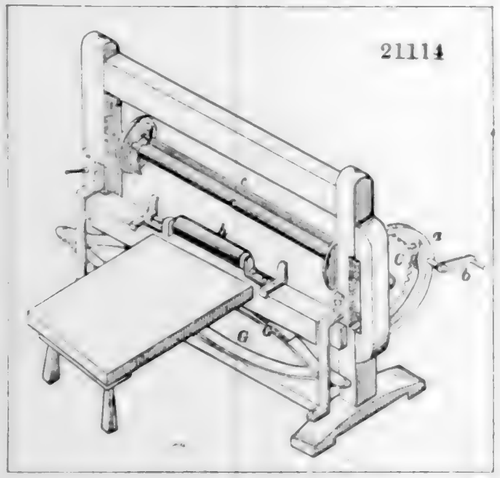
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20393



21114



22108

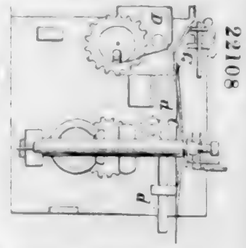


fig. 1

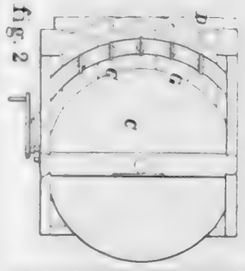


fig. 2

21937 fig. 1

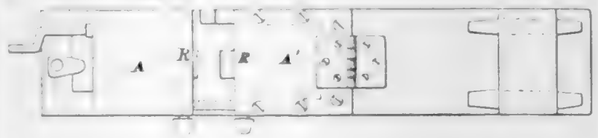
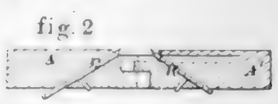


fig. 2



20093

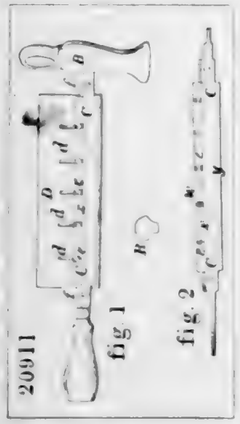


fig. 2

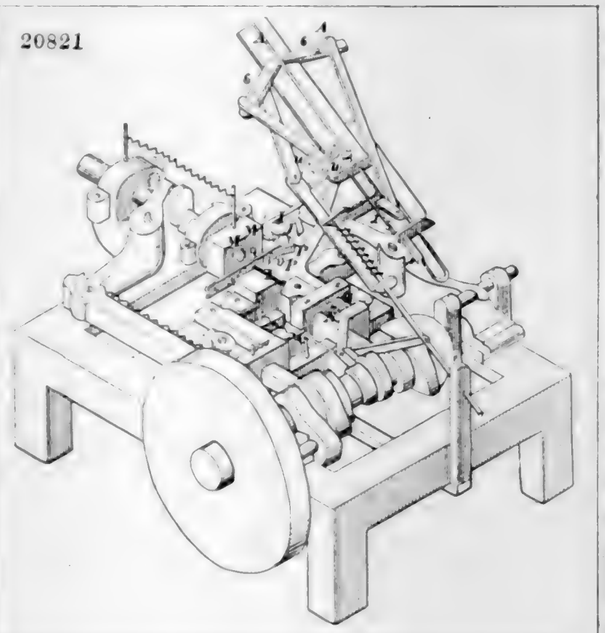
fig. 1

20911

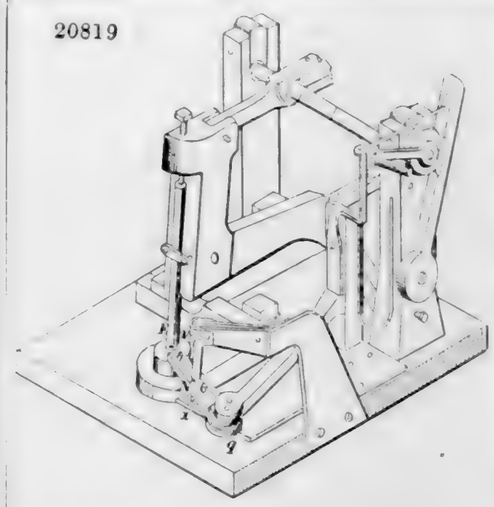
fig. 1

fig. 2

20821



20819



21091

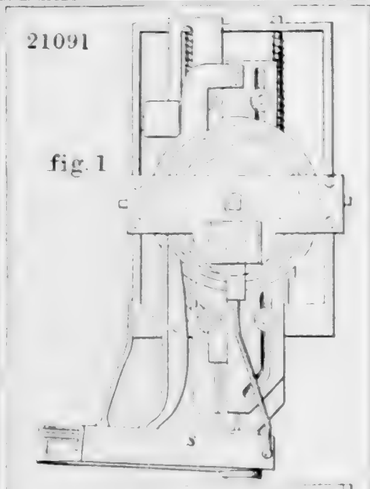


fig. 1

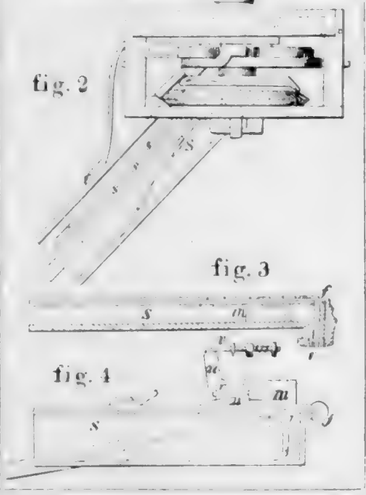


fig. 2

fig. 3

fig. 4

22340

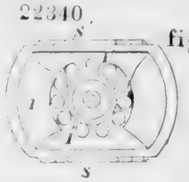


fig. 3

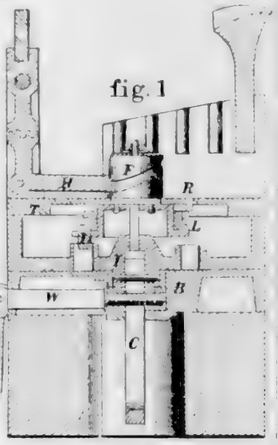


fig. 1

fig. 2

19354

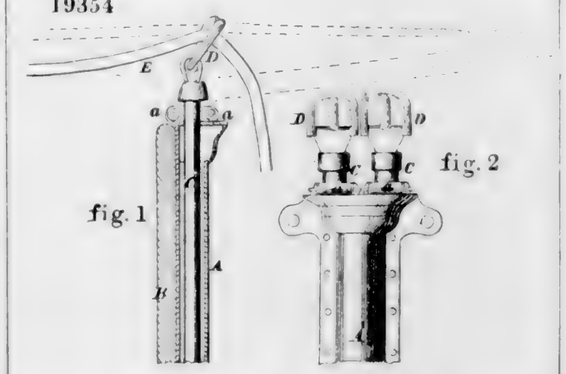


fig. 1

fig. 2

22130

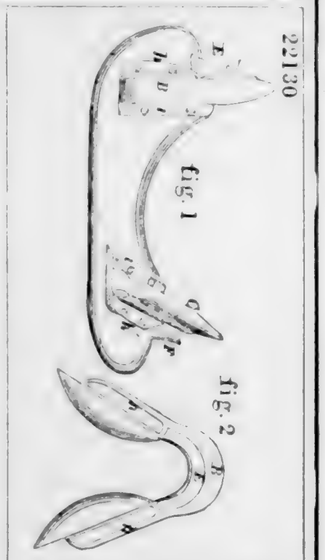


fig. 1

fig. 2

22001

fig. 1

fig. 2

fig. 3

20439

19730

fig. 1

fig. 2

fig. 3

19461

fig. 1

fig. 2

21104

20882 fig. 1 fig. 2

fig. 3

21223

21500

fig. 1

fig. 2

21051

fig. 1

fig. 2

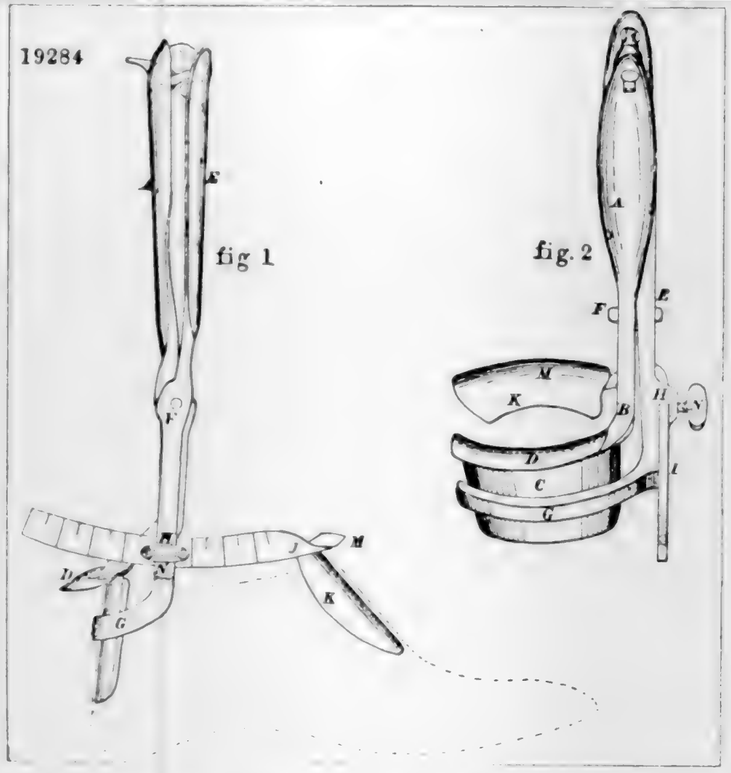
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fig. 1

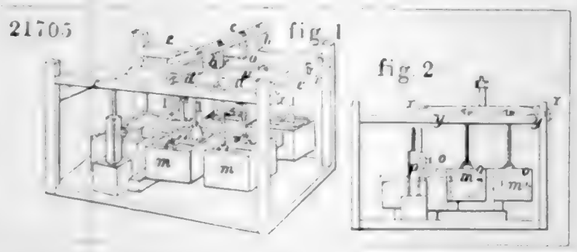
fig. 2

fig. 3

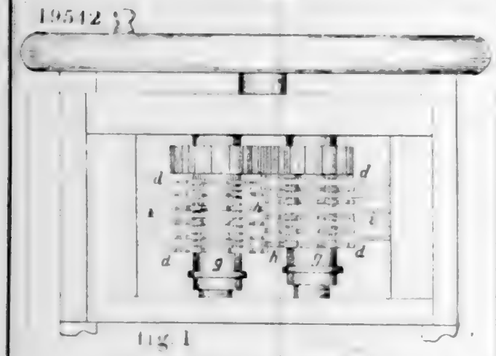
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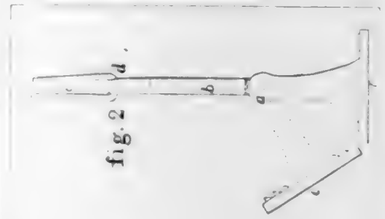


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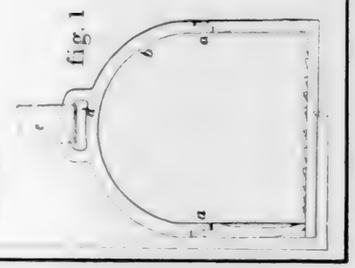


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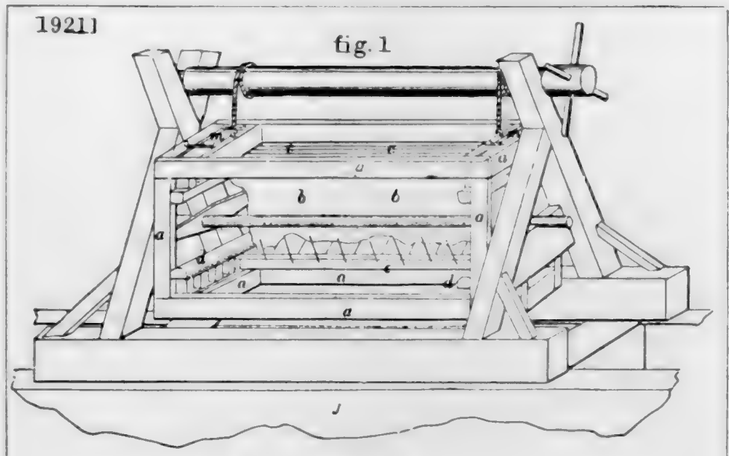


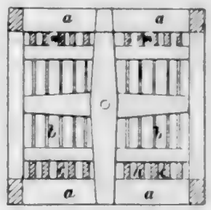


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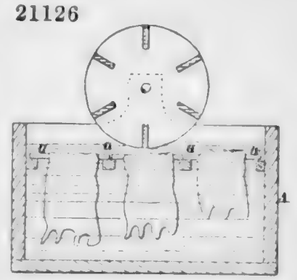




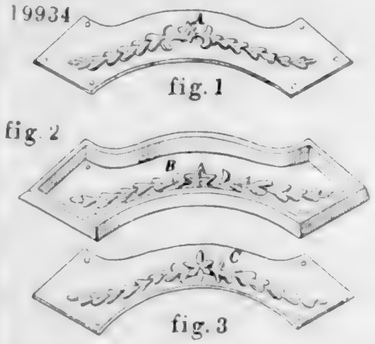
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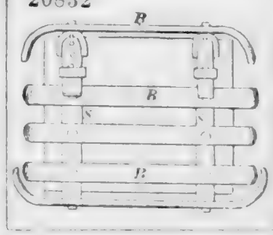
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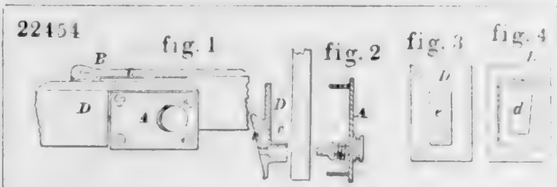
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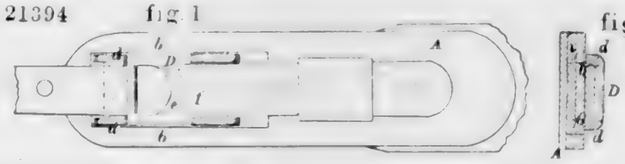
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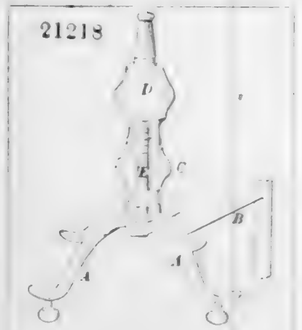
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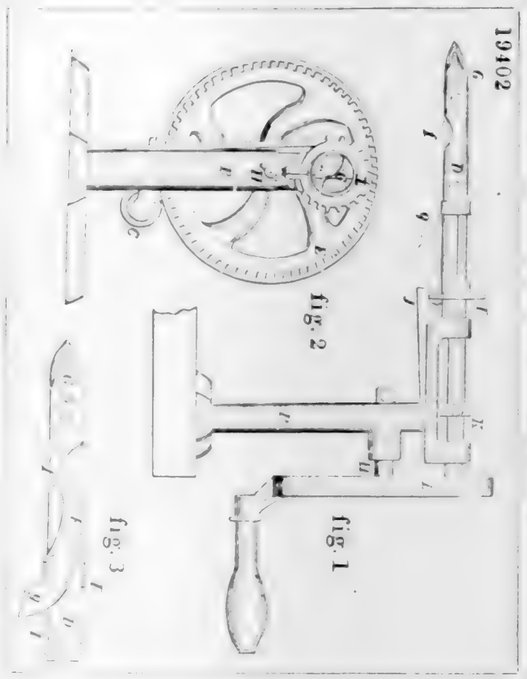
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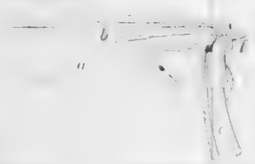
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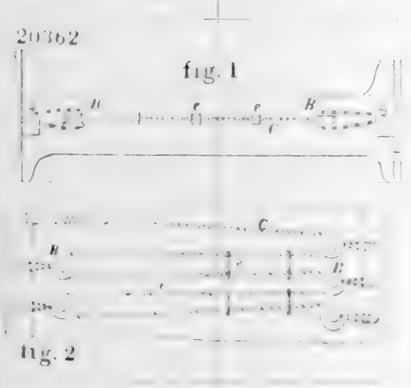
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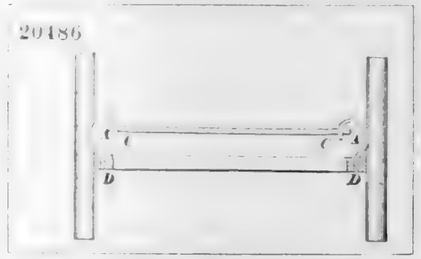
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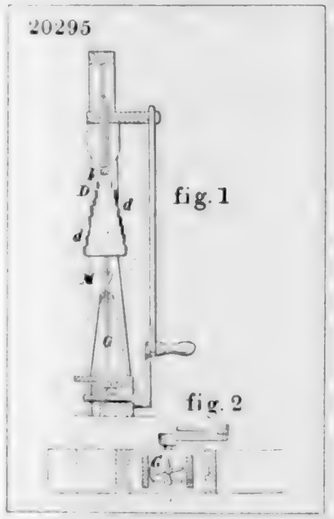
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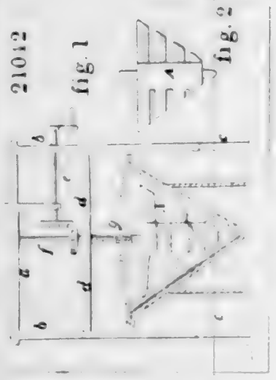
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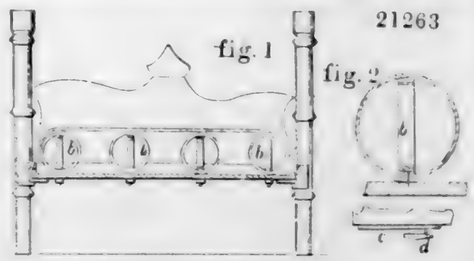
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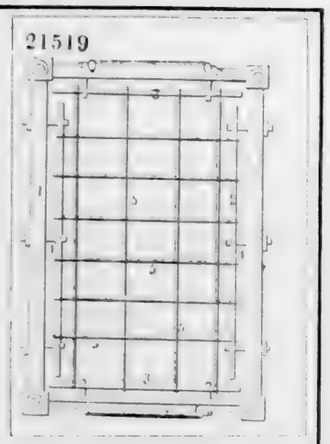
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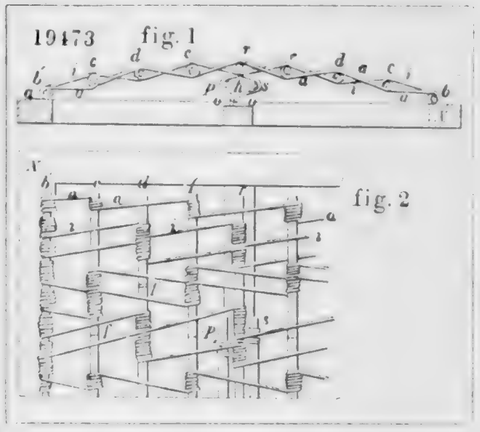
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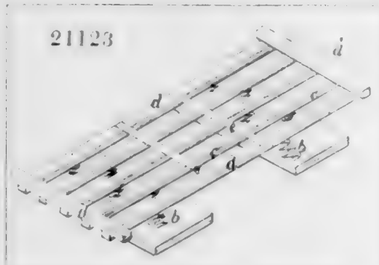
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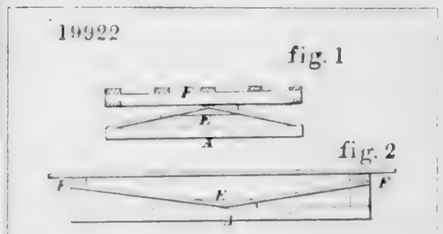
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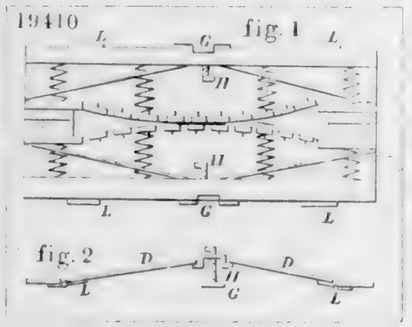
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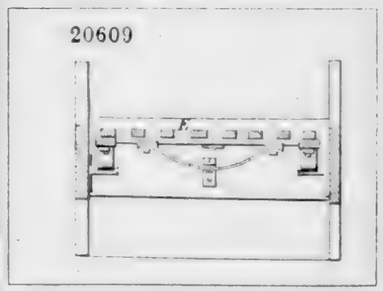
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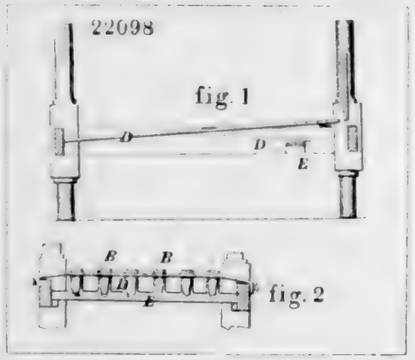
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20609



22098



20097

fig. 1

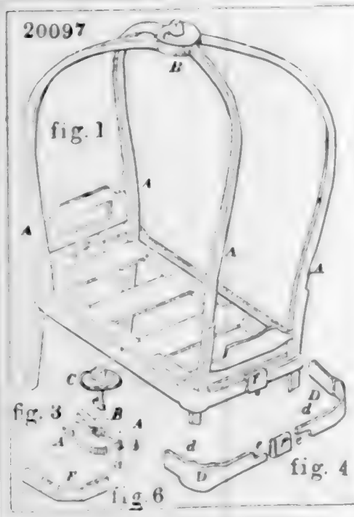
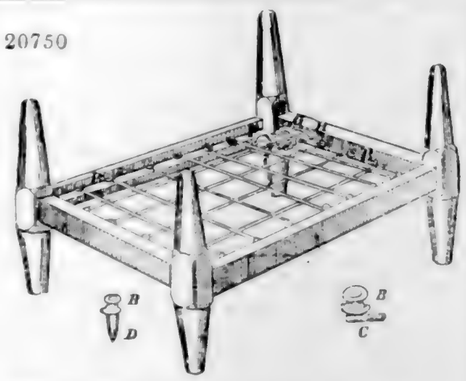


fig. 3

fig. 6

fig. 4

20750



21527

fig. 1

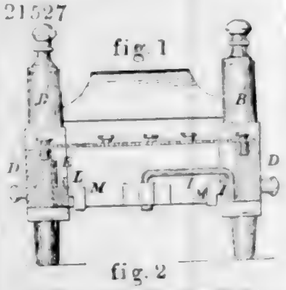
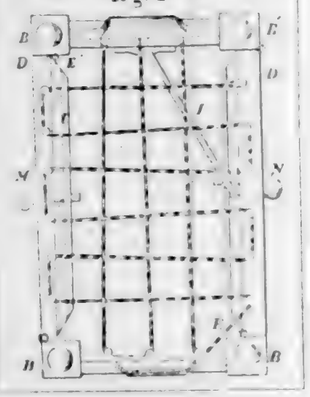
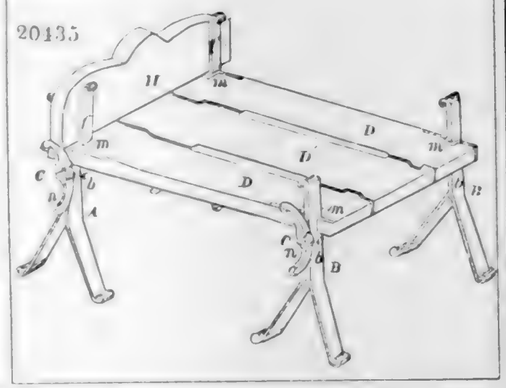


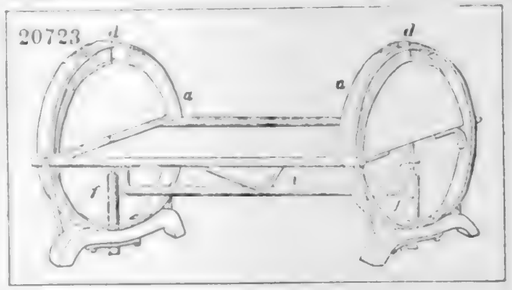
fig. 2



20435



20723



20518

fig. 1

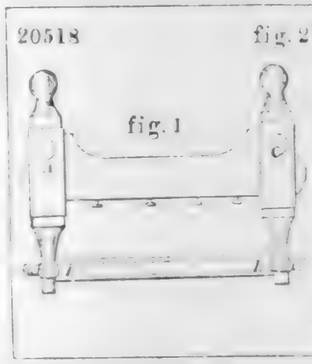
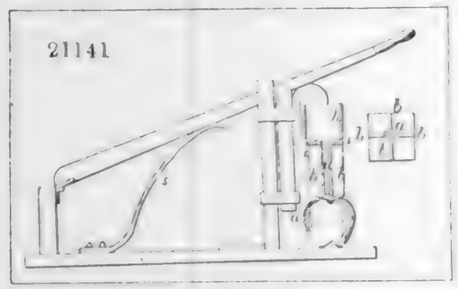


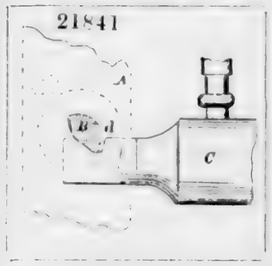
fig. 2



21141



21841



21926

fig. 1

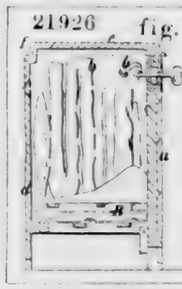
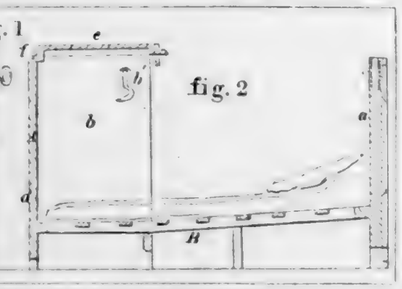


fig. 2



19451

fig. 1

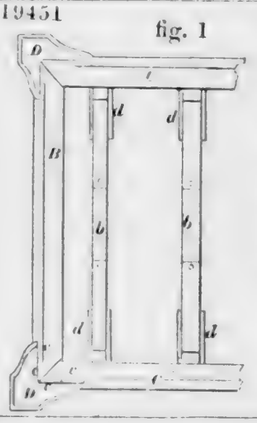


fig. 2



21878

fig. 1

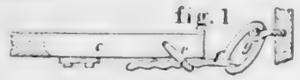
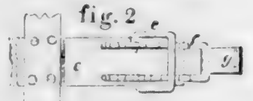


fig. 2



20478

fig. 1

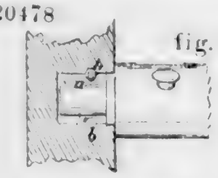
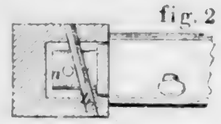
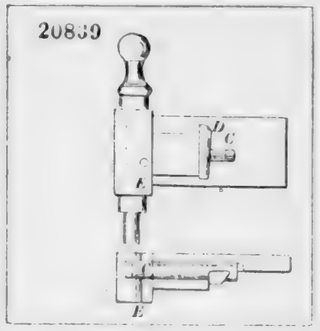


fig. 2



20839



22456

fig. 1

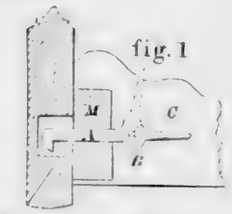
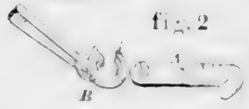


fig. 2



19514

fig. 1

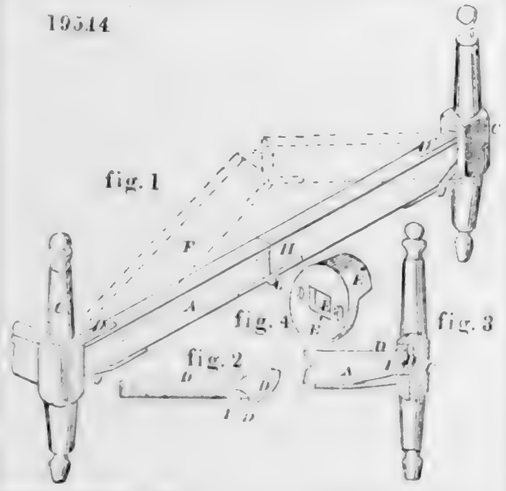
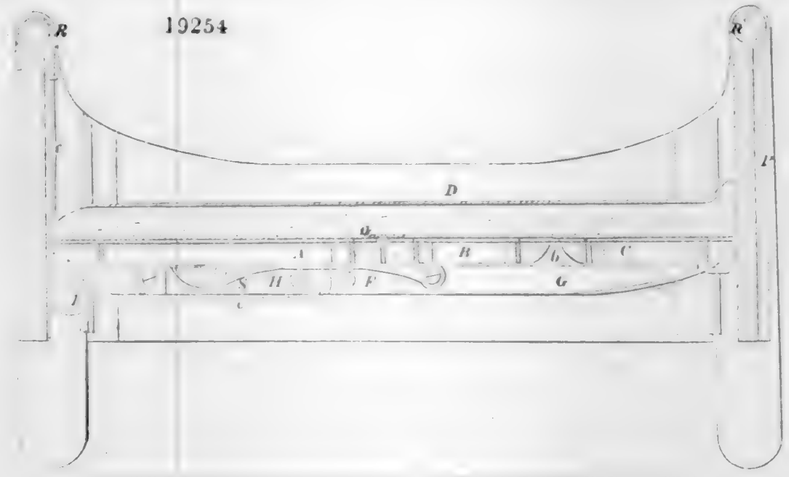


fig. 4

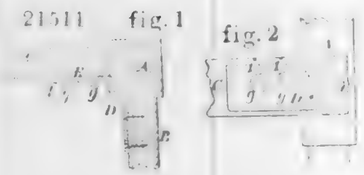
fig. 3

fig. 2

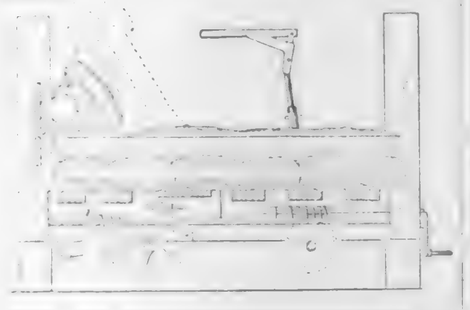
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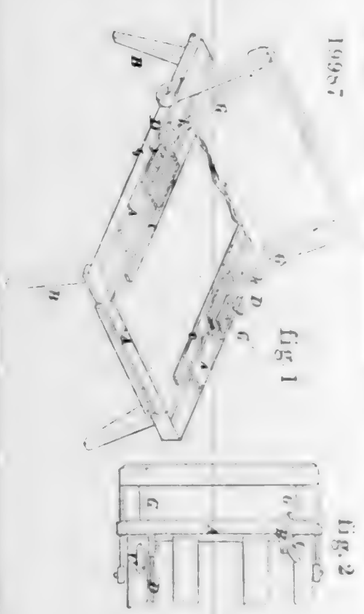
21511 fig. 1 fig. 2



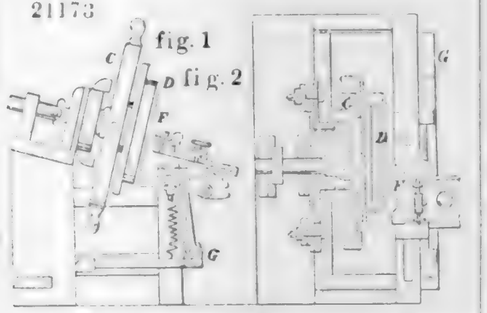
20580



19681



21173 fig. 1 fig. 2



20092

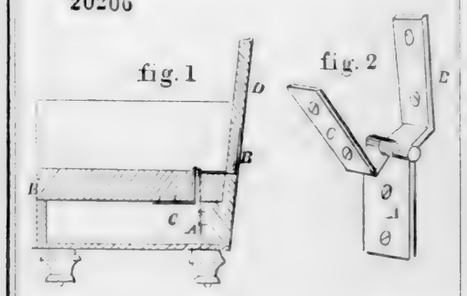


fig. 1

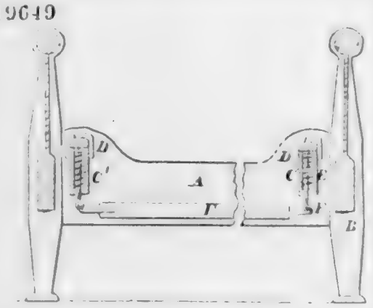


fig. 2

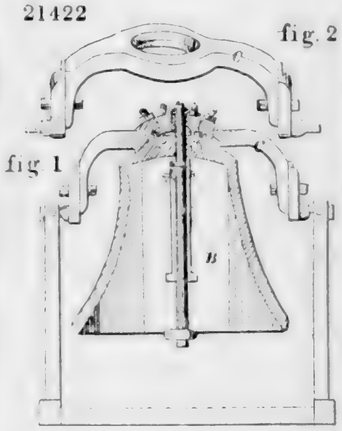
20206 fig. 1 fig. 2



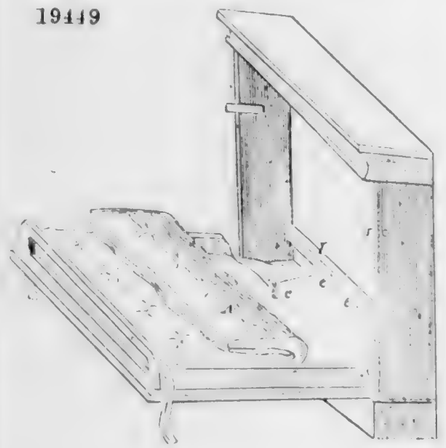
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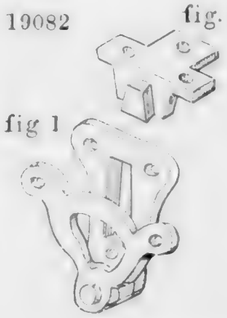
21422 fig. 1 fig. 2



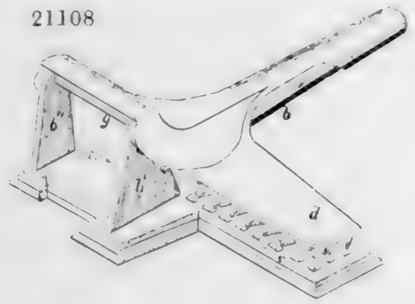
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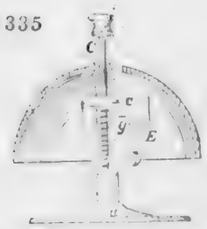
19082 fig. 1 fig. 2



21108



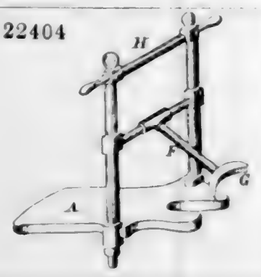
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20307



22404



19075

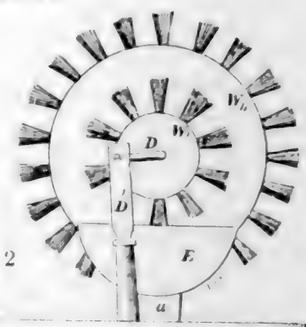


fig. 2

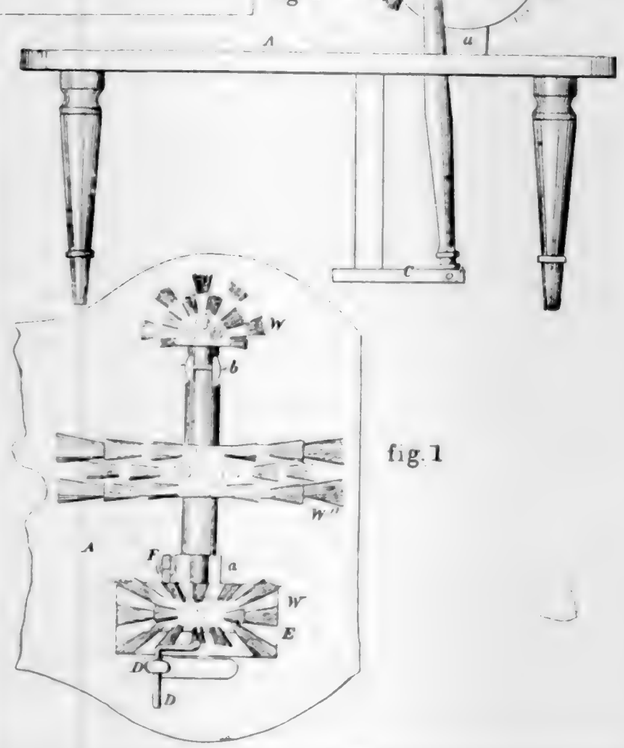
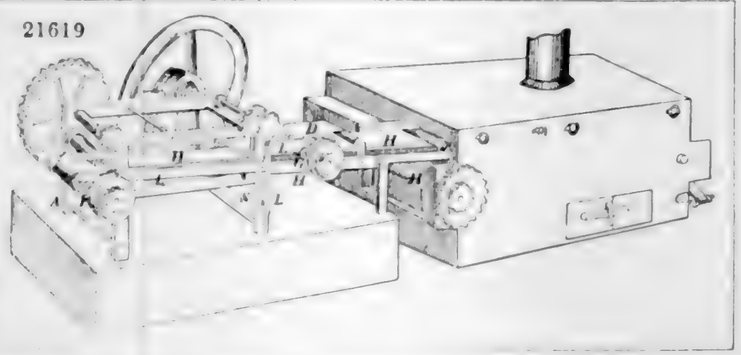


fig. 1

21619



19844

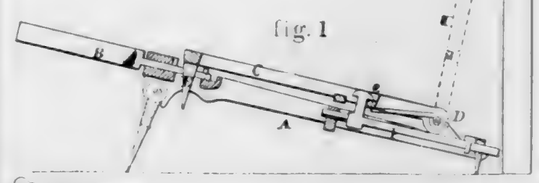


fig. 1

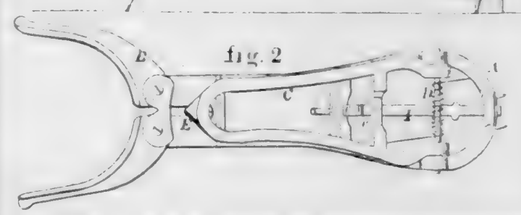
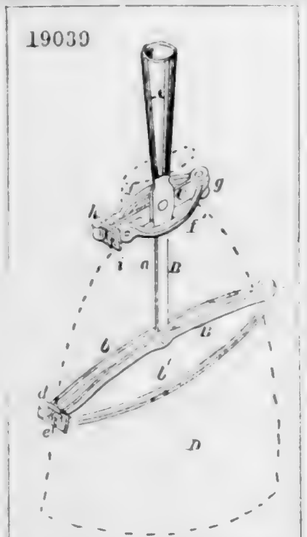


fig. 2

19039



19238

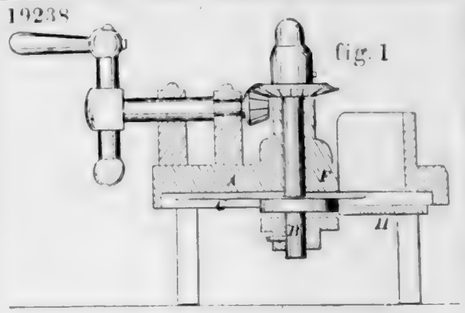


fig. 1

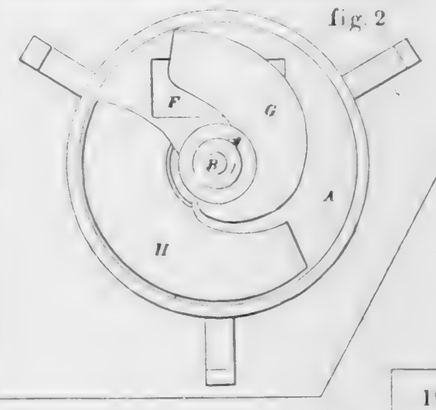


fig. 2

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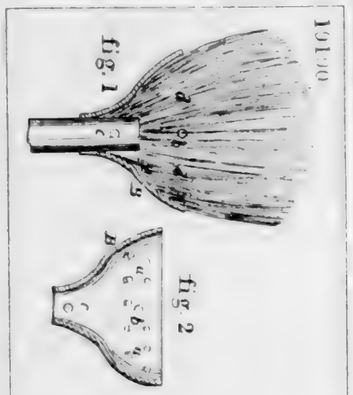


fig. 1

fig. 2

20226



22381

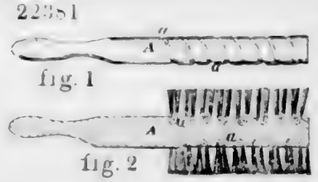


fig. 1

fig. 2

19459

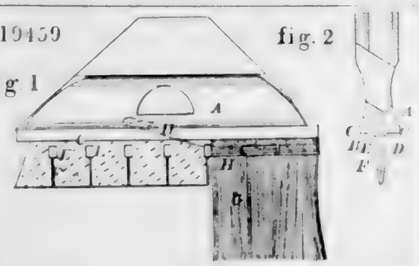
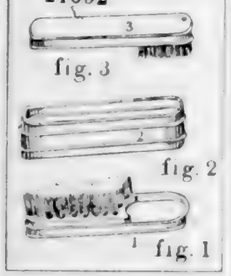


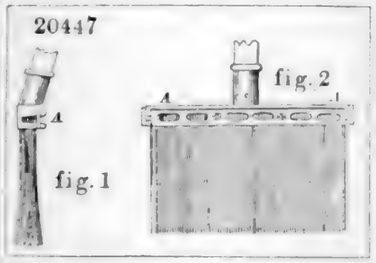
fig. 1

fig. 2

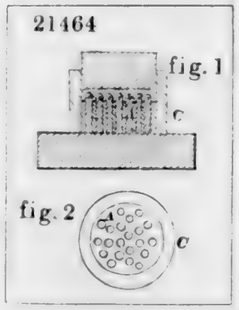
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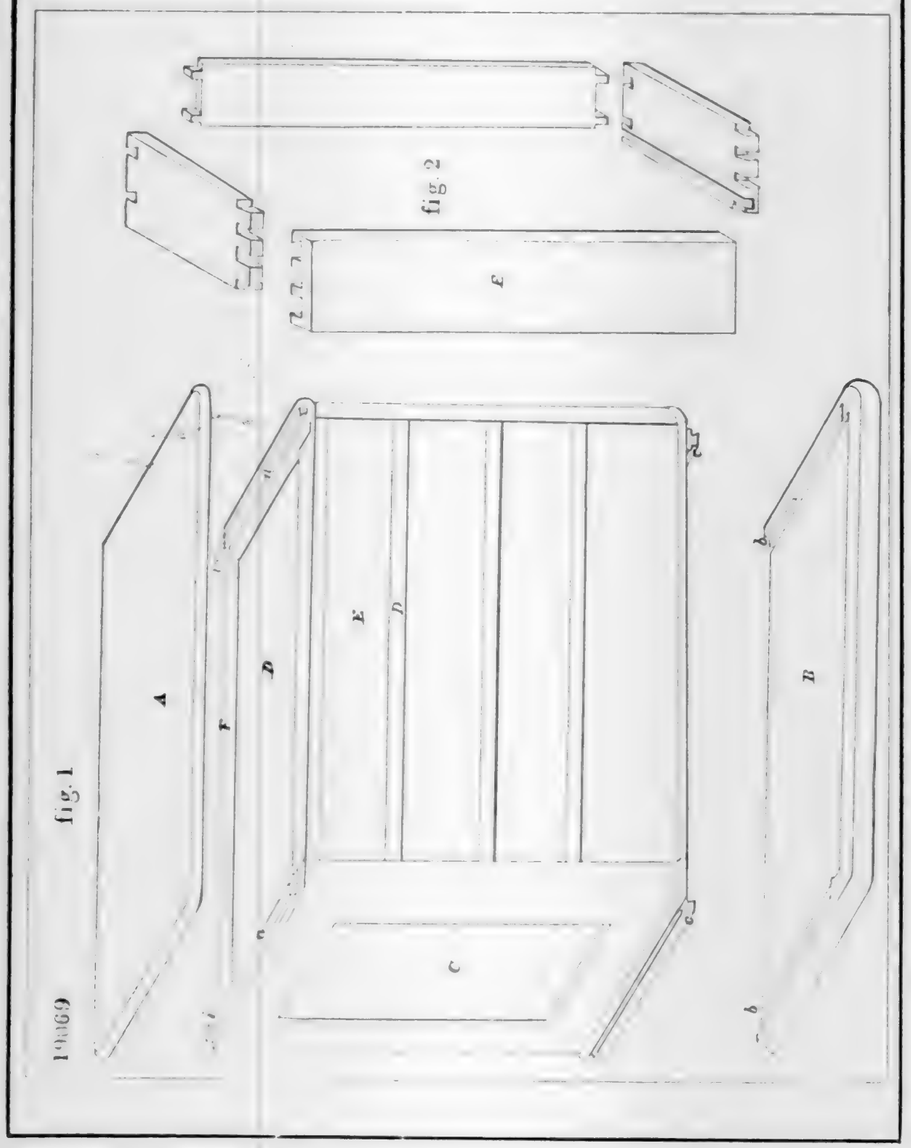
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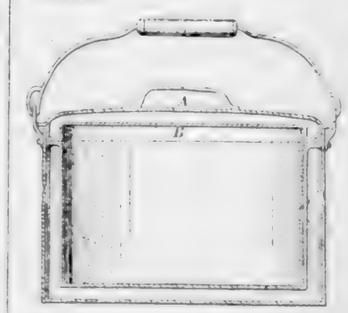
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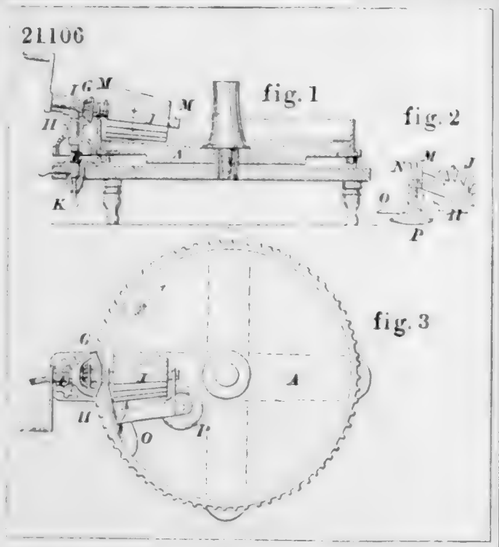
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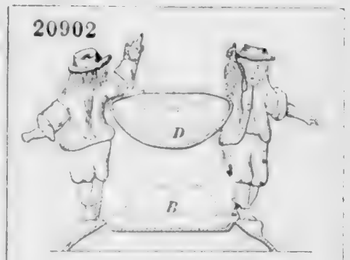
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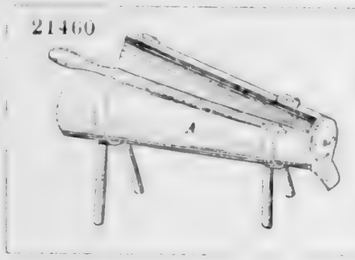
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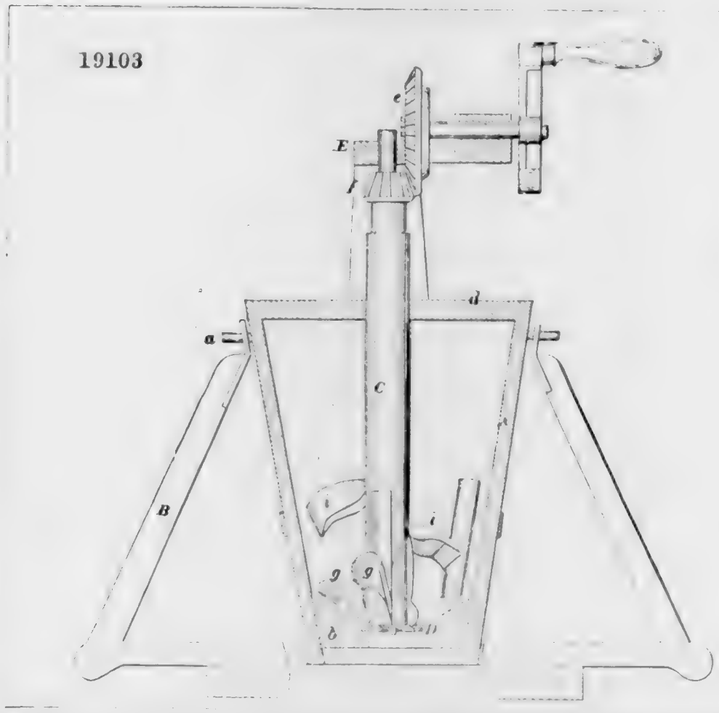
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21460



19103



20054

fig. 1

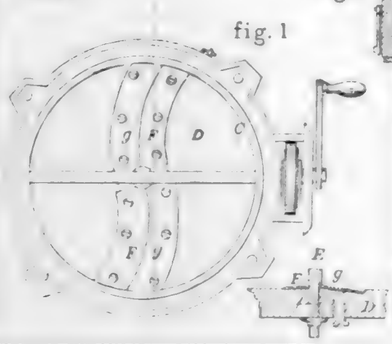
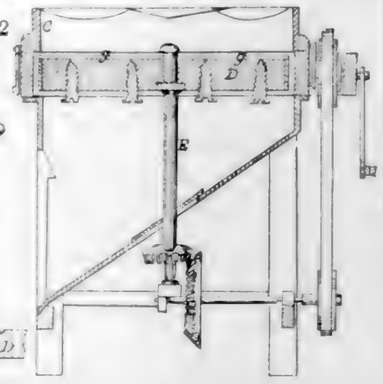
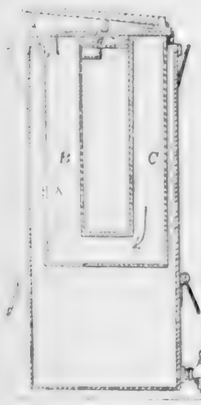


fig. 2



20209



22436

fig. 2



fig. 1

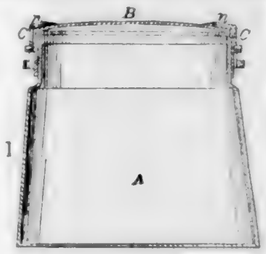
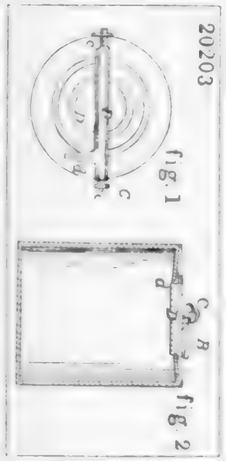


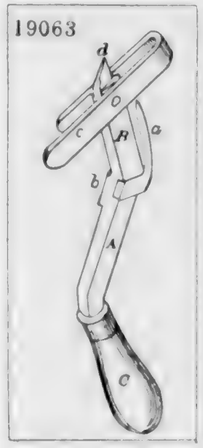
fig. 3



20203



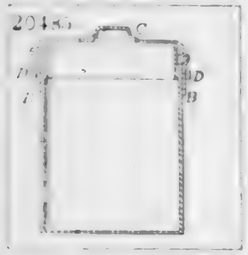
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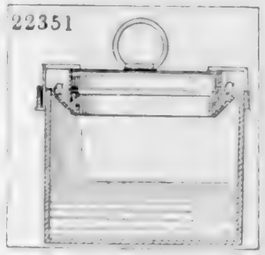
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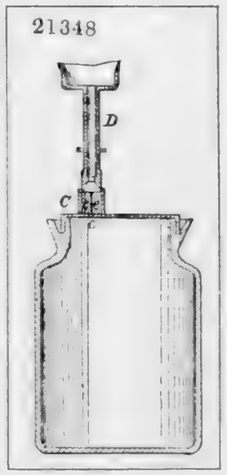
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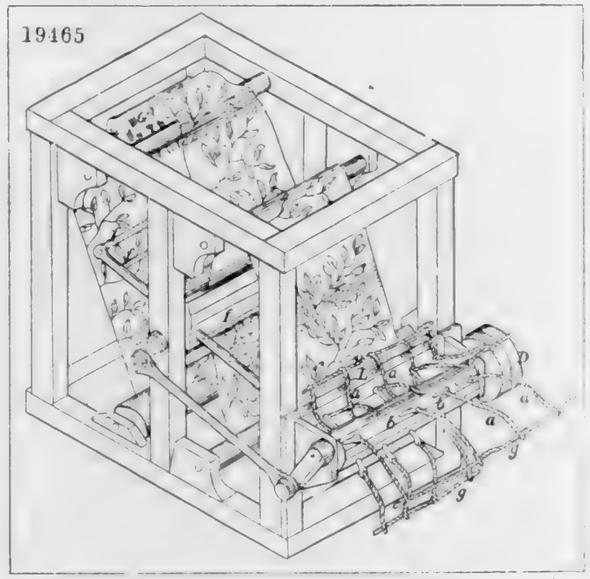
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21348



19465



21211

fig. 1

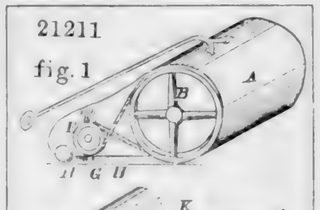


fig. 2

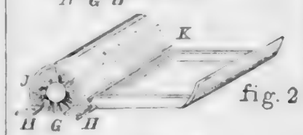
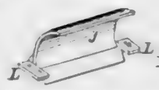


fig. 3



19164

fig. 1

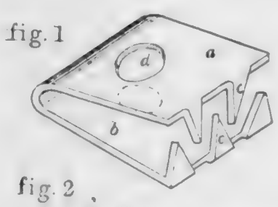
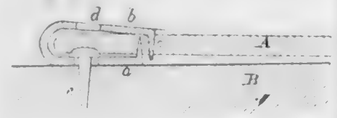


fig. 2



21325

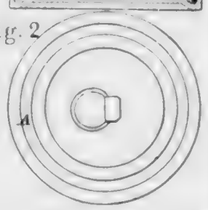


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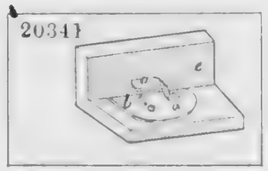
fig. 1



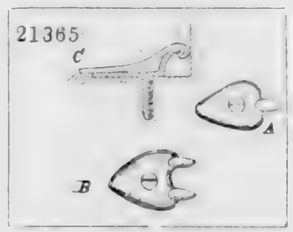
fig. 2



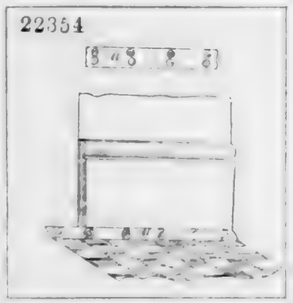
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21365



22354



19230

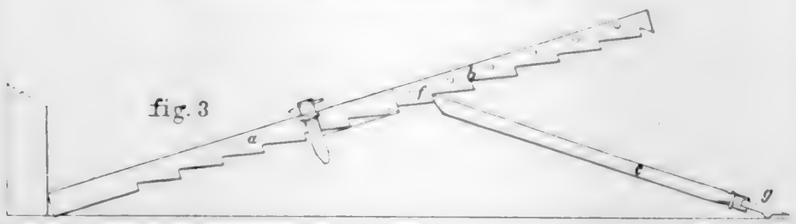
fig. 1



fig. 2



fig. 3



19882

fig. 1

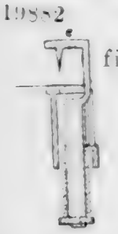
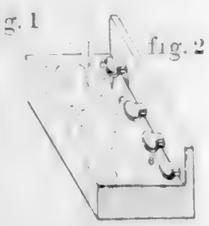


fig. 2



19596

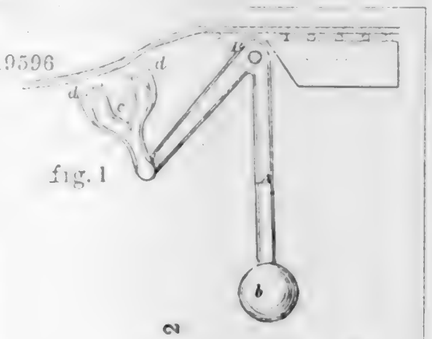
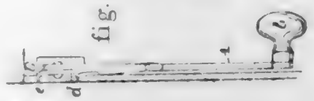
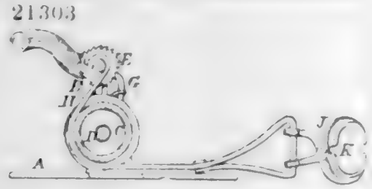


fig. 1

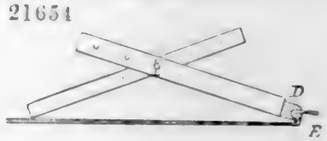
fig. 2



21303



21654



21600

fig. 2

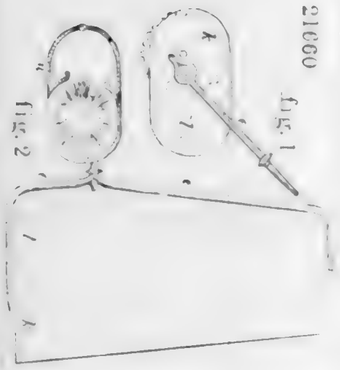


fig. 1

21233

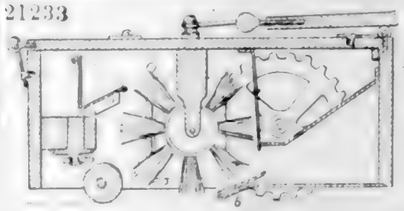
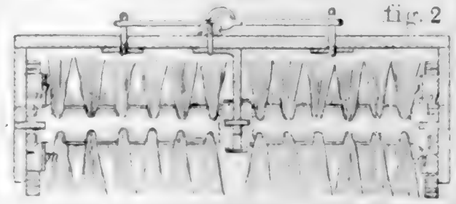


fig. 1

fig. 2



21451

fig. 1

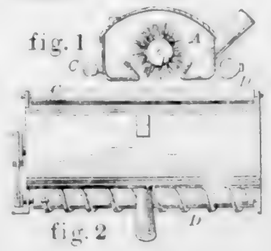


fig. 2



21673

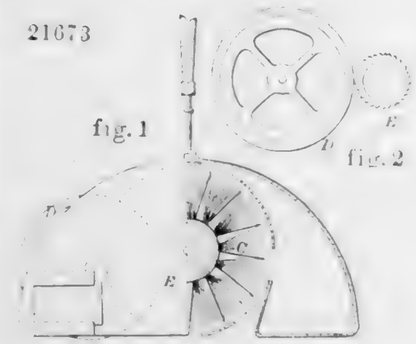


fig. 1

fig. 2

21701



fig. 1

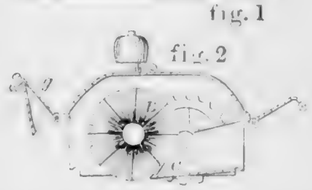


fig. 2

21815

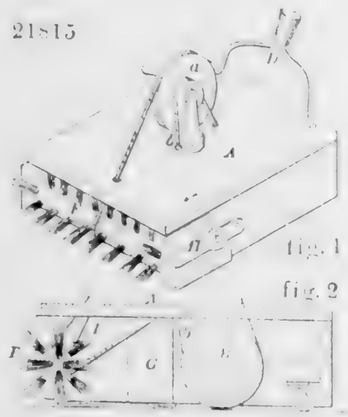


fig. 1

fig. 2

19824

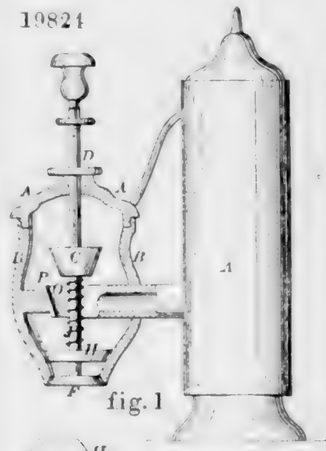


fig. 1

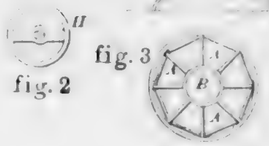


fig. 2

fig. 3

22297

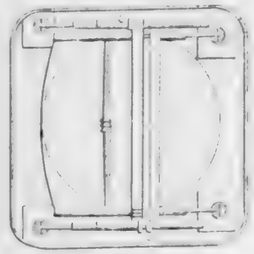


fig. 1

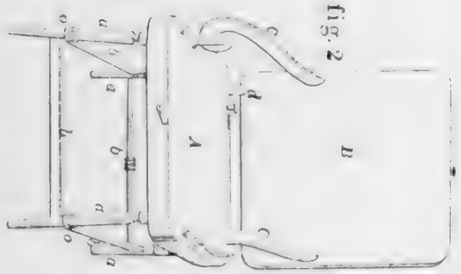
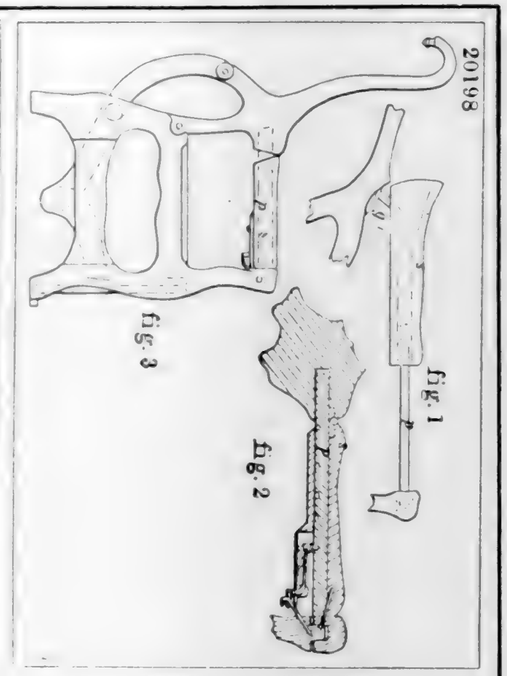


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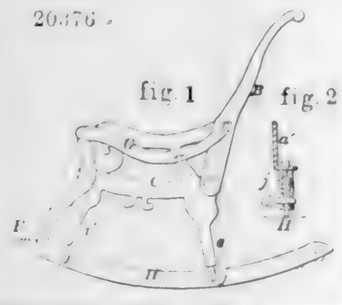
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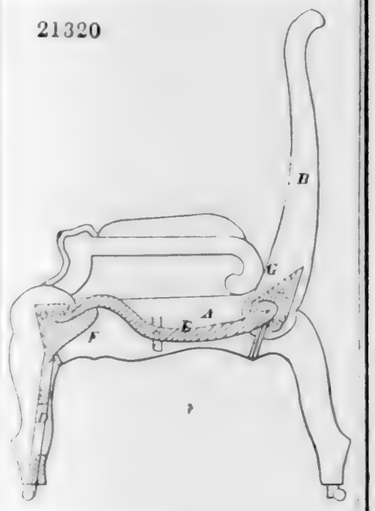
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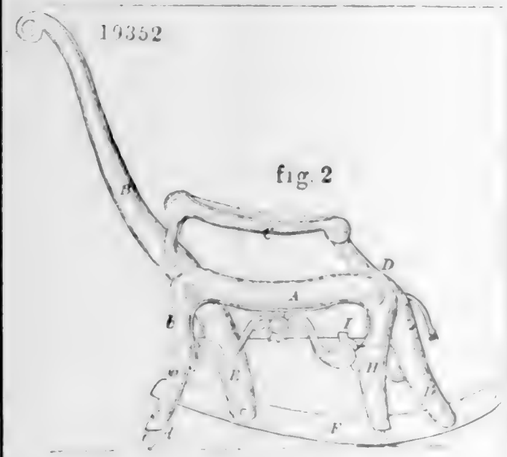
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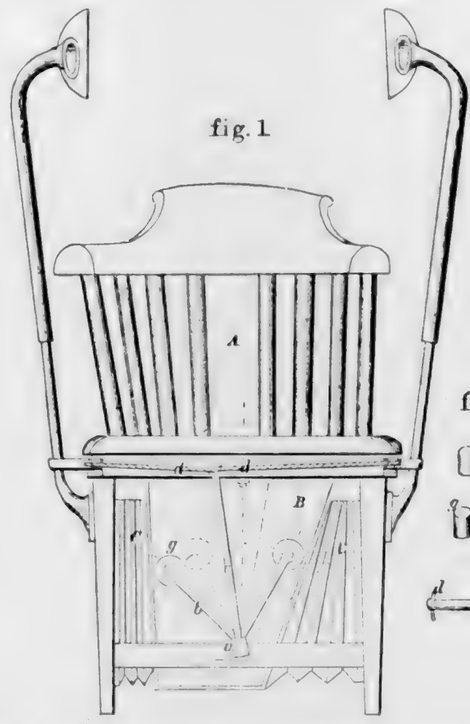


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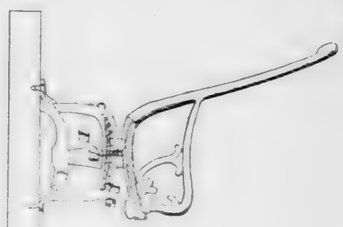




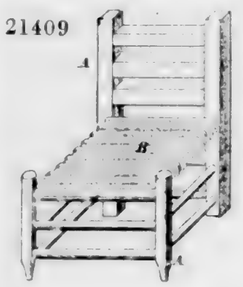
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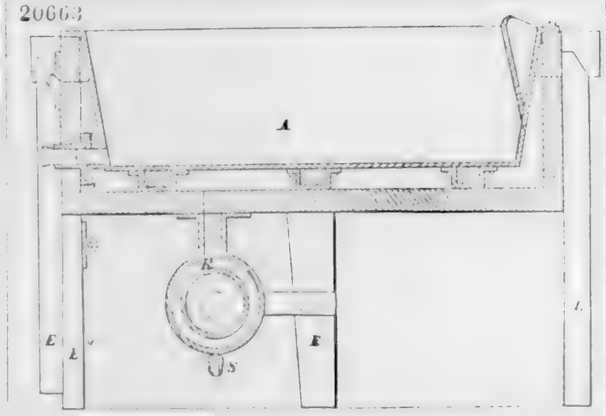
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22419



20003



19476

fig. 1

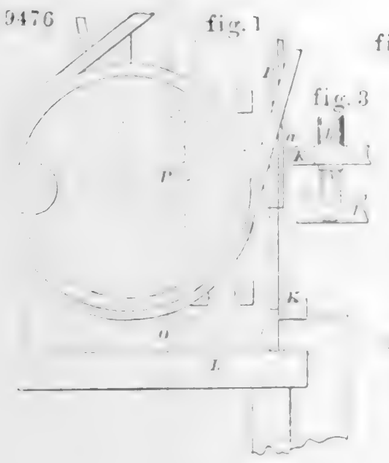
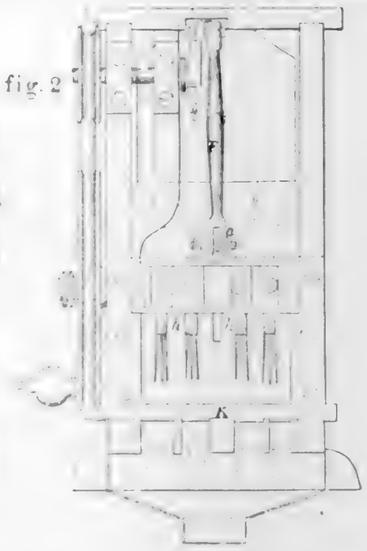


fig. 3

fig. 2



22164

fig. 1

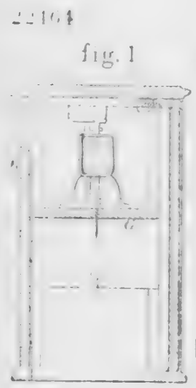
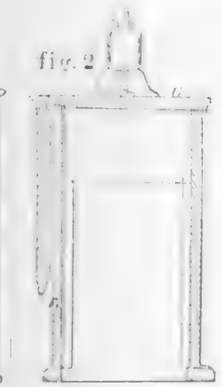
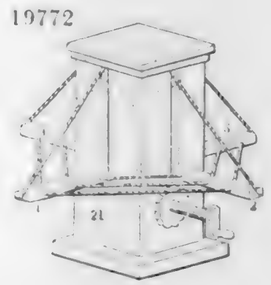


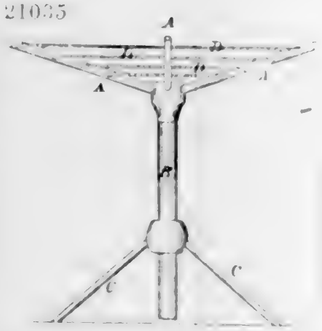
fig. 2



19772



21035



20964

fig. 1

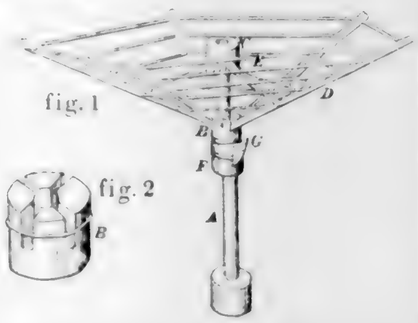
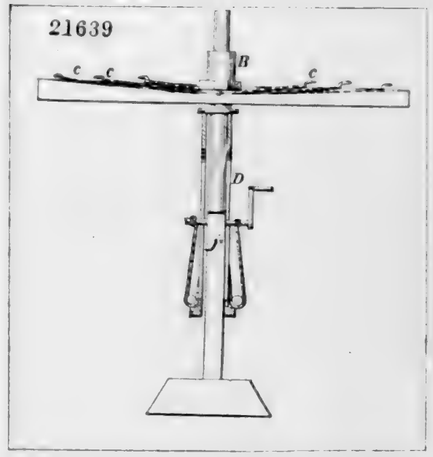


fig. 2

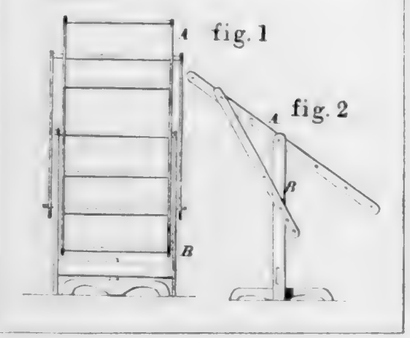
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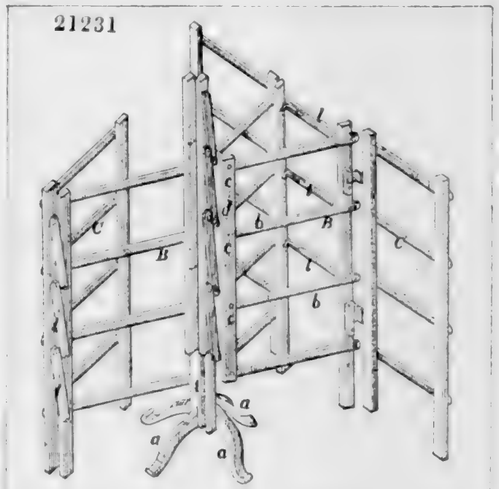
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fig. 1

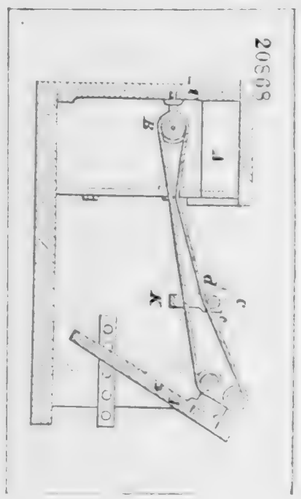
fig. 2



21231



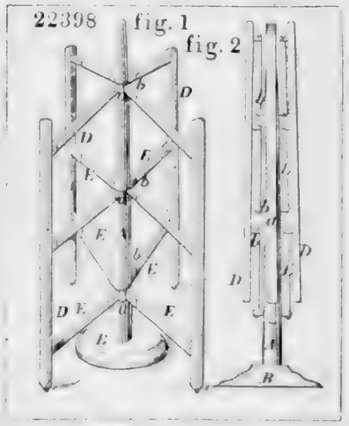
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22398

fig. 1

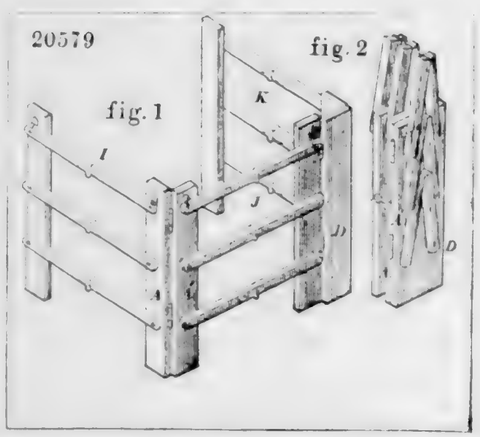
fig. 2



20579

fig. 1

fig. 2



20669

fig. 1

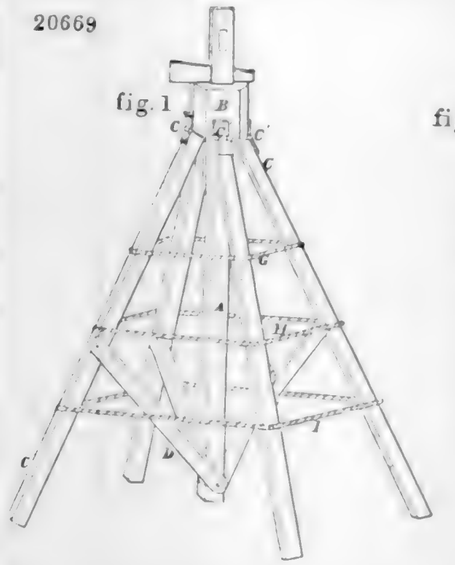


fig. 2



22435

fig. 1

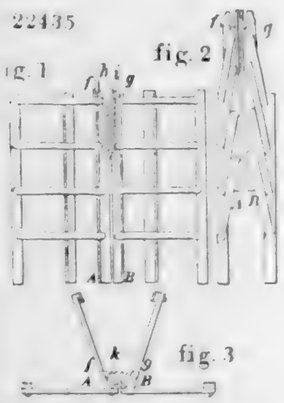


fig. 2



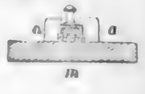
fig. 3

21818

fig. 1



fig. 2



20470

fig. 1

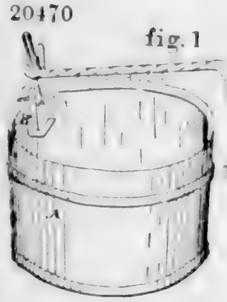


fig. 2



22451

fig. 1

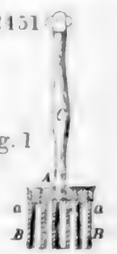
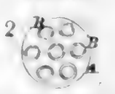
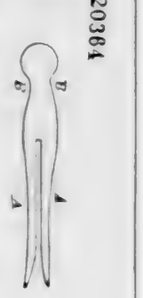


fig. 2



20364



20577

fig. 1

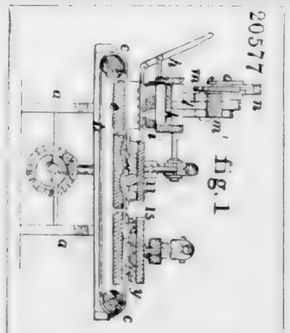
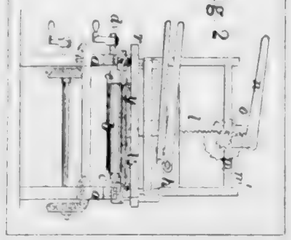
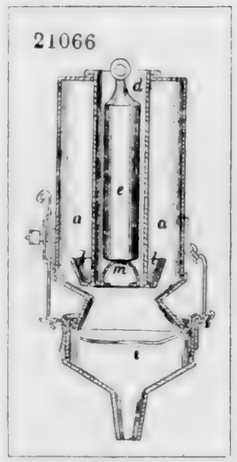


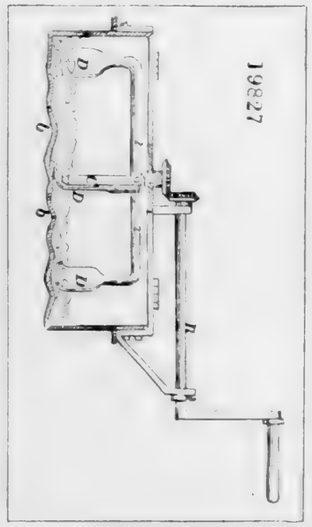
fig. 2



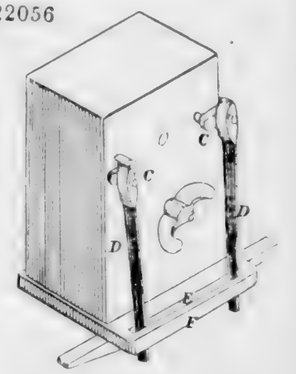
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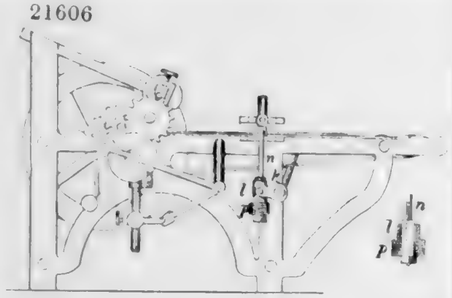
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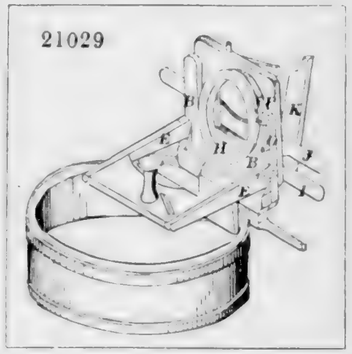
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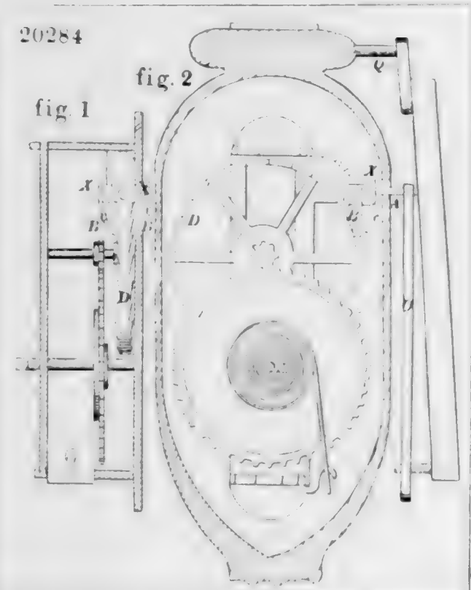
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20284

fig. 2

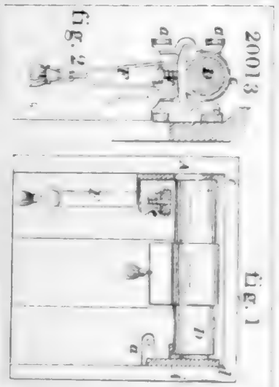
fig. 1



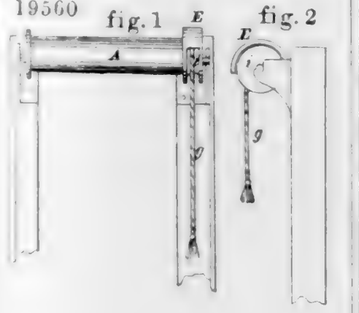
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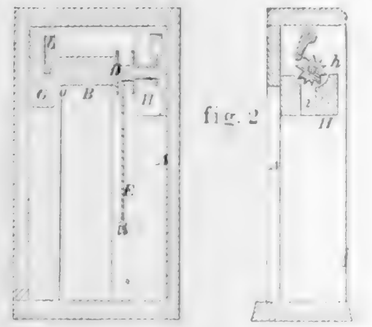
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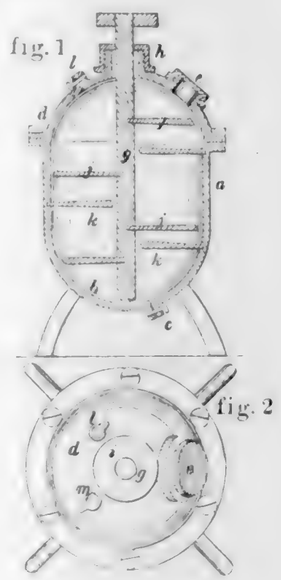
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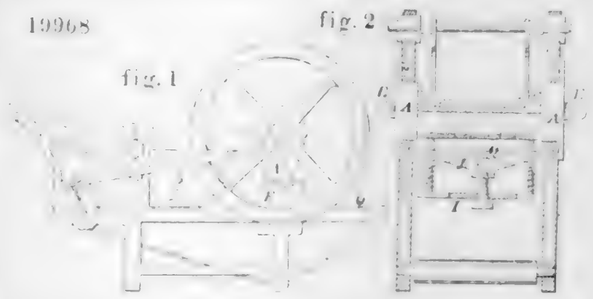
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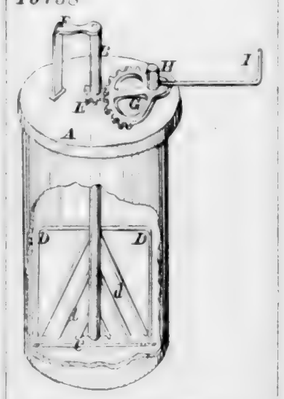
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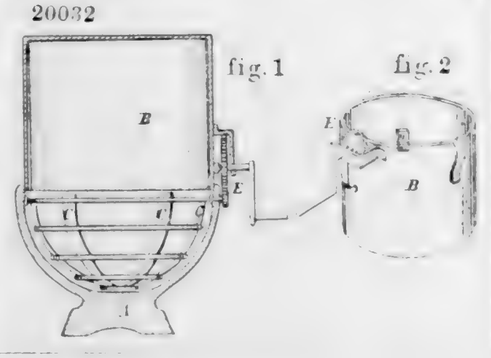
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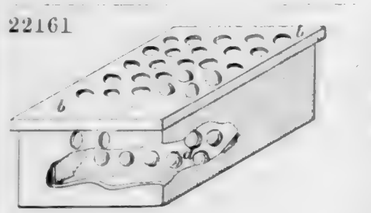
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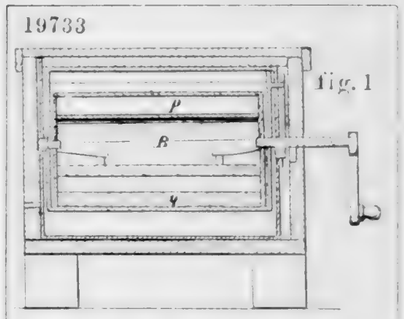
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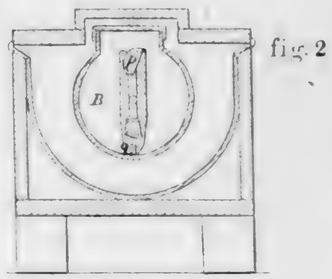


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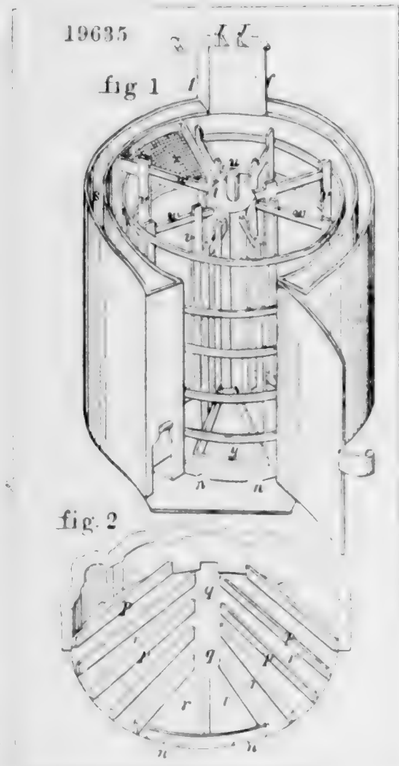


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20359

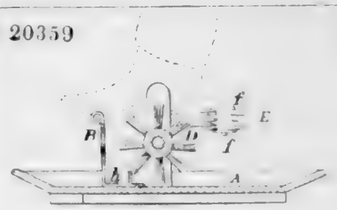


fig. 2

fig. 3

fig. 1

19147

21415

fig. 4

20031 fig. 1 fig. 2

22243

fig. 1

fig. 2

19127

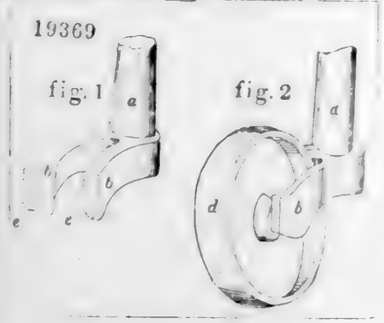
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fig. 4

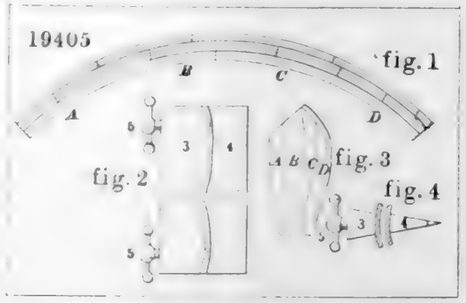
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fig. 3

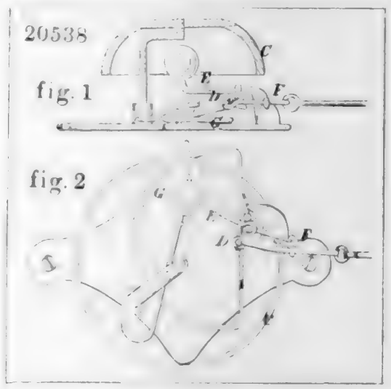
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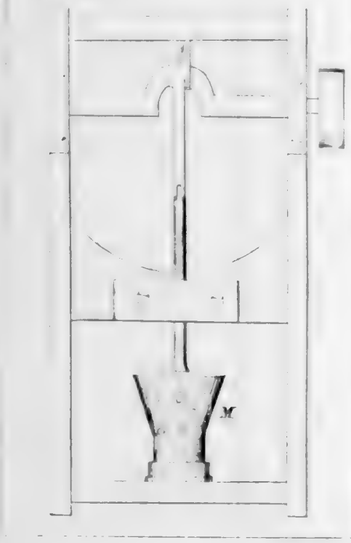
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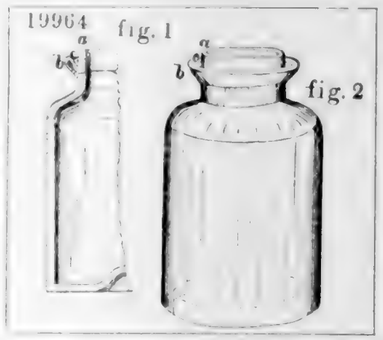
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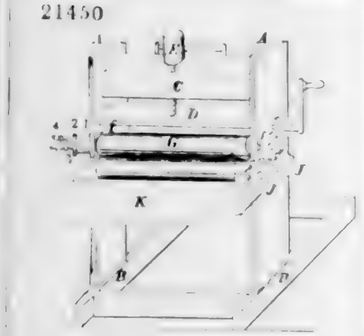
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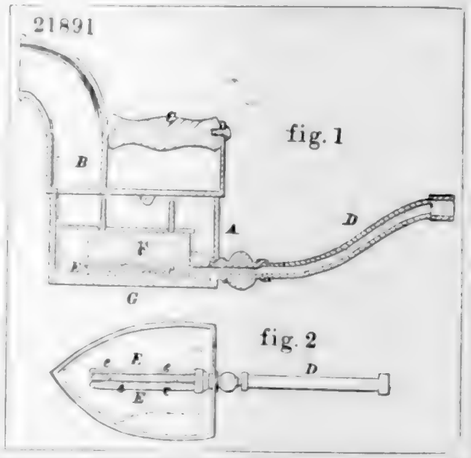
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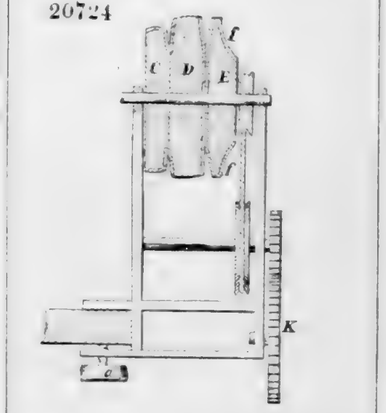
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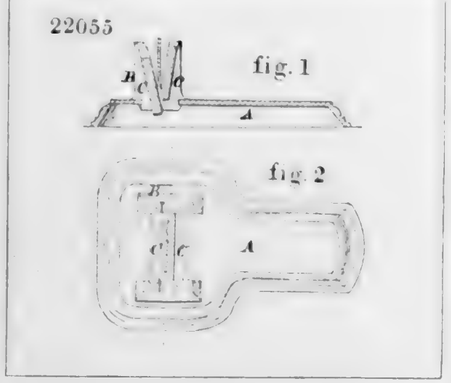
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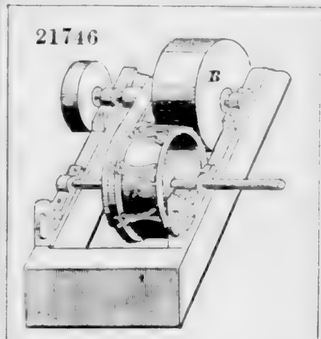
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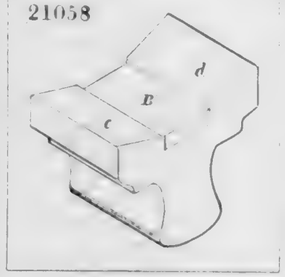
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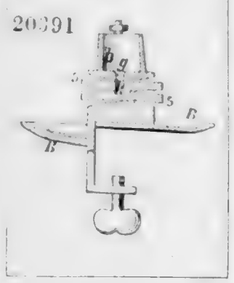
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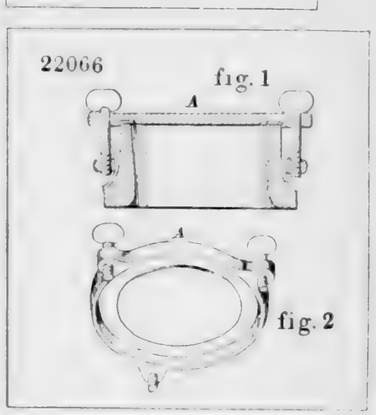
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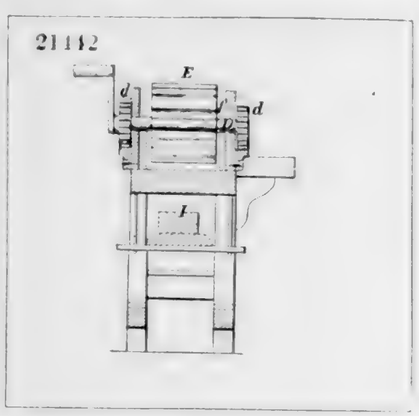
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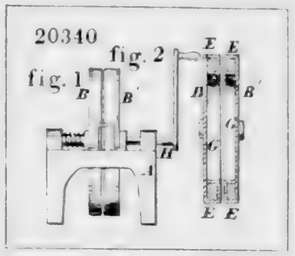
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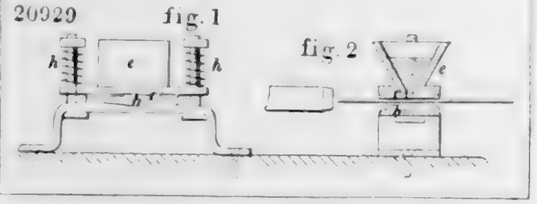
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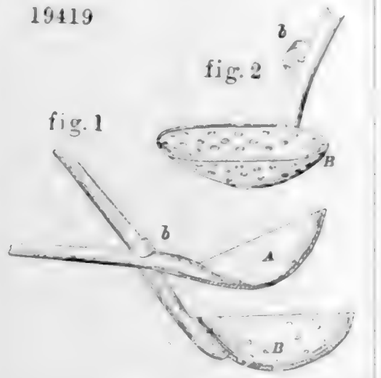
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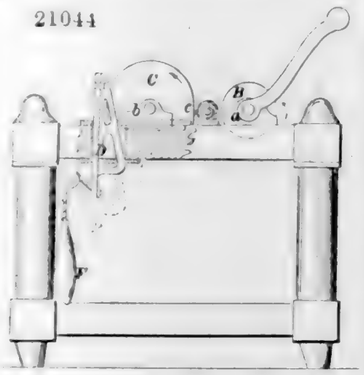
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fig. 2

fig. 1



21044



20112

fig. 1

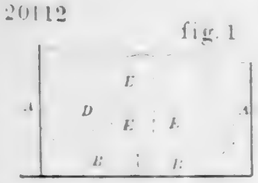
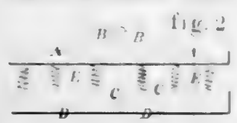
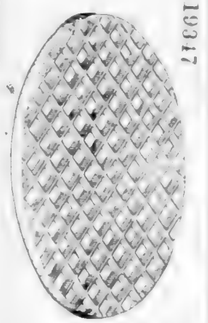


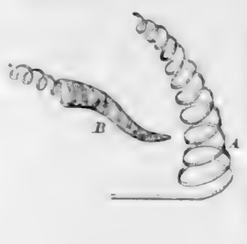
fig. 2



19317



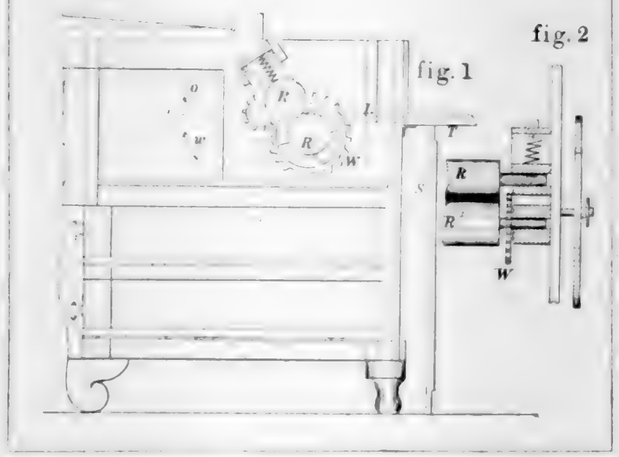
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20002

fig. 2

fig. 1



19681

fig. 1

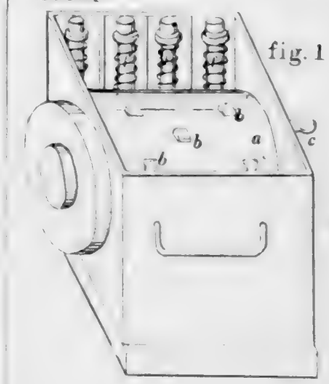
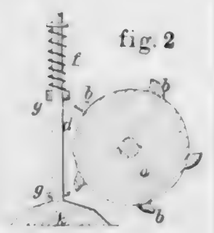


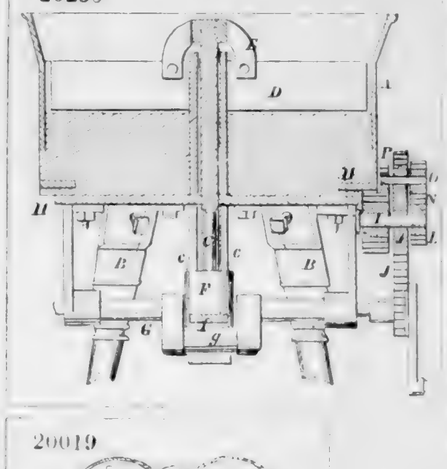
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20258



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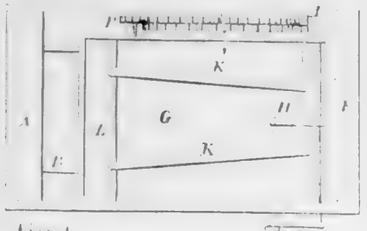
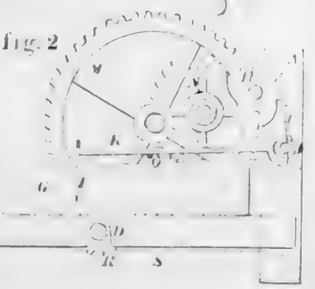


fig. 1

fig. 2

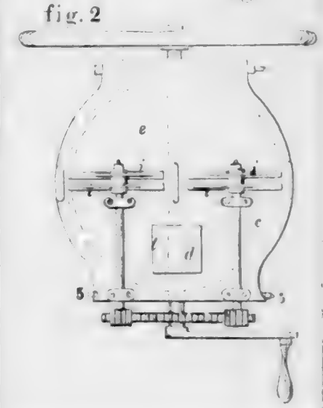


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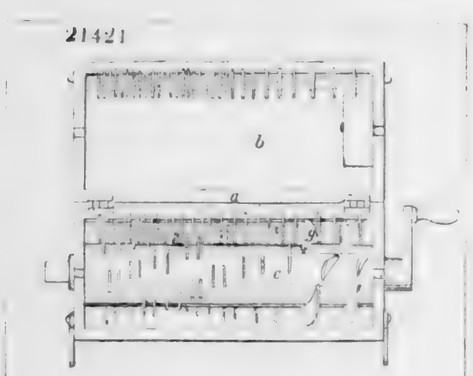


fig. 1

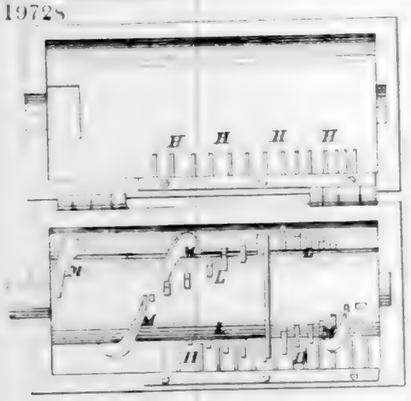
fig. 2



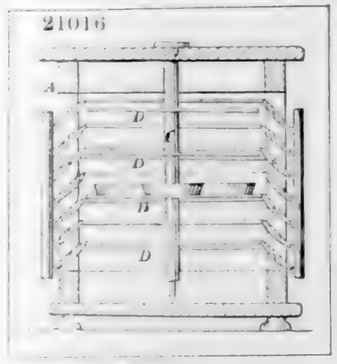
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19728



21016



21842



19965

fig. 1

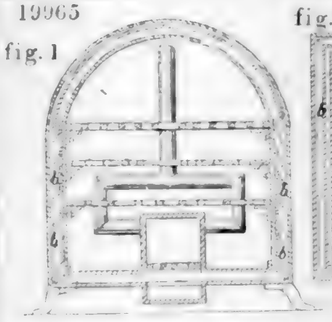
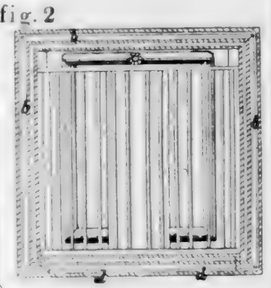


fig. 2



21019

fig. 1

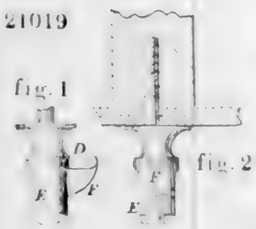
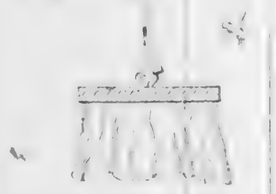
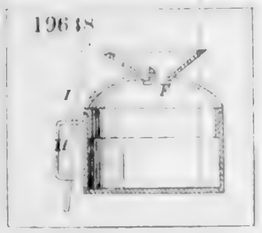


fig. 2



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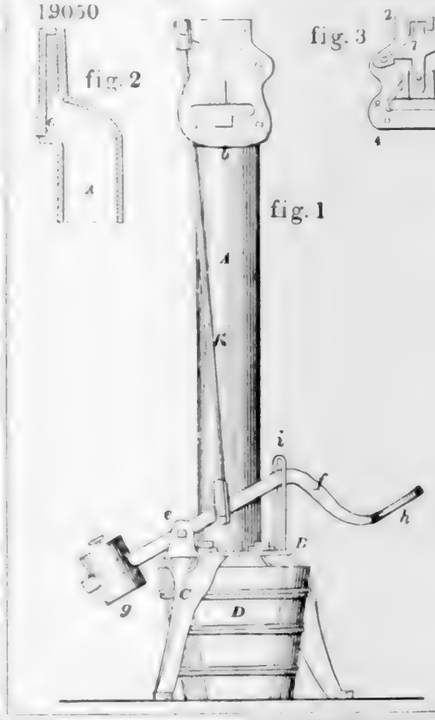
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fig. 2

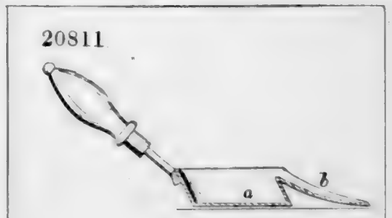
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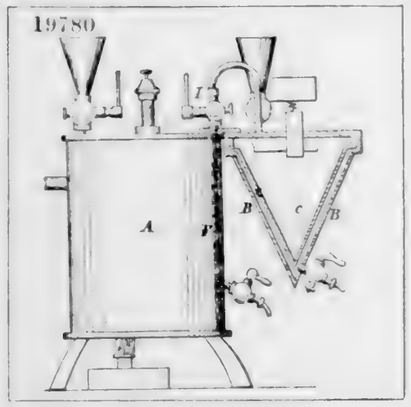
fig. 1



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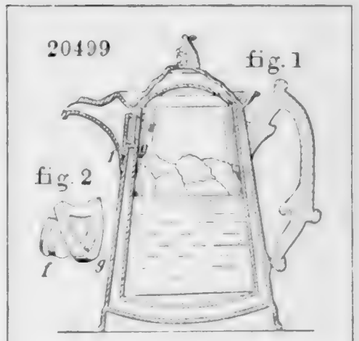
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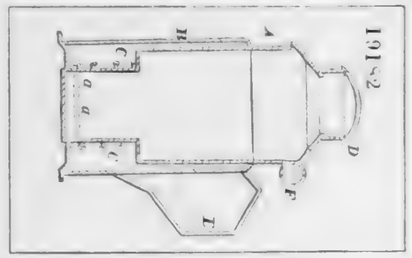
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fig. 1

fig. 2



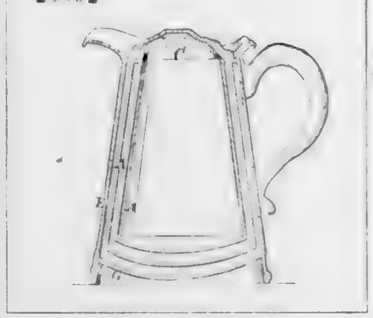
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19855



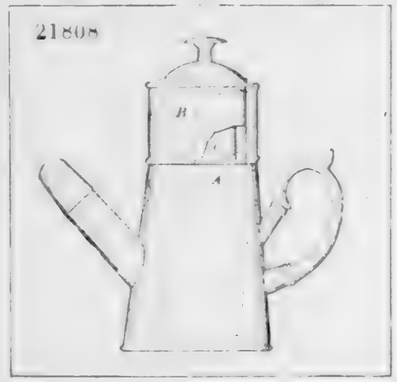
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21717



21808



20517

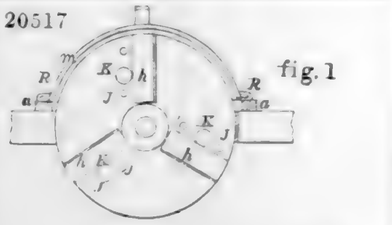


fig. 1

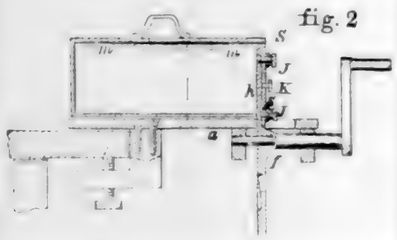


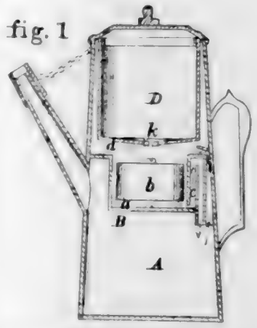
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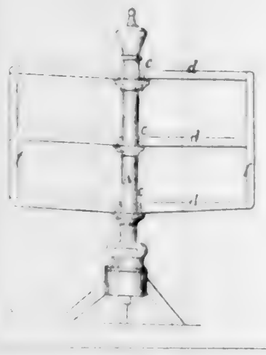
fig. 2



fig. 1



21131



20764

fig. 1

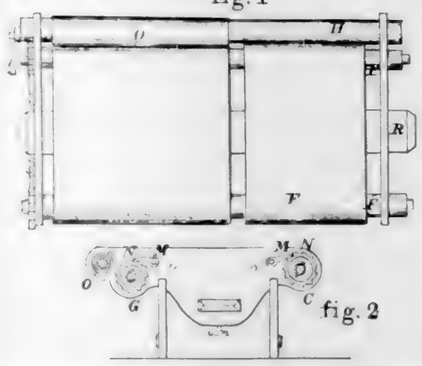
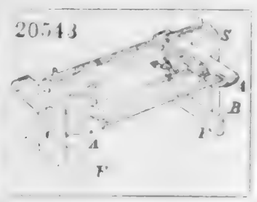


fig. 2

20543



20974

fig. 1

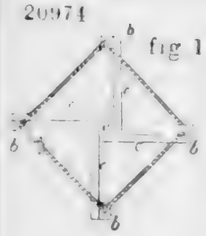
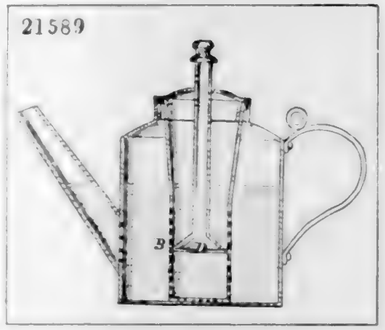


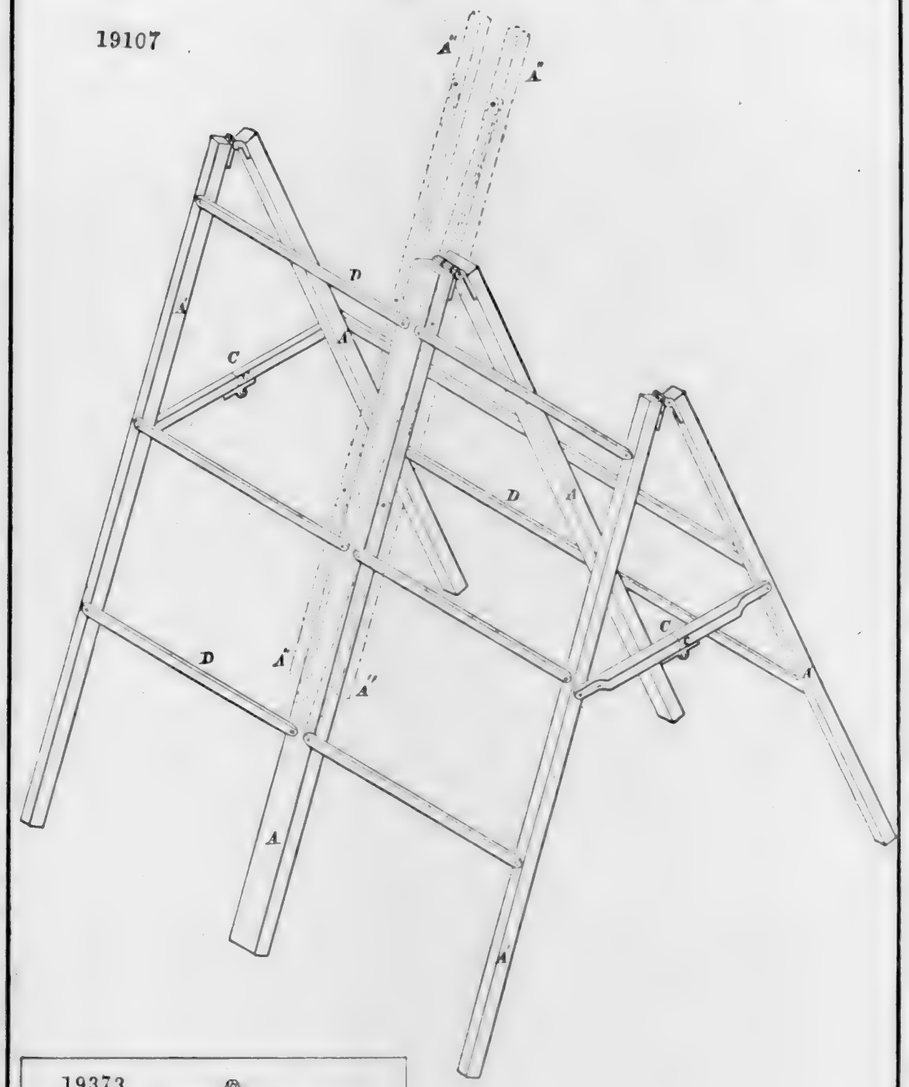
fig. 2



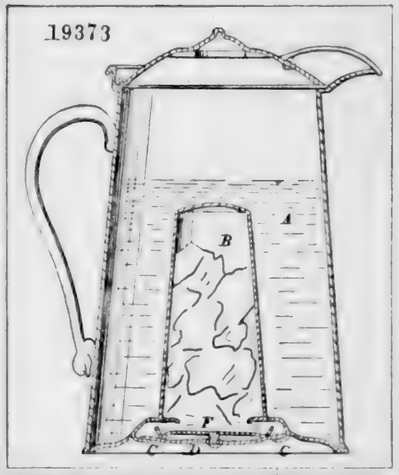
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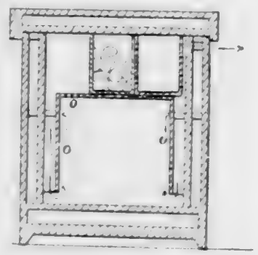
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19837



20021

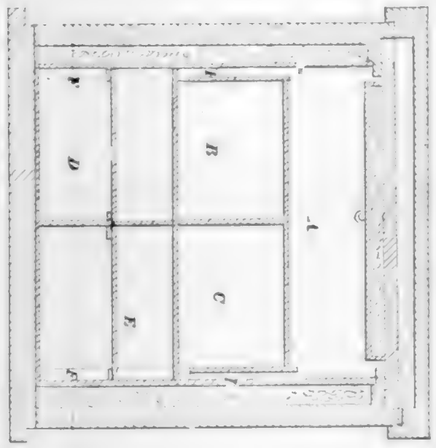


fig. 2

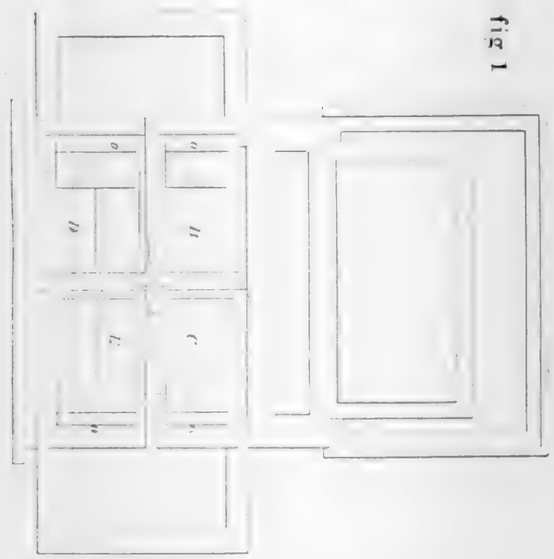


fig. 1

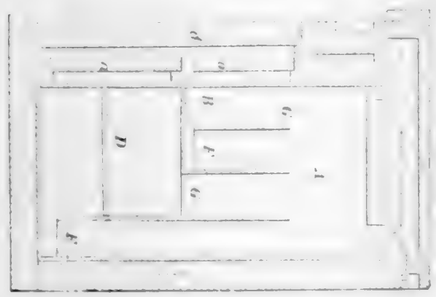
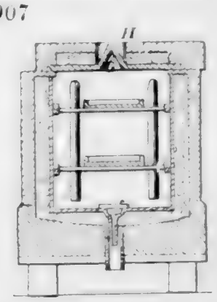
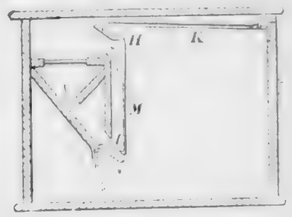


fig. 3

20907



21897



20895

fig. 1

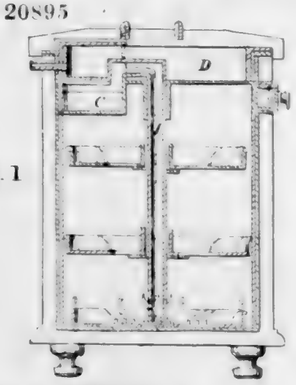


fig. 2

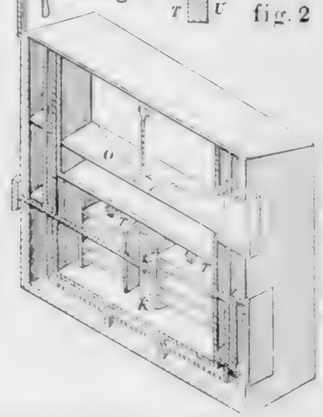


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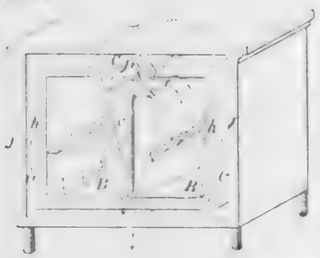


fig. 1

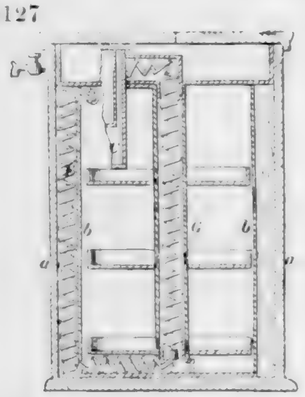
fig. 2



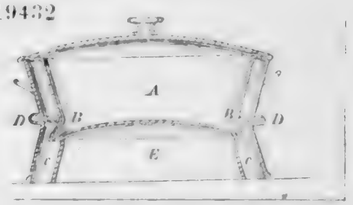
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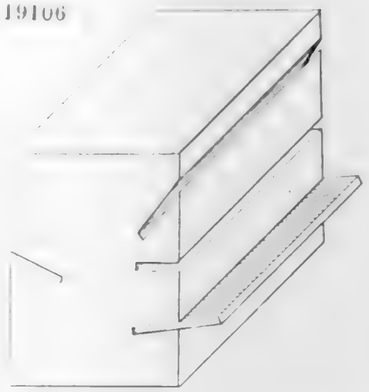
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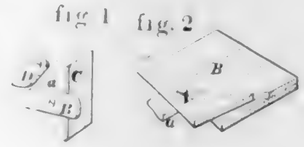


20815



19167

fig. 1 fig. 2



21965 fig. 1

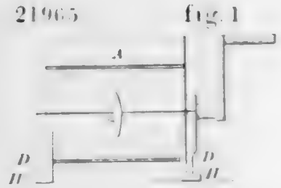
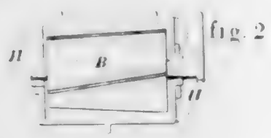


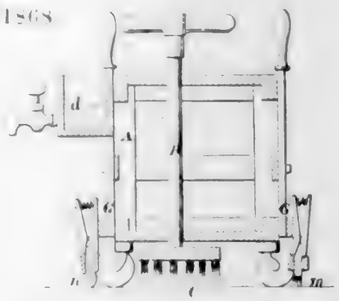
fig. 2



19784 fig. 1 fig. 2 fig. 3



21568



20415 fig. 1

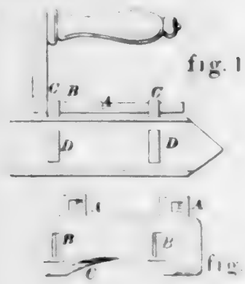
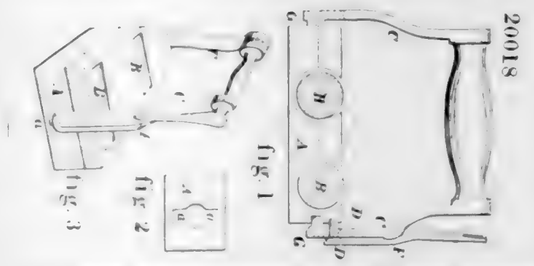
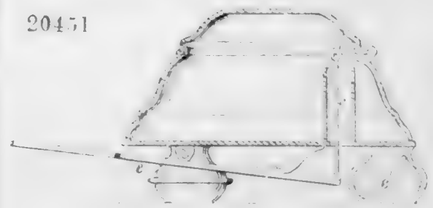


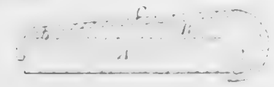
fig. 2



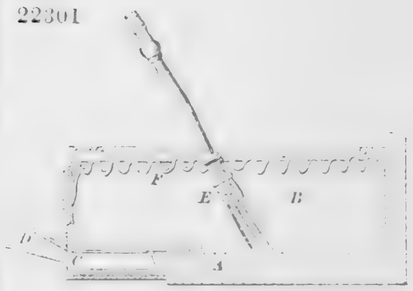
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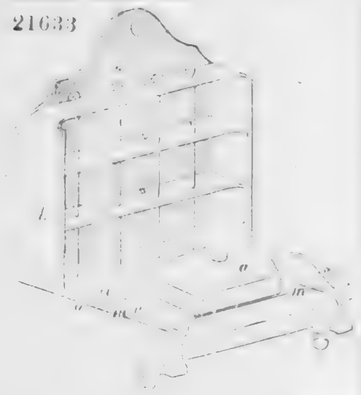
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22301



21633



21275 fig. 1

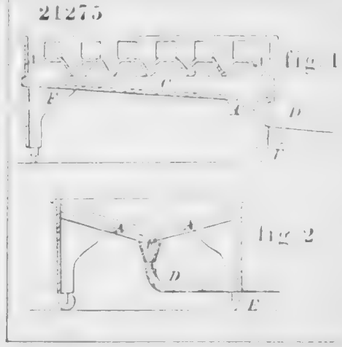


fig. 2

20189 fig. 1

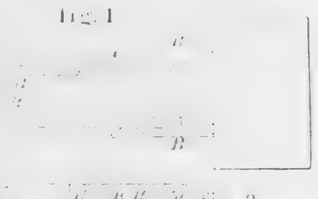


fig. 2

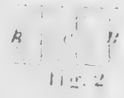


fig. 3



20088 fig. 1

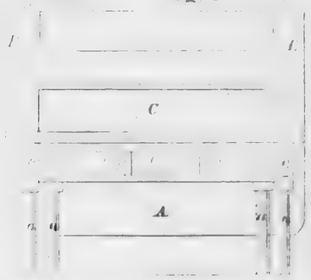
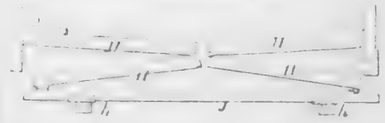


fig. 3



fig. 2



20530



22224

fig. 1

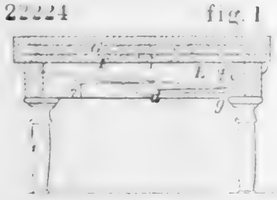
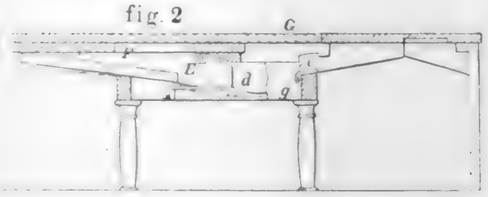


fig. 2



22294



19390

fig. 1

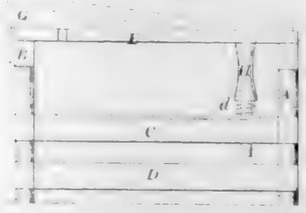
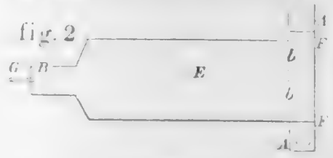


fig. 2



19883



fig. 1

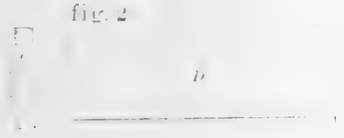


fig. 2

20231

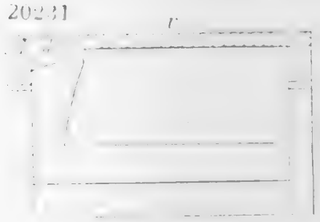
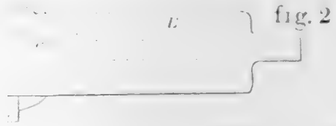


fig. 1

fig. 2



21832

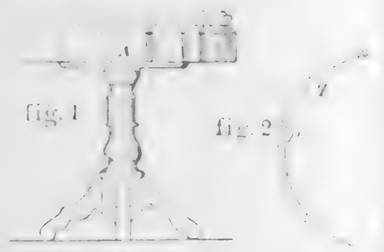
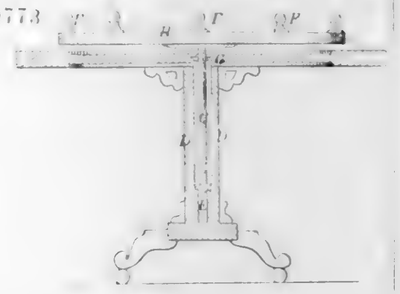


fig. 1

fig. 2

19773



21885

fig. 1

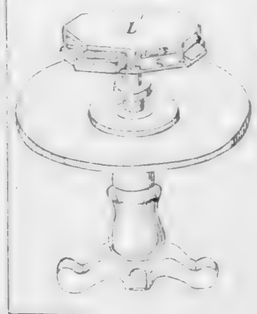
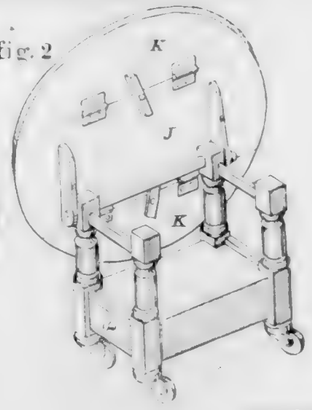


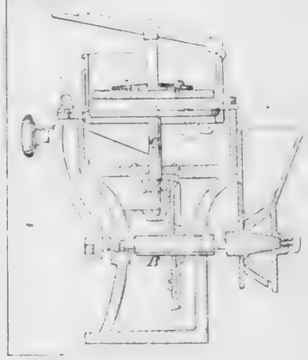
fig. 2



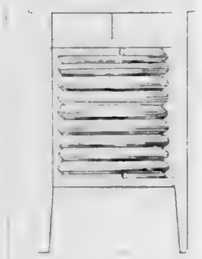
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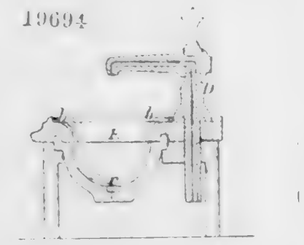
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22087



19694



20644

fig. 1

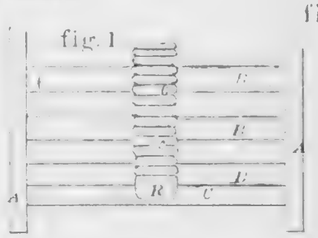


fig. 2

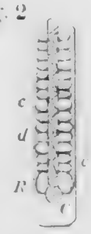
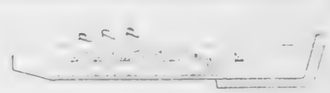


fig. 3



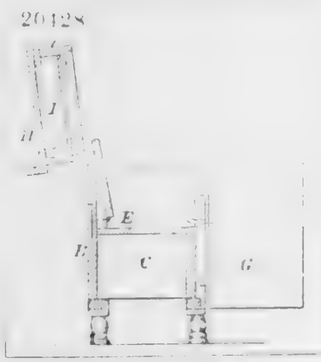
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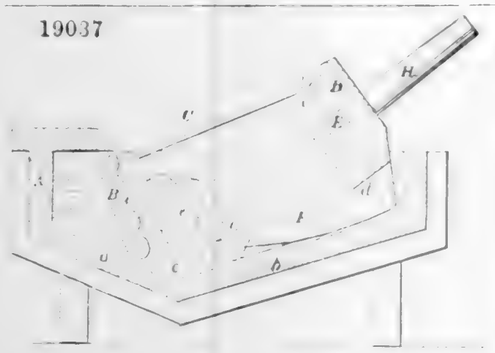
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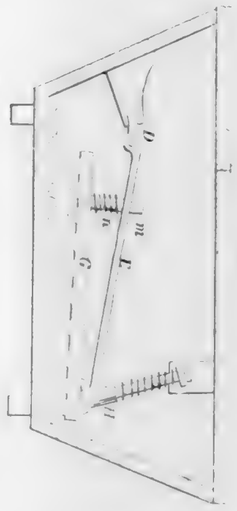
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19037



19057



19181 fig. 1



fig. 2

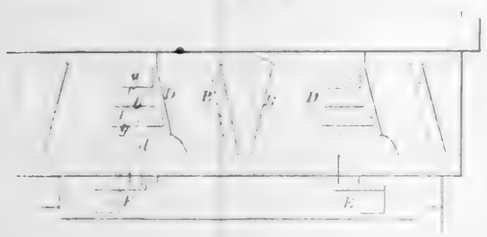
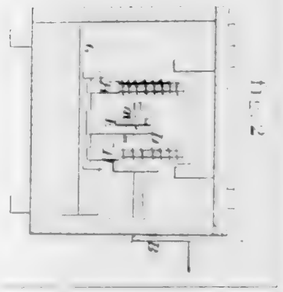
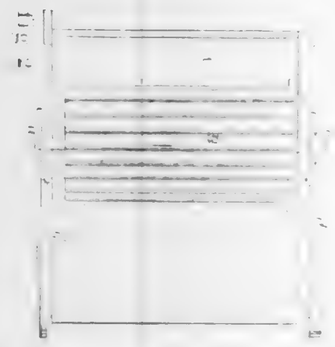


fig. 2



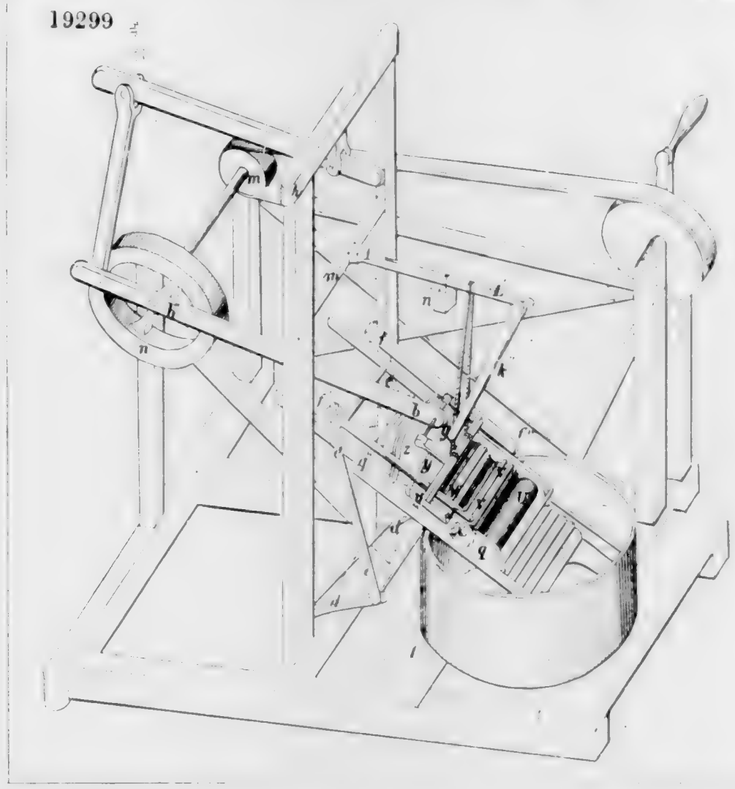
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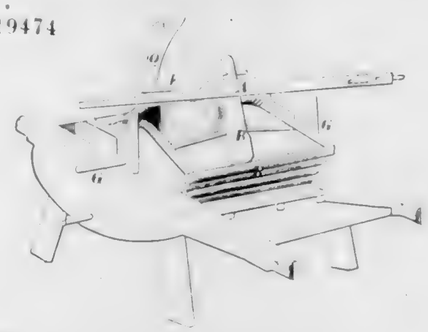
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19299



19474



19653 fig. 1



fig. 2



fig. 3



19609

fig. 1

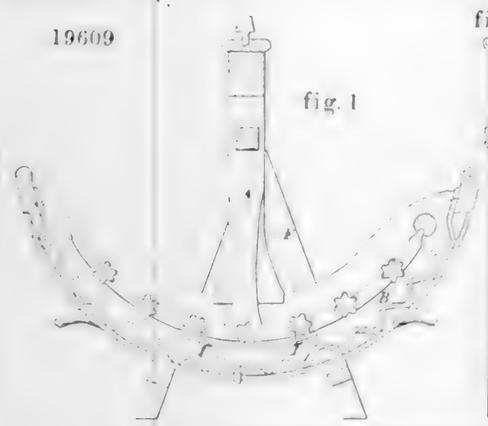
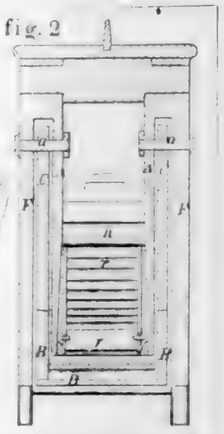
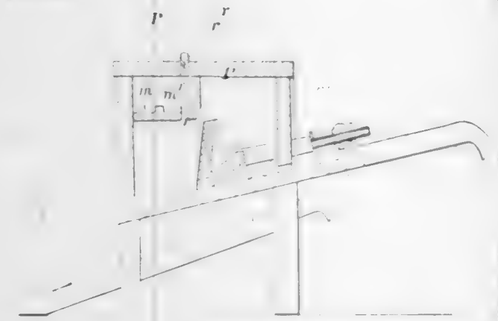


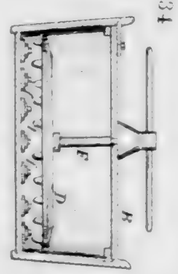
fig. 2



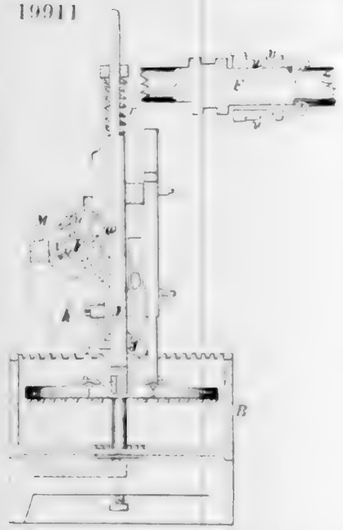
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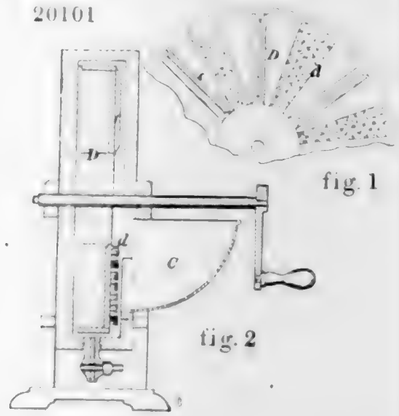


fig. 1

fig. 2

20099

fig. 1

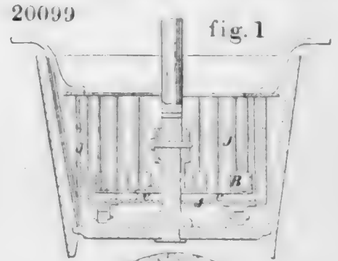
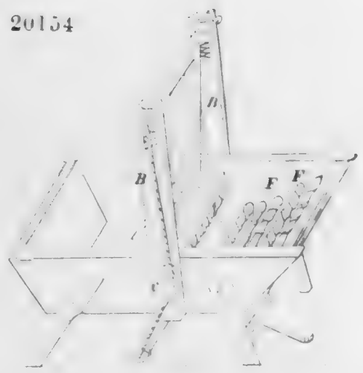


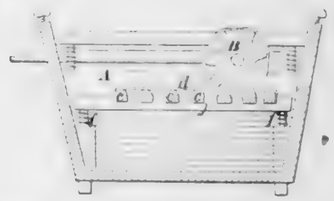
fig. 2



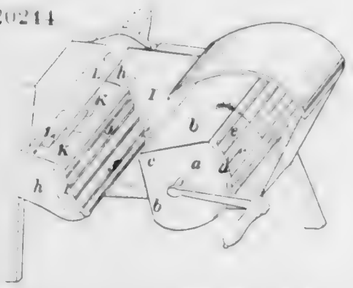
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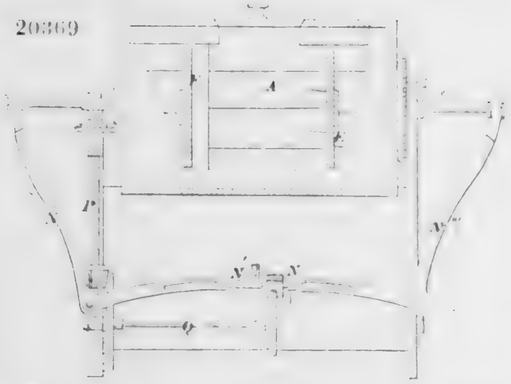
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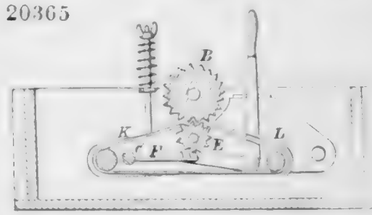
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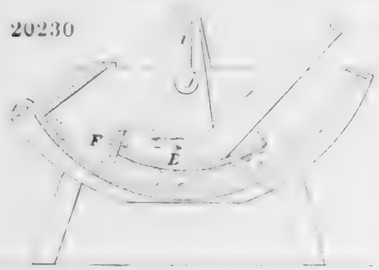
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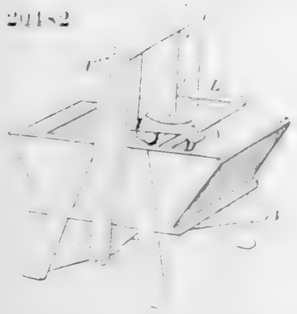
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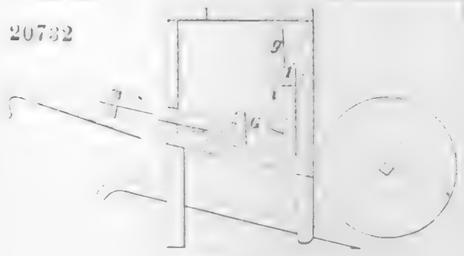
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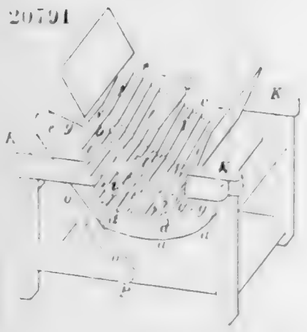
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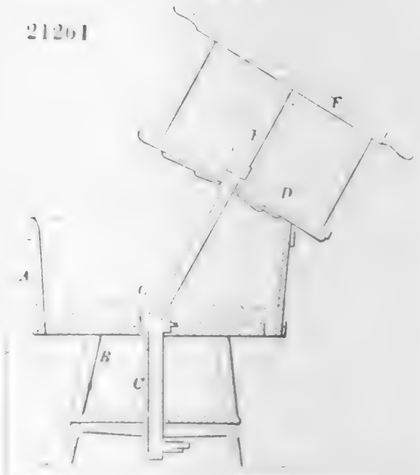
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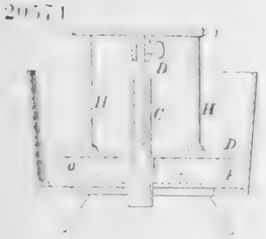


fig. 1

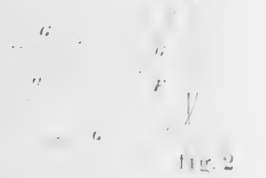
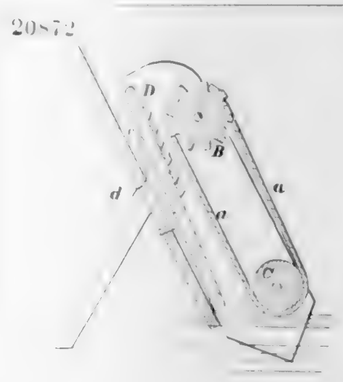


fig. 2

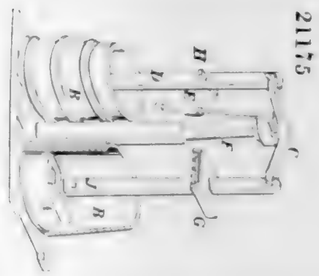
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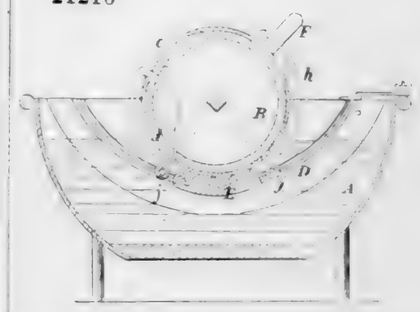
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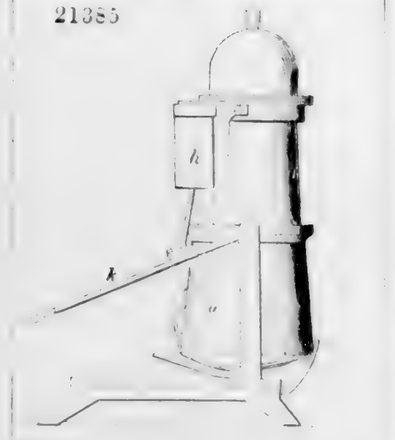
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21216



21385



21477 fig. 1

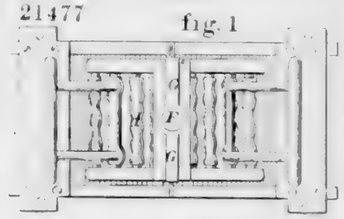
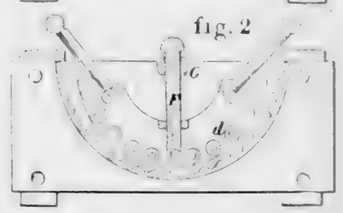


fig. 2



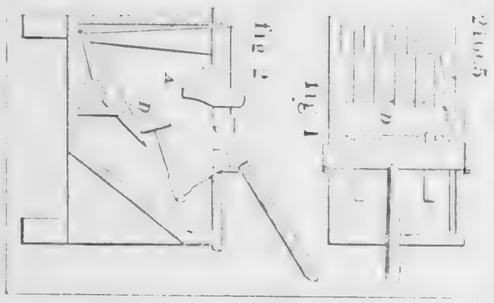


fig. 2 fig. 1

21505

21476

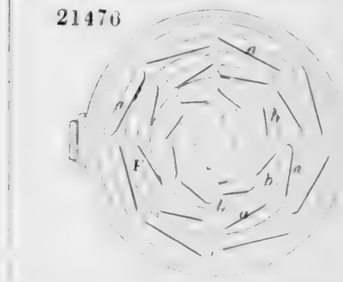


fig. 1

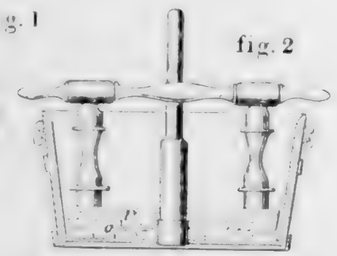


fig. 2

21505 fig. 1

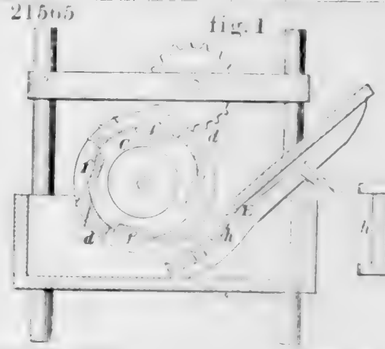
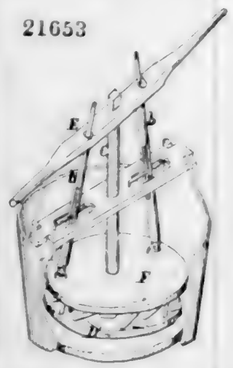


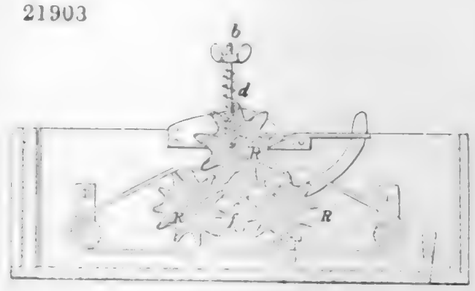
fig. 2



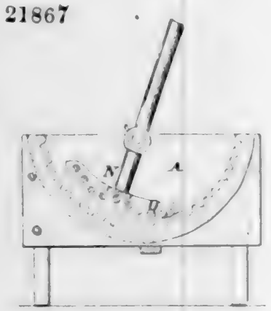
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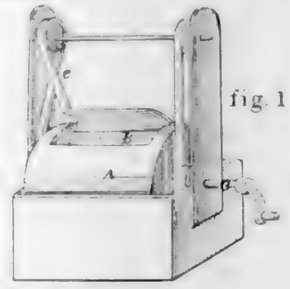
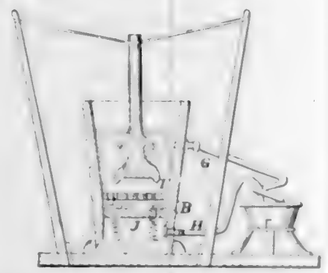


fig. 1

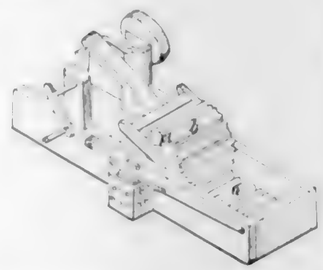
fig. 2



21909



22236



22227

fig. 1

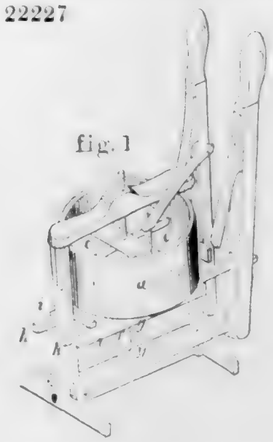
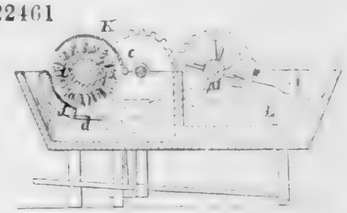


fig. 2



22461



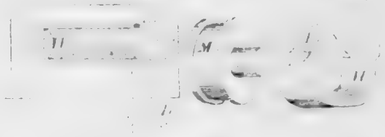
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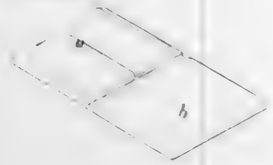
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fig. 1 fig. 2 fig. 3



21984



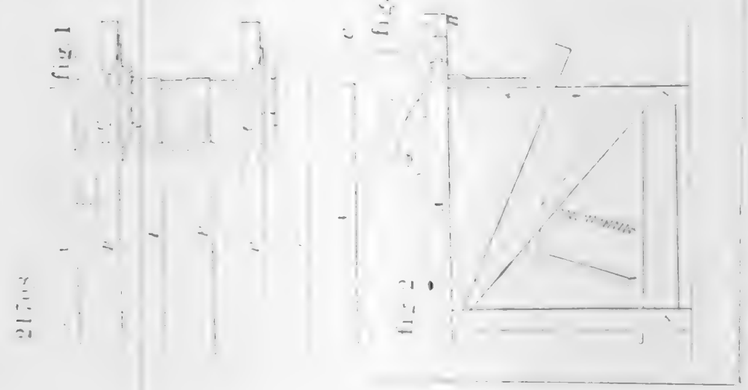
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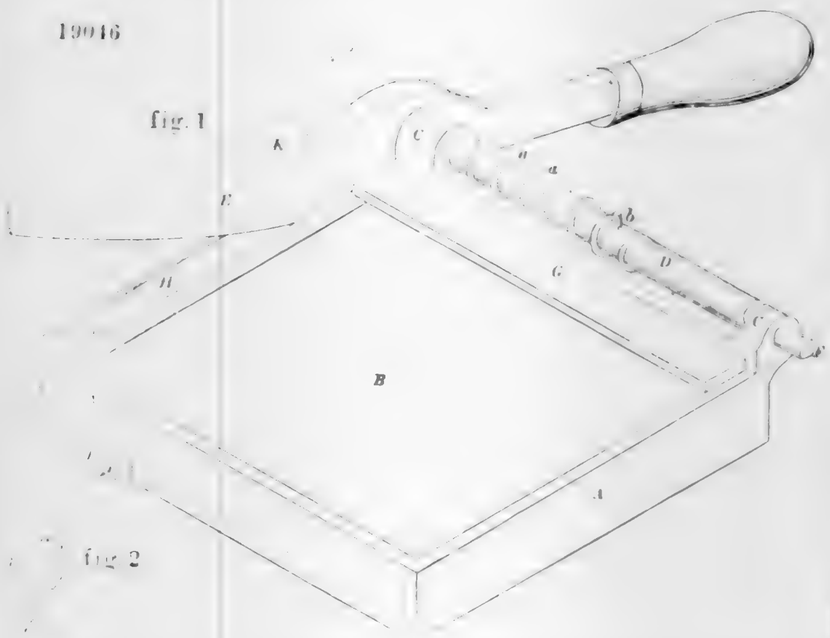
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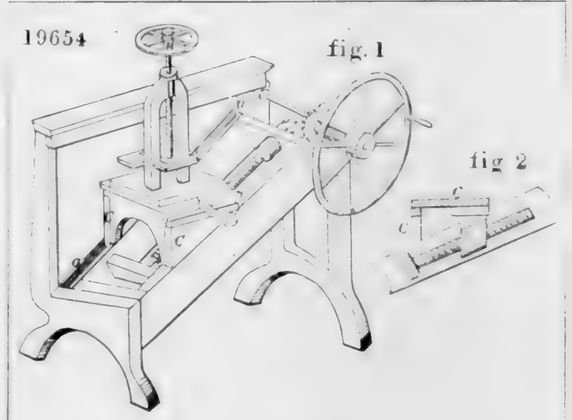
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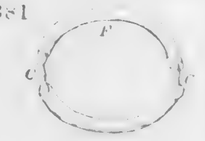
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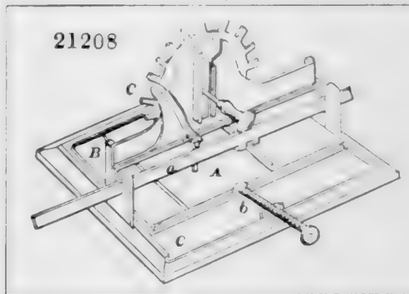
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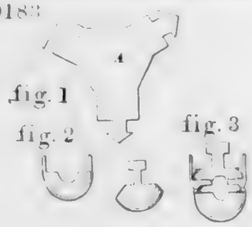
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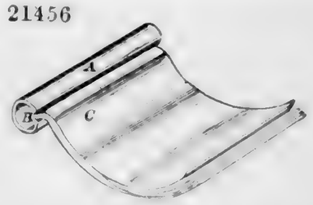
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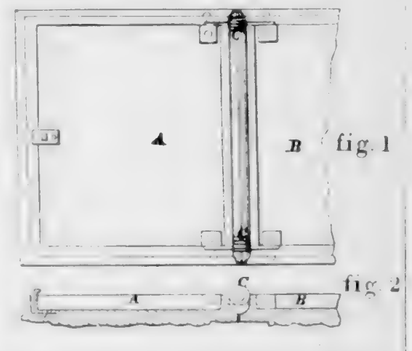
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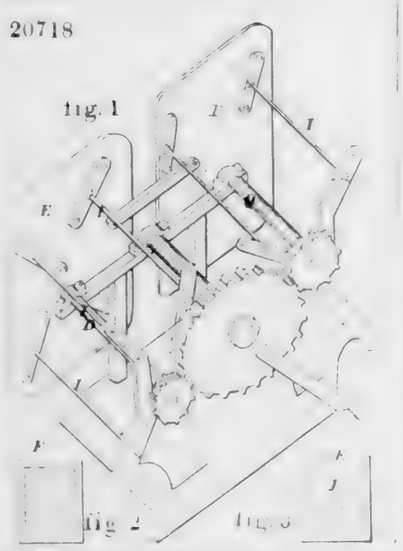
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20436



20718



20528

fig. 1

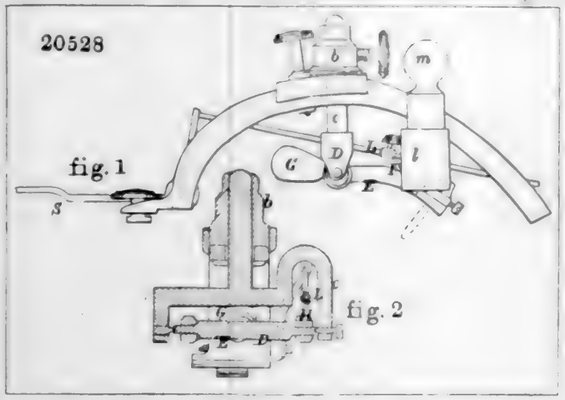
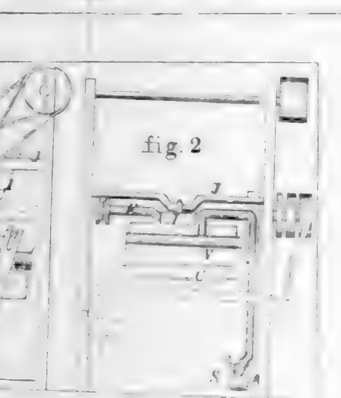


fig. 2



20711



21509

fig. 1

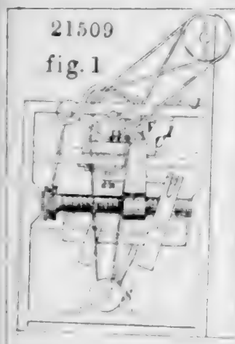


fig. 2

20087



19602

fig. 1

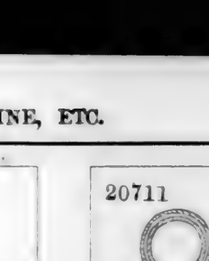
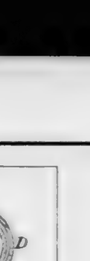


fig. 2



19607

fig. 1

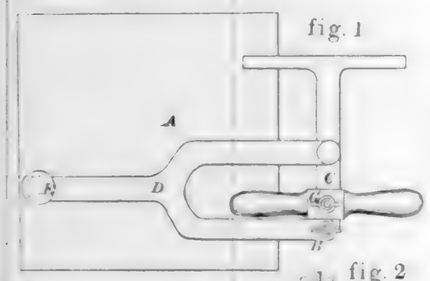
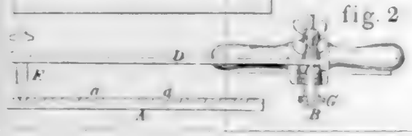


fig. 2



21336

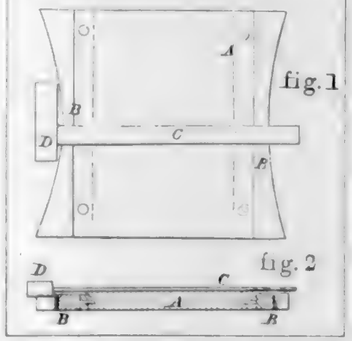
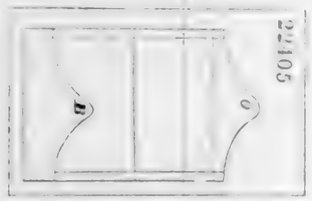


fig. 1

fig. 2

21105



22149

fig. 1

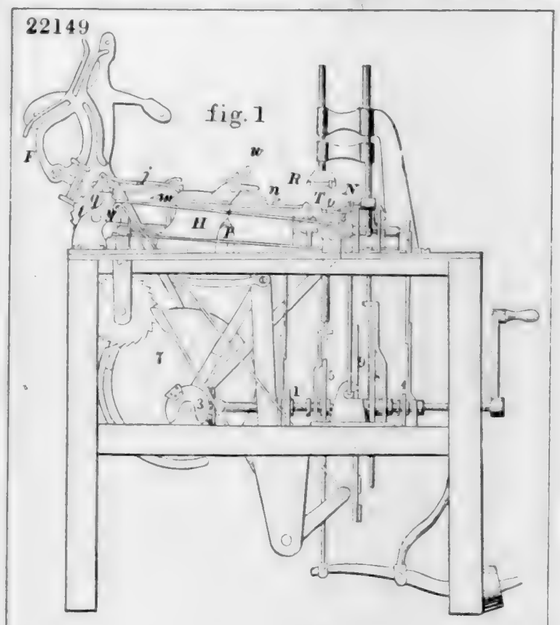


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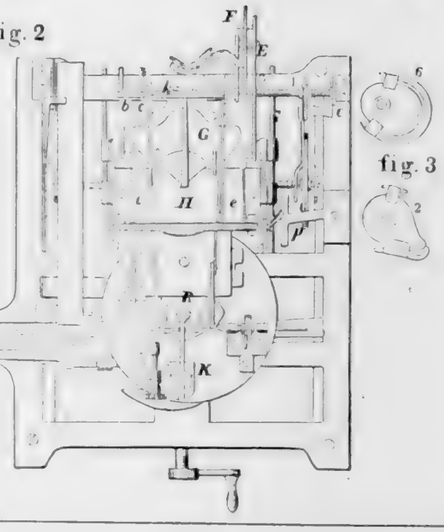
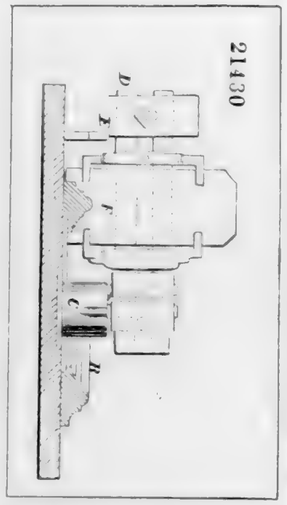


fig. 3

21430



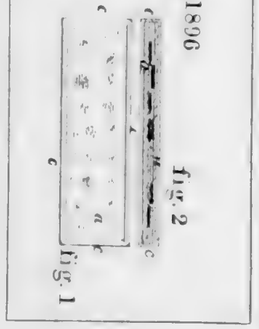
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21896

fig. 1

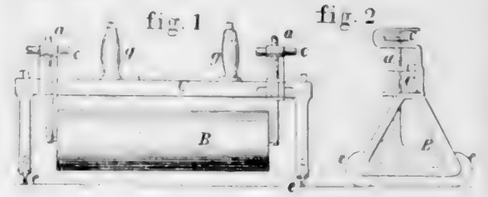
fig. 2



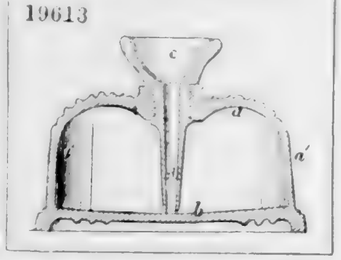
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fig. 1

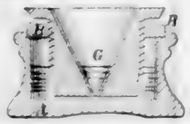
fig. 2



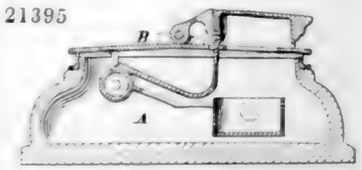
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20028



21395



21554

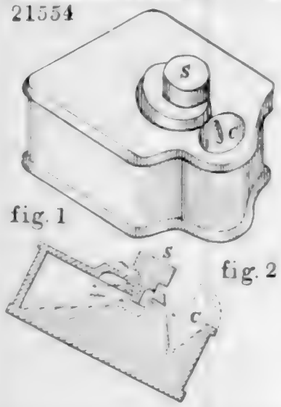


fig. 1 fig. 2

22123

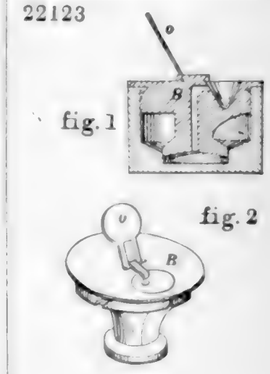
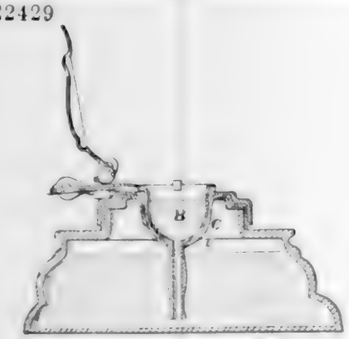


fig. 1 fig. 2

19788



22429



19497 fig. 1

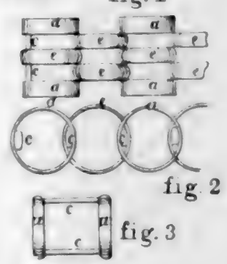
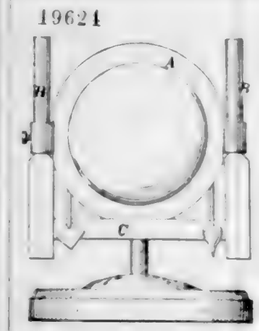


fig. 2 fig. 3

19624



22089

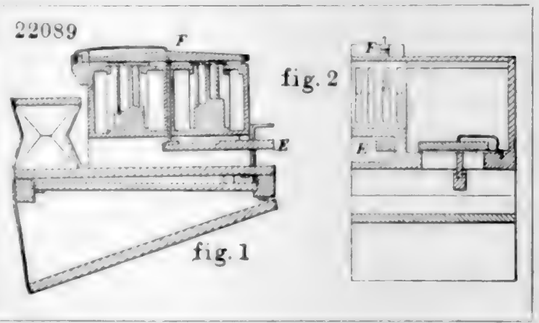


fig. 2 fig. 1

19296

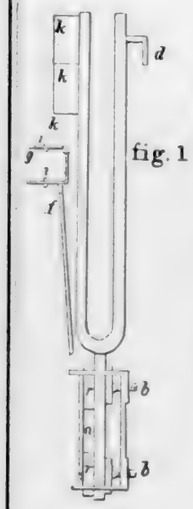


fig. 1

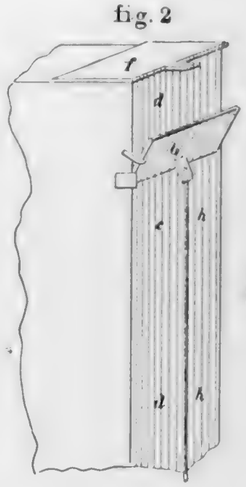


fig. 2

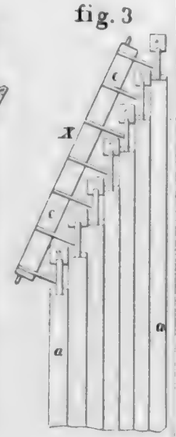


fig. 3

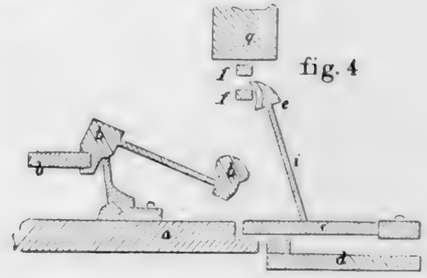
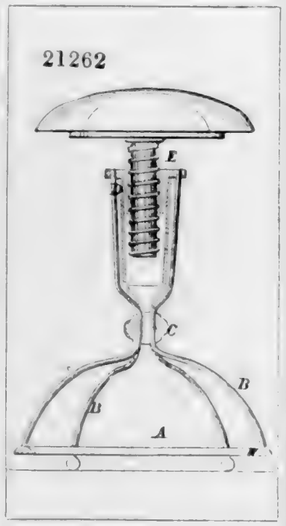


fig. 4

21262



19345

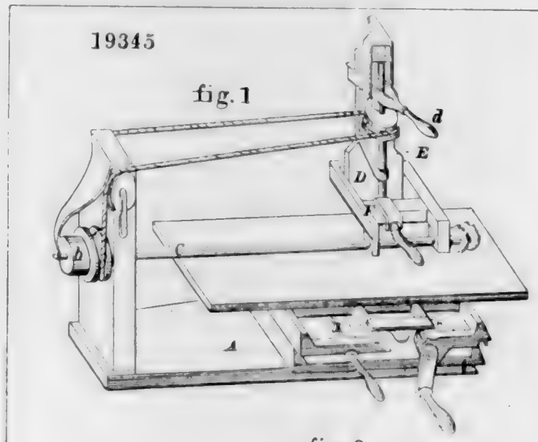


fig. 1

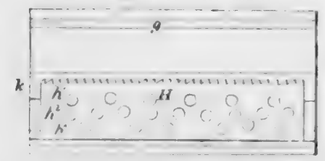


fig. 2

20397

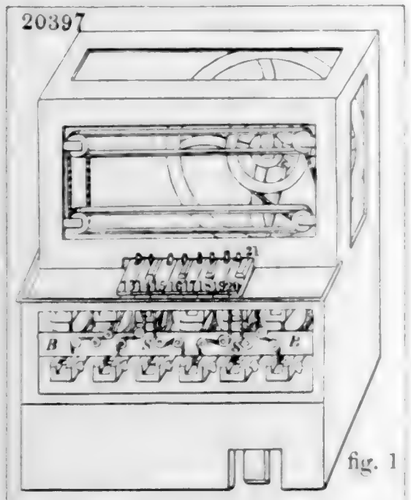


fig. 1

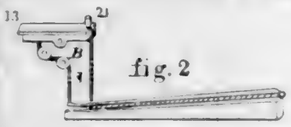


fig. 2

22139

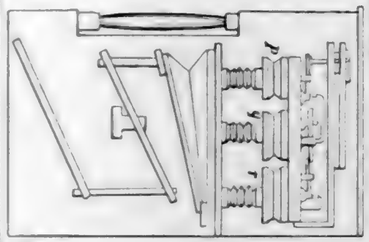


fig. 1



fig. 2

19187

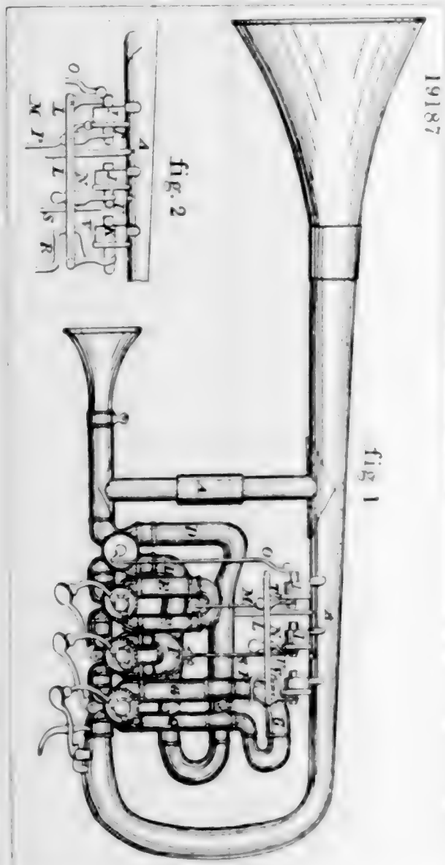
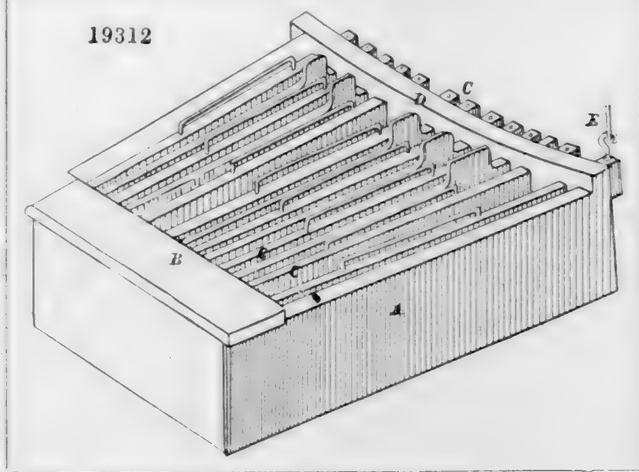


fig. 1

19814



19312



20480



19316

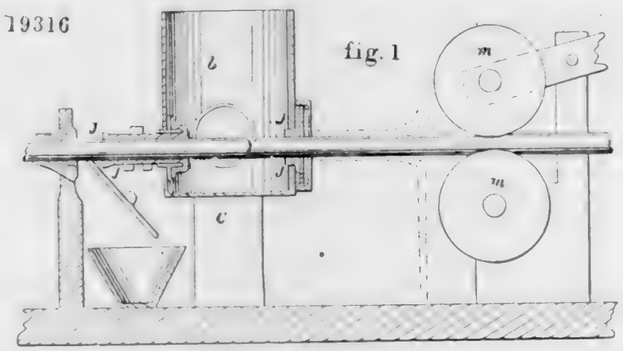
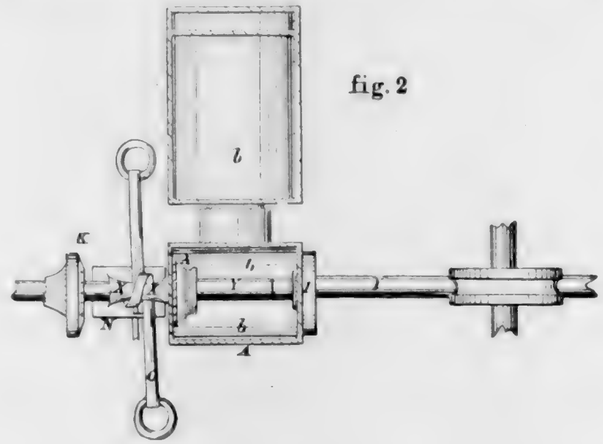


fig. 1

fig. 2



19506

fig. 1

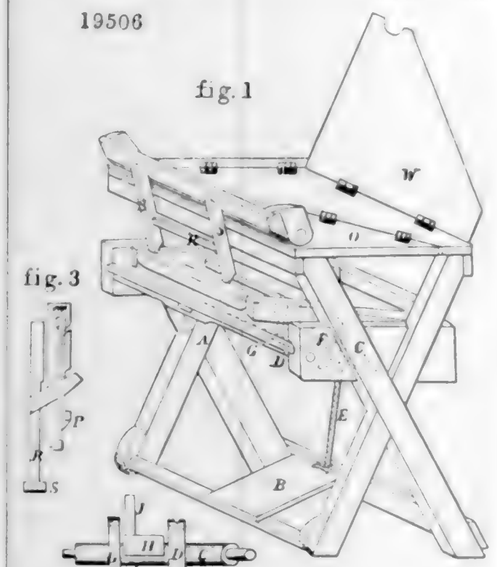


fig. 3

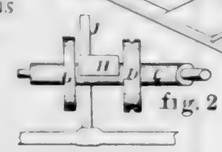
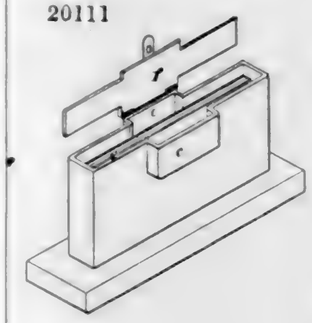


fig. 2

20111



19748

fig. 2

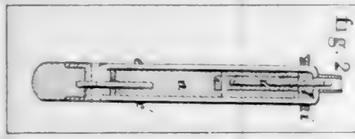
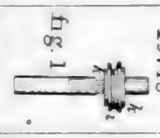


fig. 1



21657

fig. 1

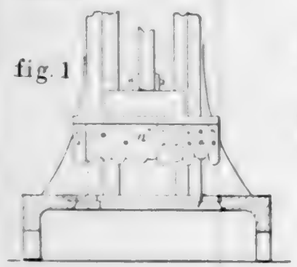
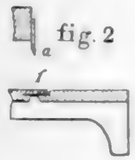


fig. 2



20838

fig. 1

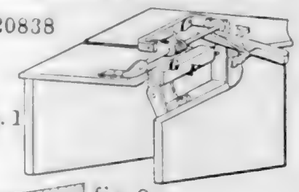
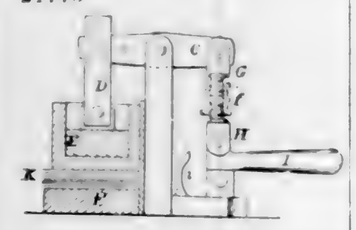


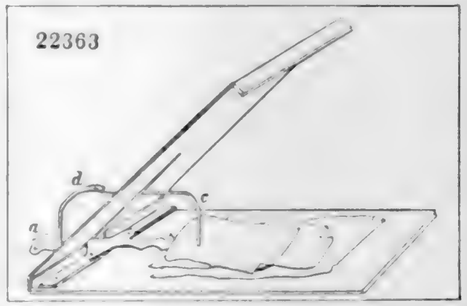
fig. 2



21775



22363



20965

fig. 1

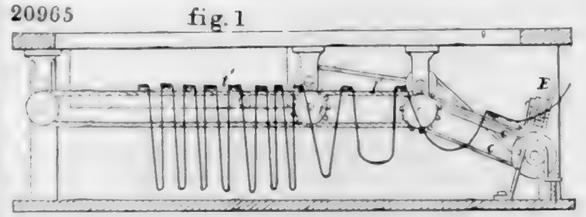
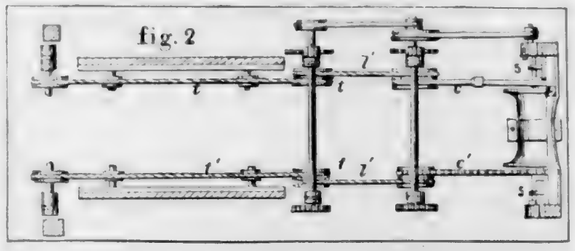


fig. 2



20858

fig. 1

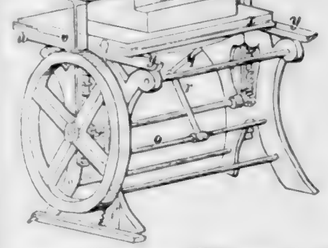


fig. 2



21710

fig. 1

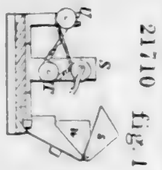


fig. 2

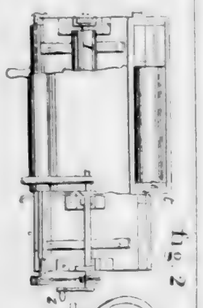
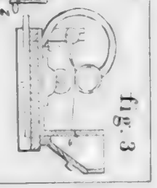


fig. 3



20077

fig. 1

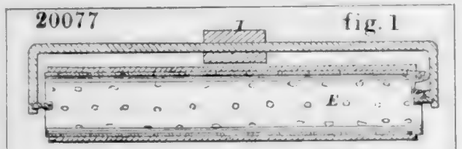
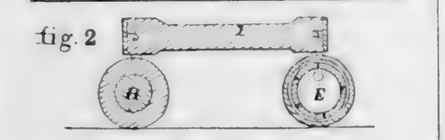


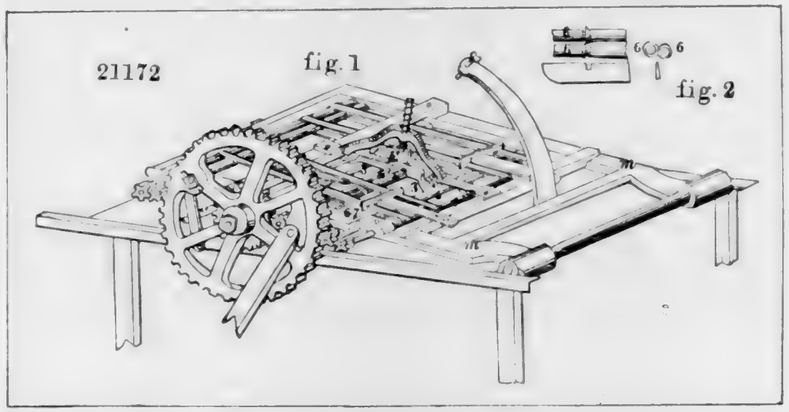
fig. 2



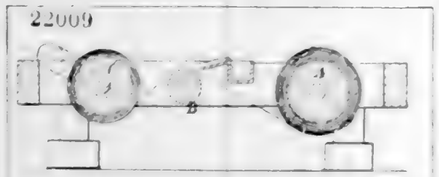
21172

fig. 1

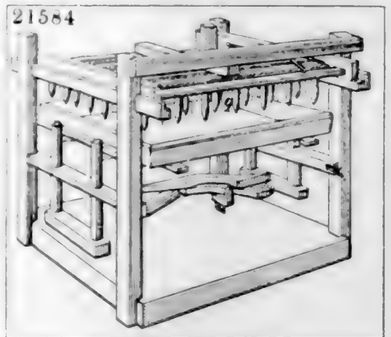
fig. 2



22009



21584



21411 fig. 1

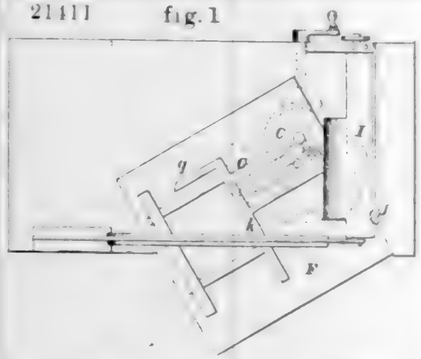
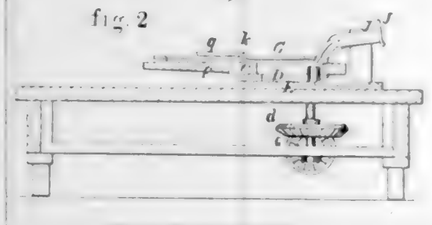
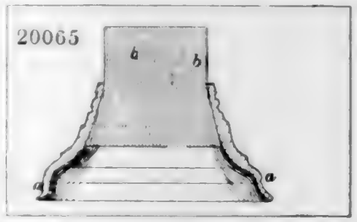


fig. 2



20065



20262 fig. 1

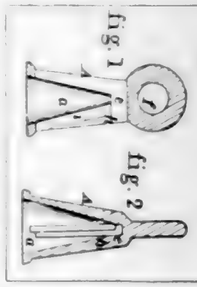


fig. 2

22017



19831 fig. 1

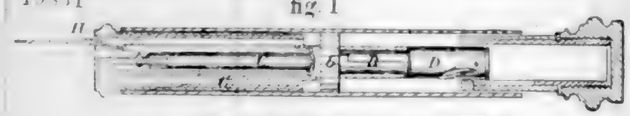
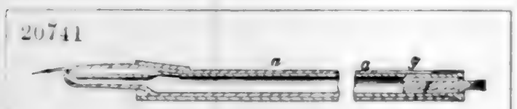


fig. 2



20741



21881 fig. 1

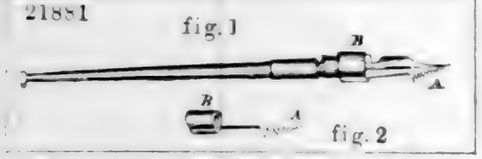
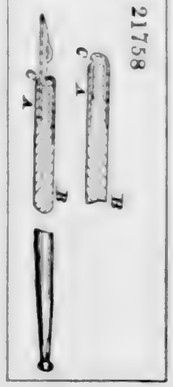


fig. 2

21758



20056 fig. 1



fig. 2



fig. 3



19191 fig. 1



fig. 2



21619



20219 fig. 1

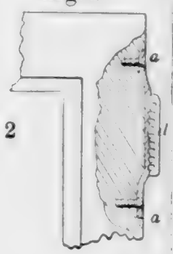


fig. 2



21679 fig. 1

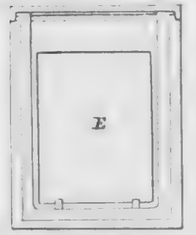
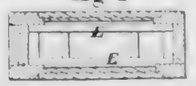


fig. 2



21170

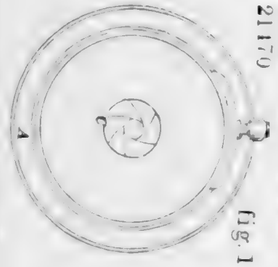


fig. 1

fig. 2

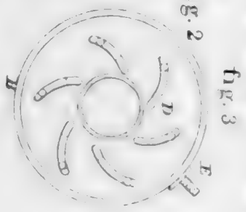


fig. 3

19252

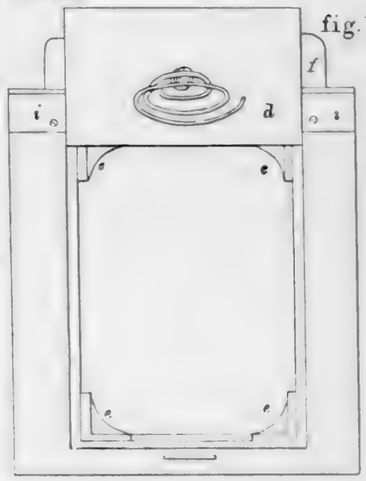


fig. 1

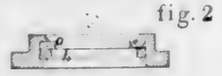


fig. 2

20401 fig. 1



fig. 2



22158

fig. 1

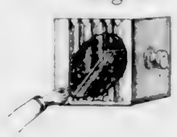
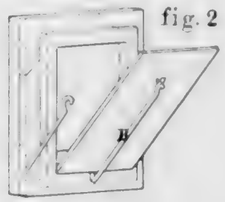
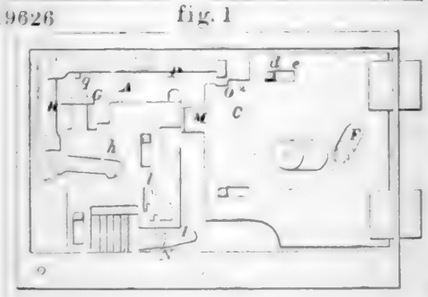


fig. 2



20300

19626 fig. 1



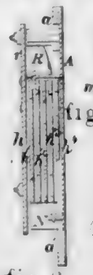


fig. 2

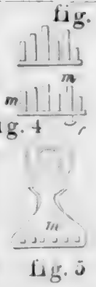


fig. 3

fig. 4

fig. 5

19081 fig. 1

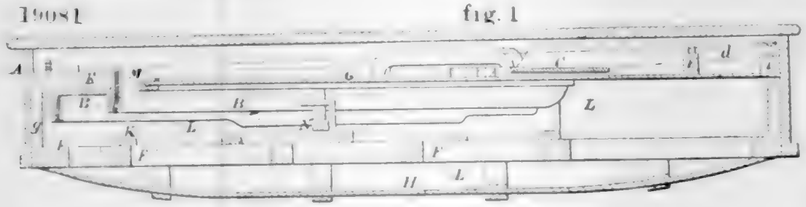
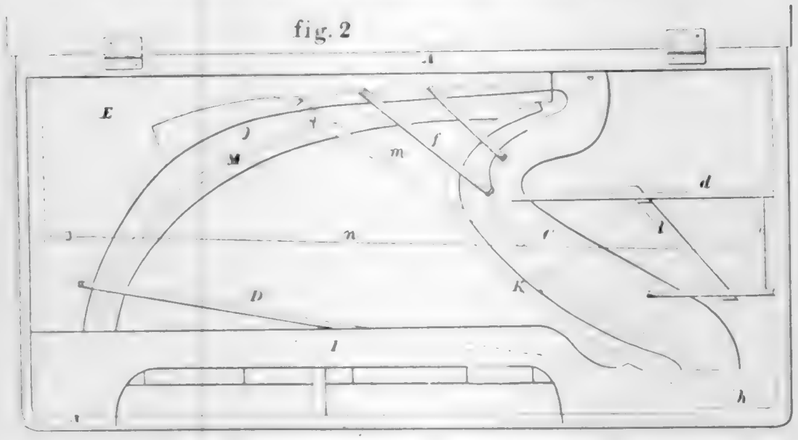
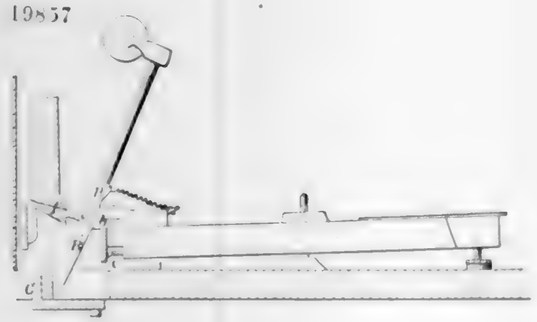


fig. 2



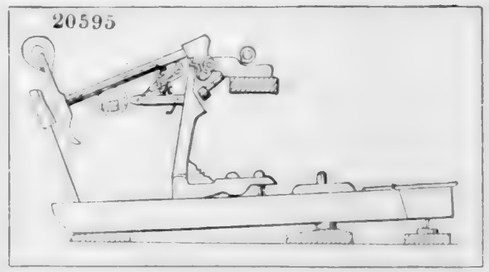
19857



21829



20595



21902

fig. 1

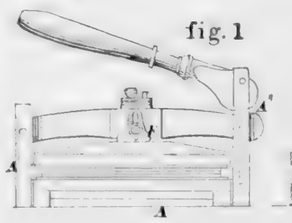
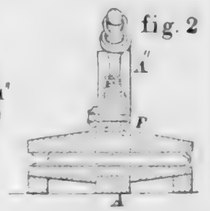


fig. 2



21192

fig. 1

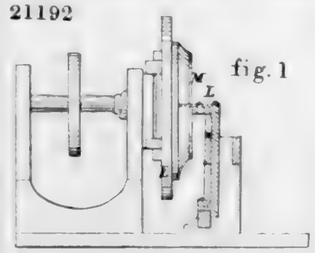
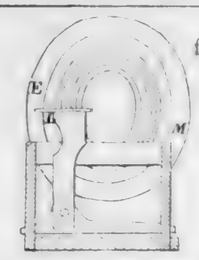
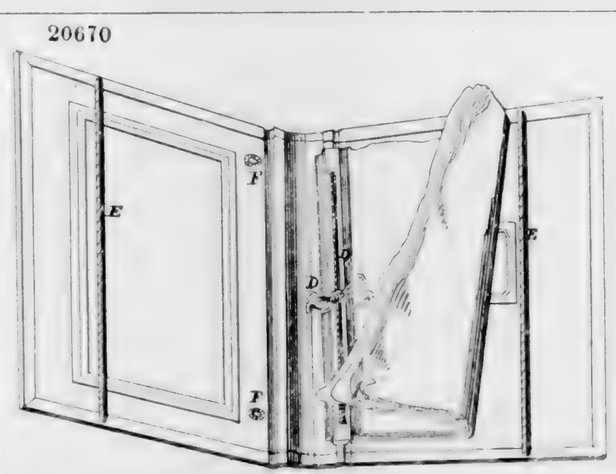


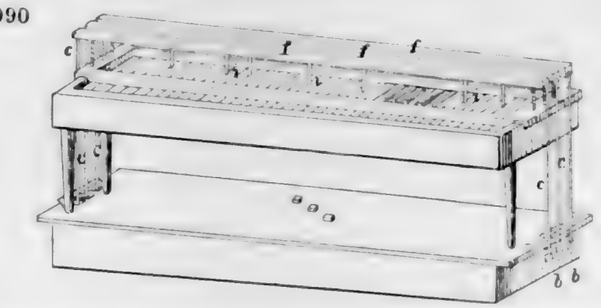
fig. 2



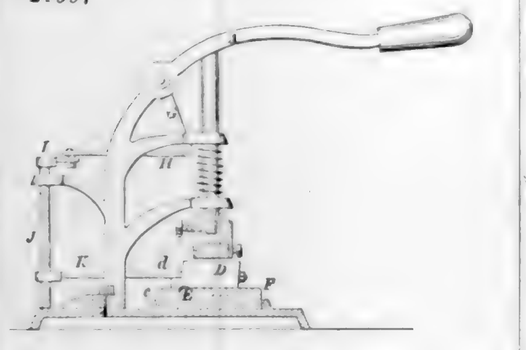
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21990



21997



21321

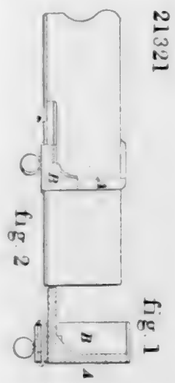


fig. 2

fig. 1

21976

fig. 1

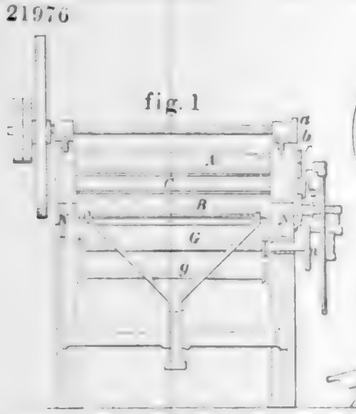
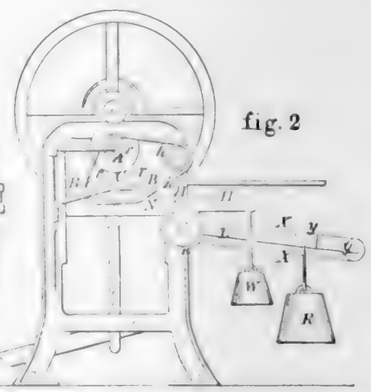


fig. 2



20276

fig. 1

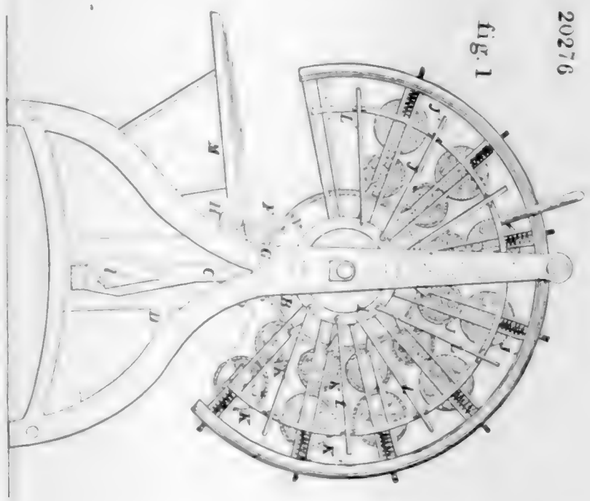
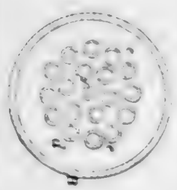


fig. 2



21429

fig. 1

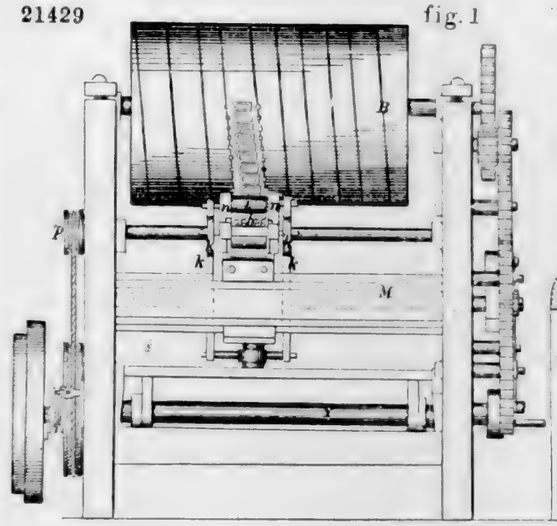
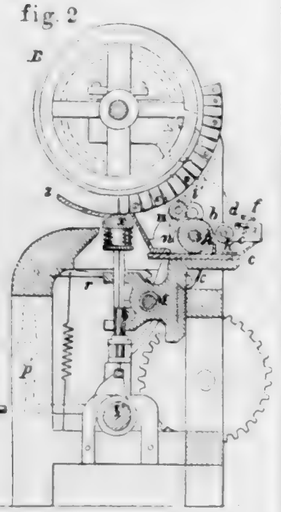


fig. 2



19797

fig. 2

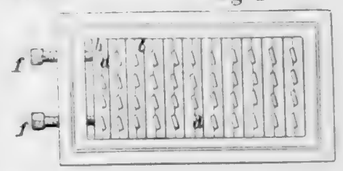
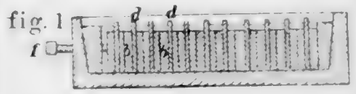


fig. 1



21723

fig. 1

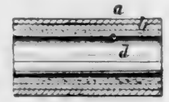


fig. 2



20714 fig. 1

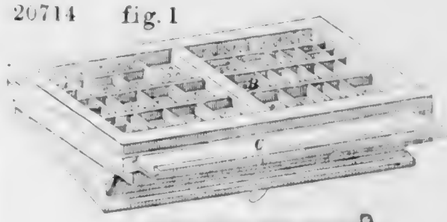
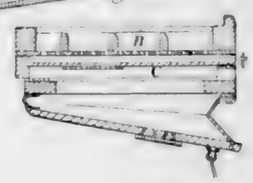


fig. 2



21118

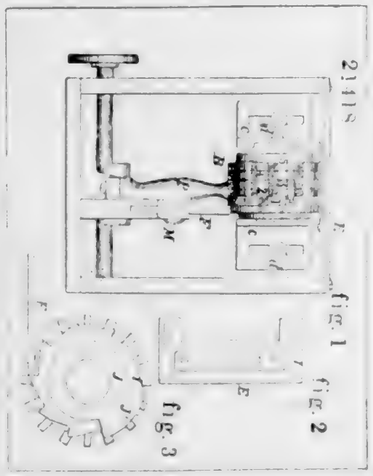
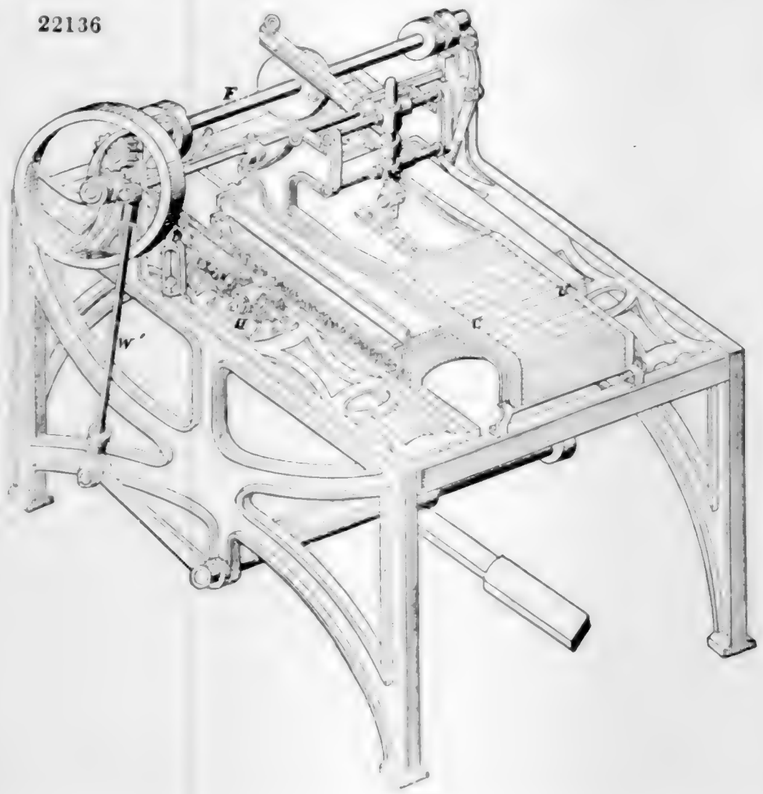


fig. 1

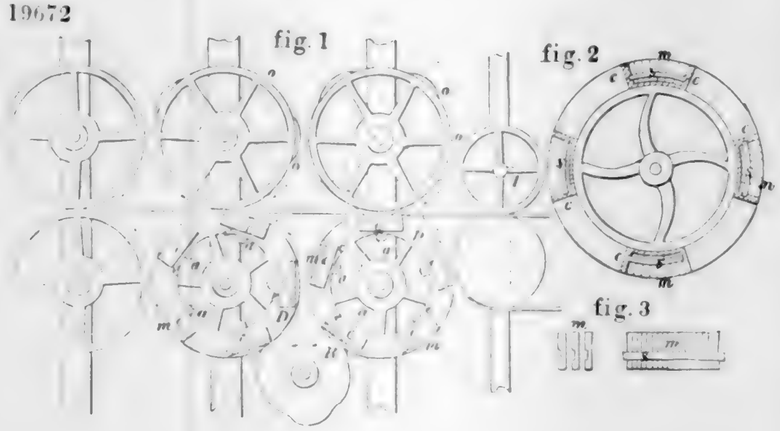
fig. 2

fig. 3

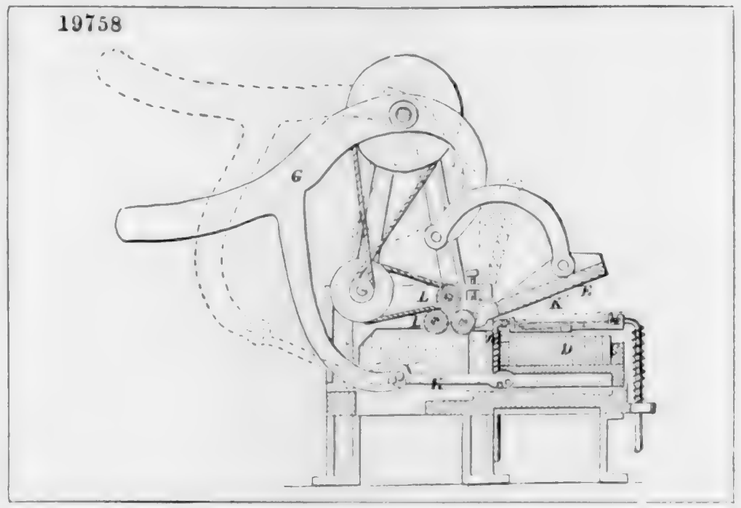
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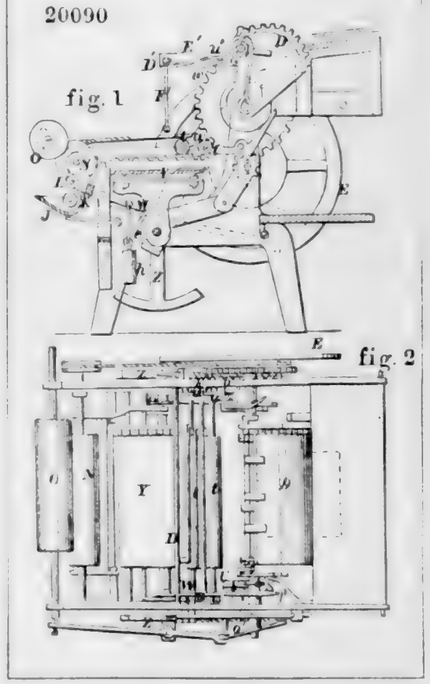
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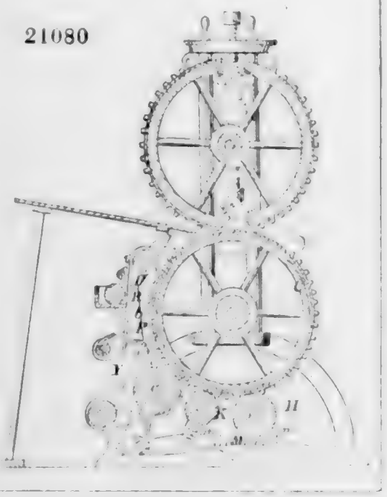
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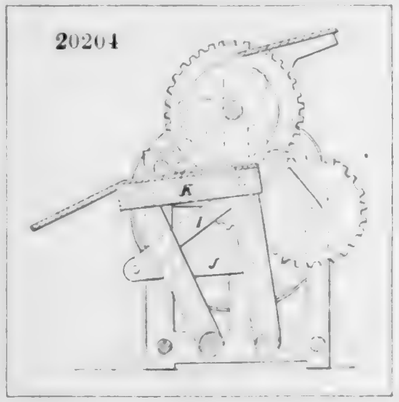
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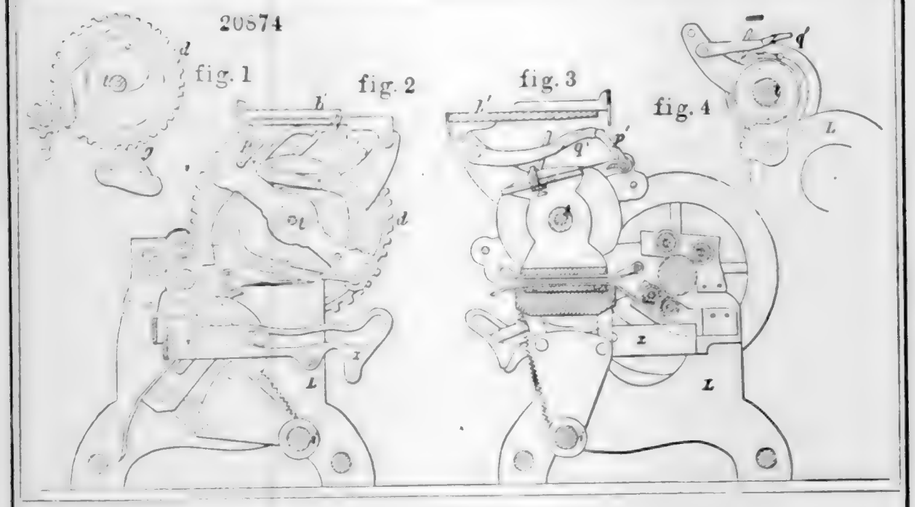
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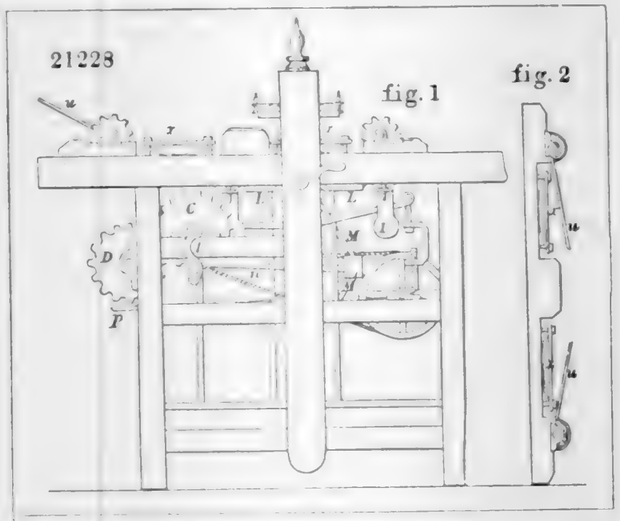
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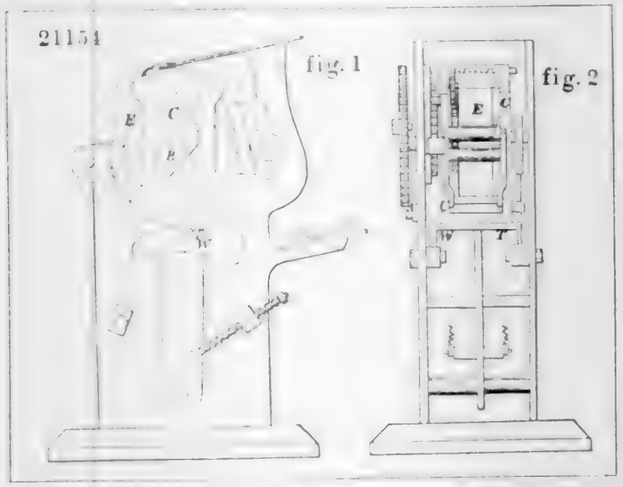
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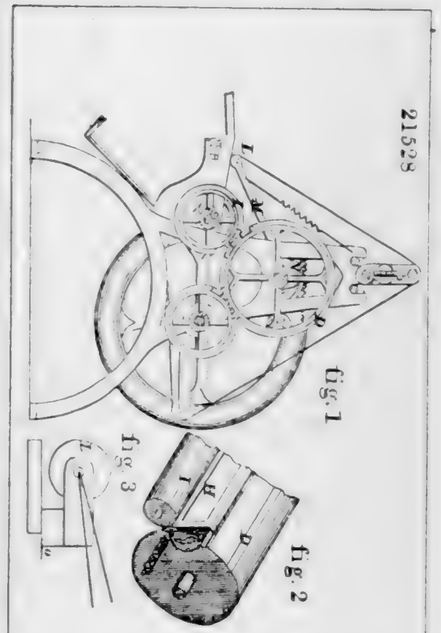
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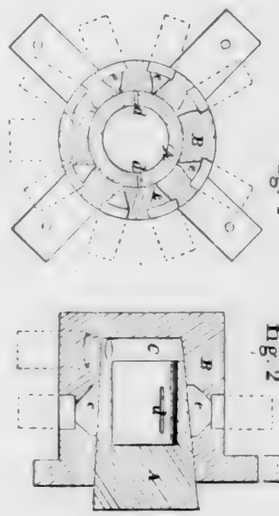
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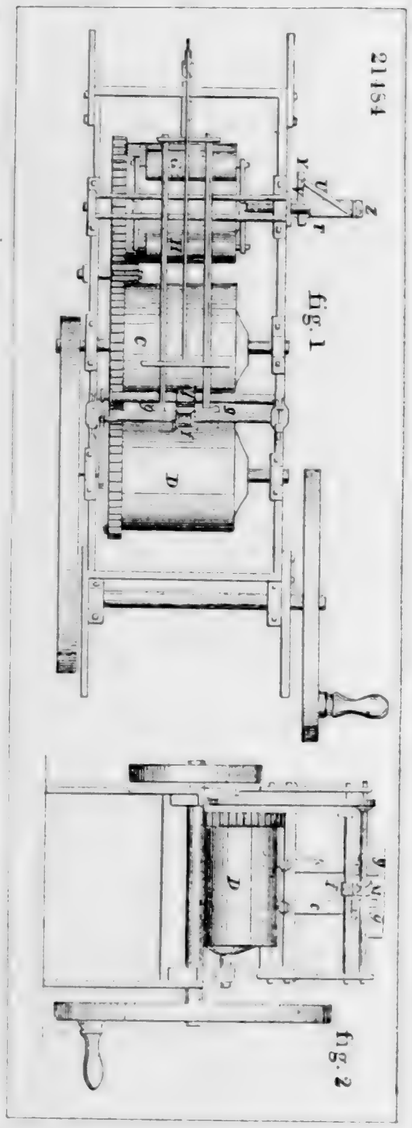
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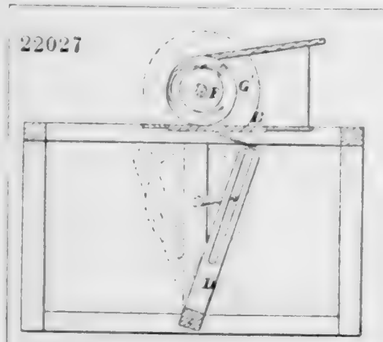
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21154



22027



22181

fig. 1

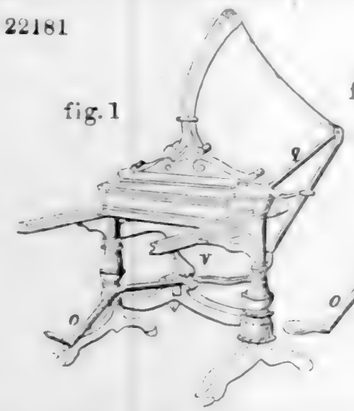
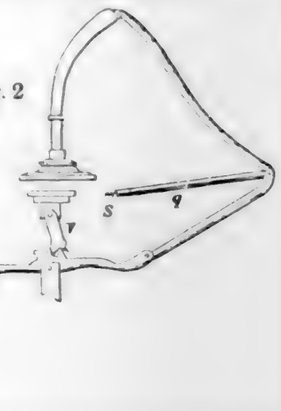
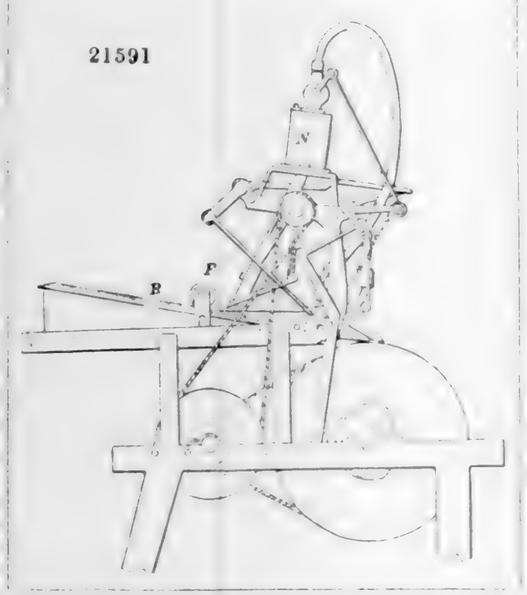


fig. 2



21591



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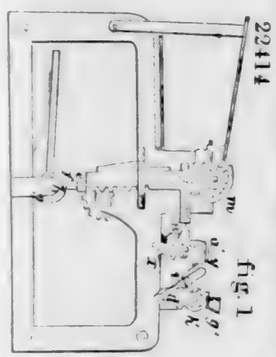


fig. 1

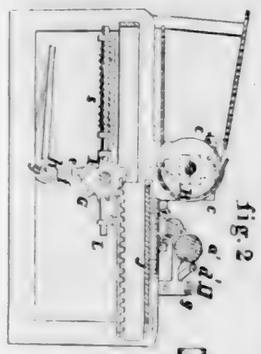


fig. 2

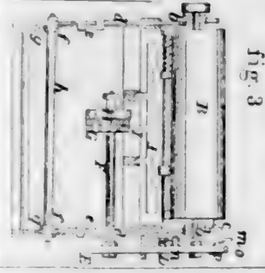


fig. 3

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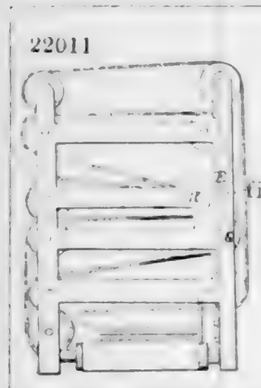
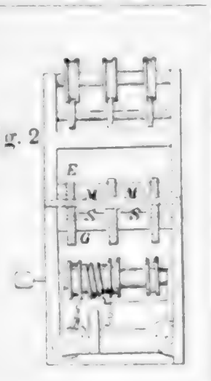


fig. 1

fig. 2



21980

fig. 1

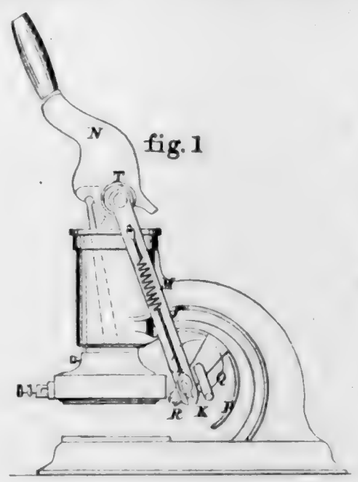
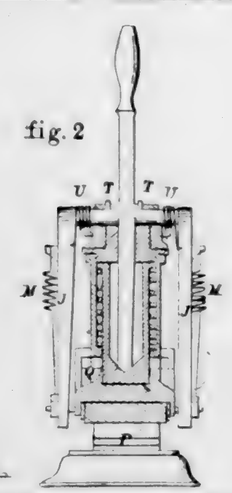


fig. 2



21859

fig. 1

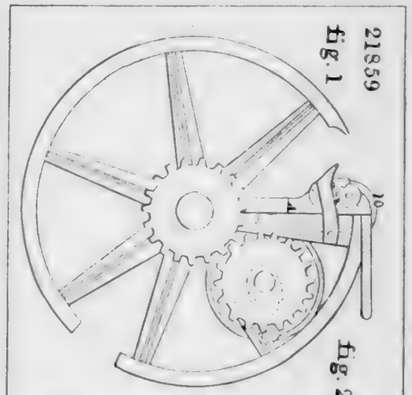
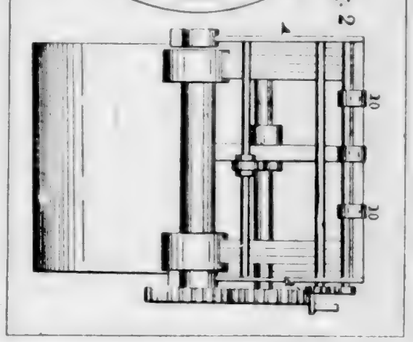


fig. 2



20039

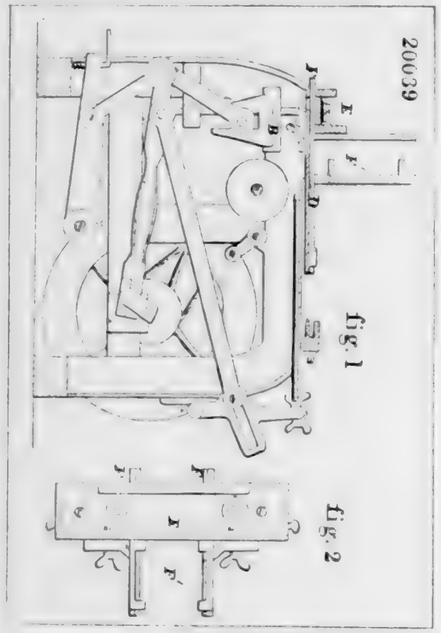
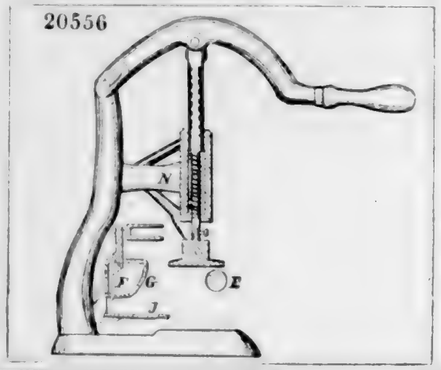


fig. 1

fig. 2

20556



20179

fig. 1

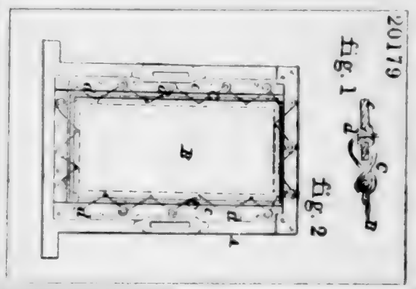


fig. 2

22123 fig. 1

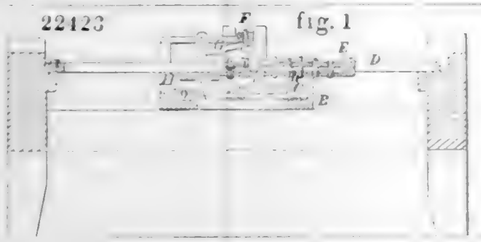
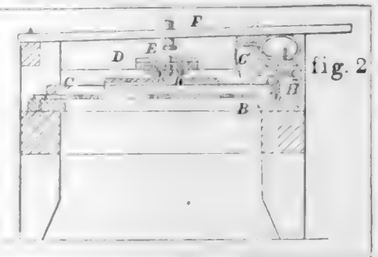
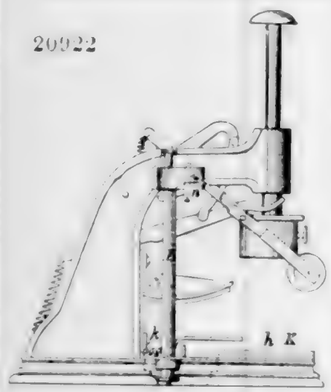


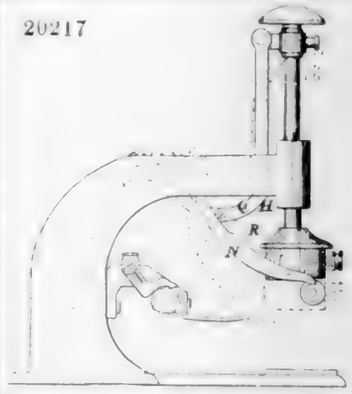
fig. 2



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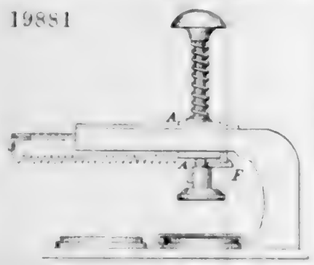
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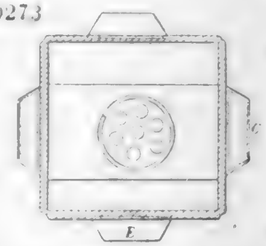
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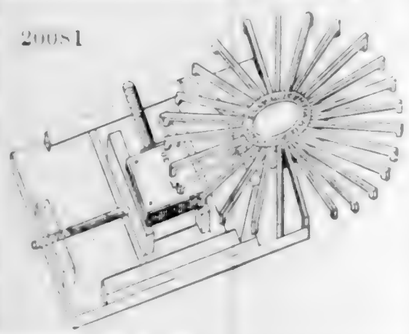
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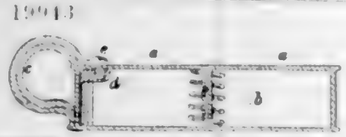
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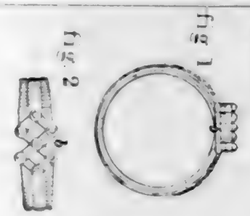
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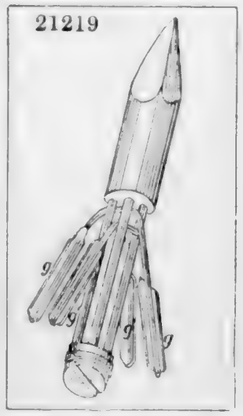
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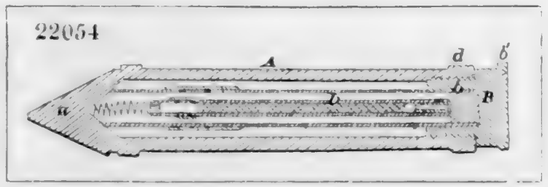
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21219



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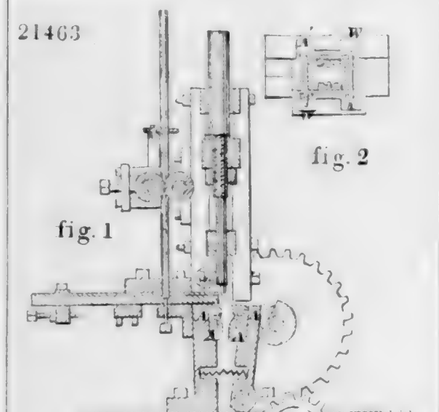


fig. 2

fig. 1

21505

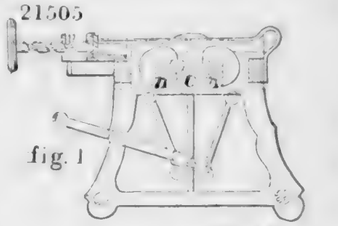


fig. 1

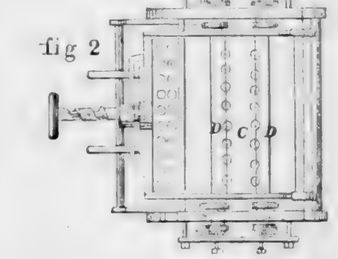
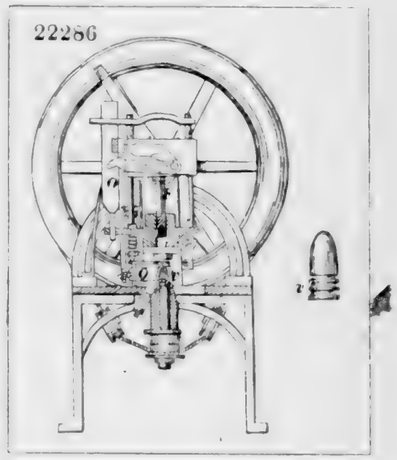
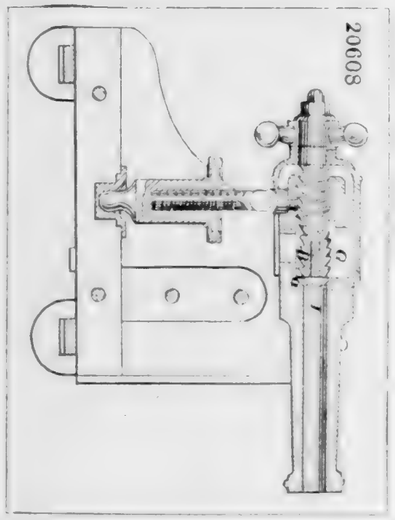


fig 2

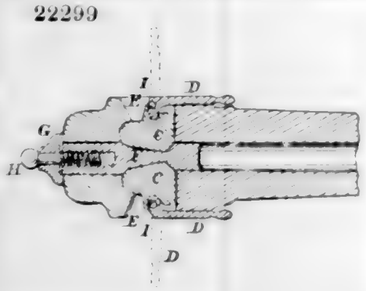
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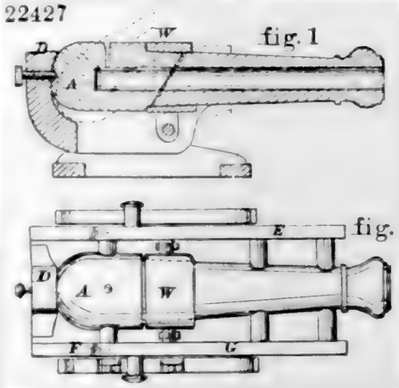
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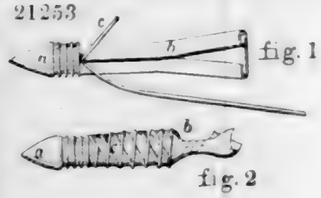
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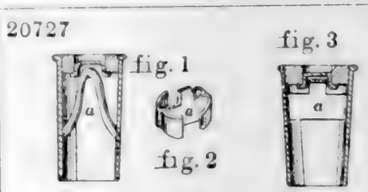
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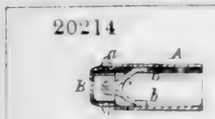
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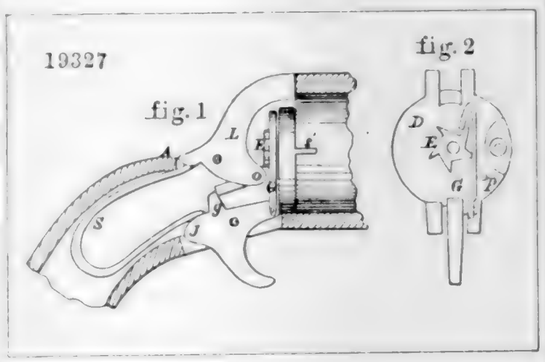
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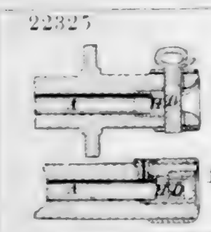
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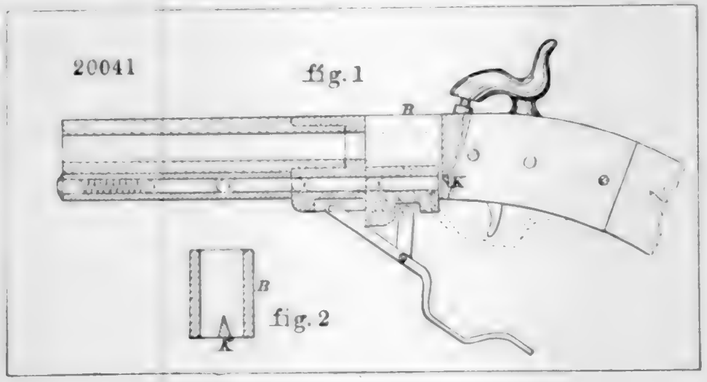
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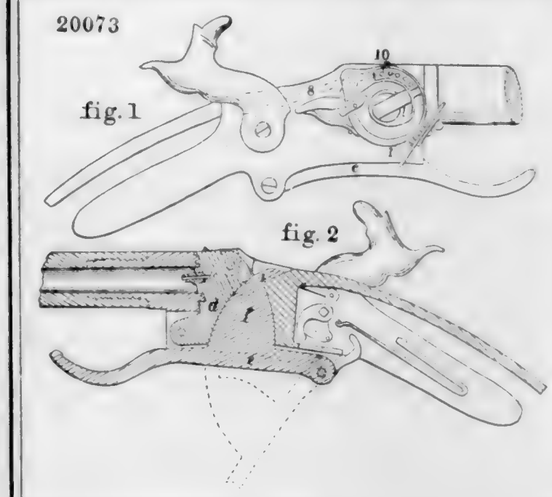
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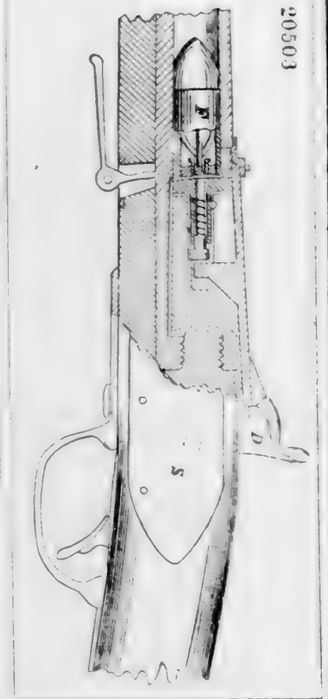
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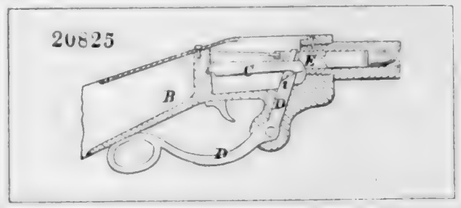
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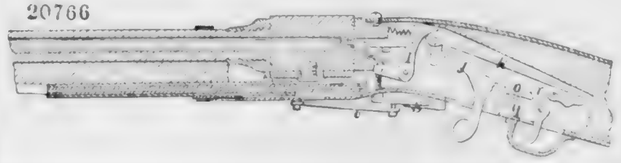
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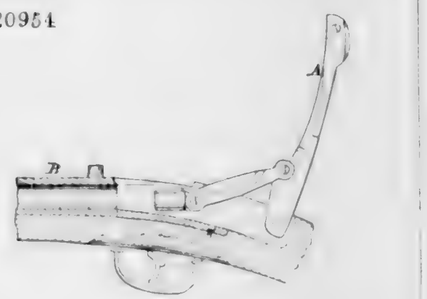
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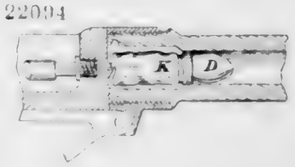
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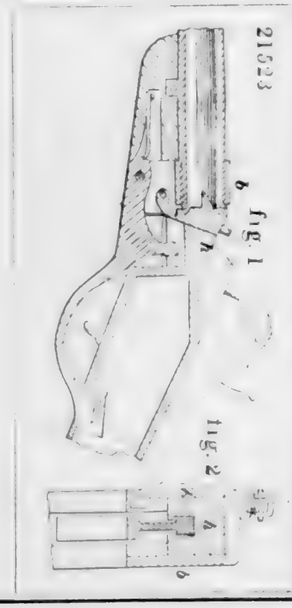
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22094



21523



21802

fig. 1

fig. 2

fig. 3

19213

fig. 1

fig. 2

fig. 3

22218

fig. 1

fig. 2

fig. 3

20129

19387

fig. 1

fig. 2

fig. 3

fig. 4

fig. 5

19553

fig. 1

fig. 2

21149

19961

fig. 1

fig. 2

19739

20144

fig. 1

fig. 2

20160

fig. 1

fig. 2

20496 fig. 1

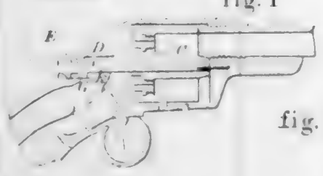
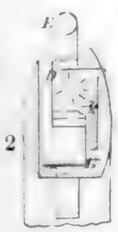


fig. 2



20607



fig 1

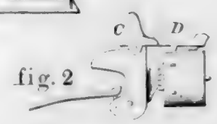
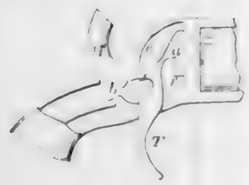
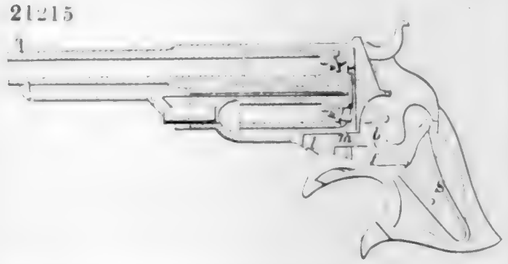


fig. 2

20765



21215



21188 fig. 1

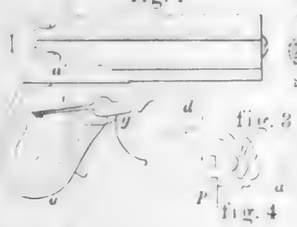


fig. 2

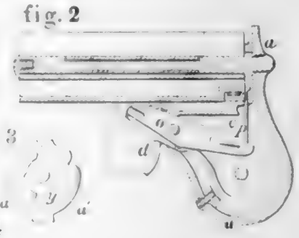


fig. 3

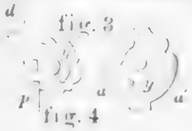


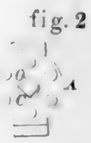
fig. 4

21400



fig. 1

fig. 2



21054 fig. 1

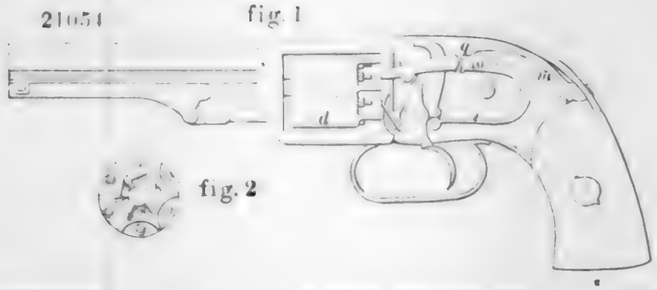


fig. 2

21478

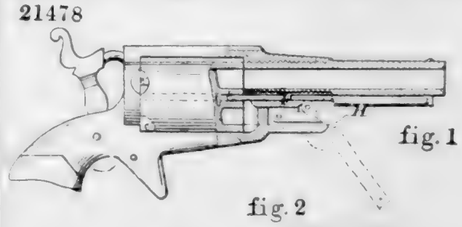
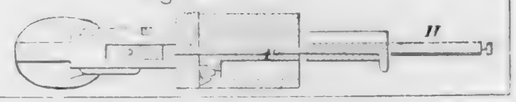
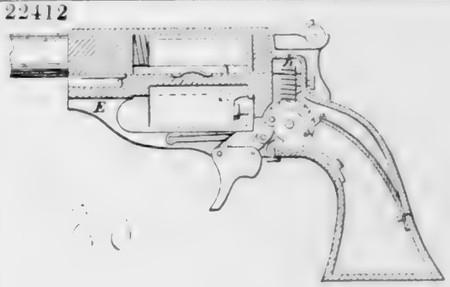


fig. 1

fig. 2



22412



22005

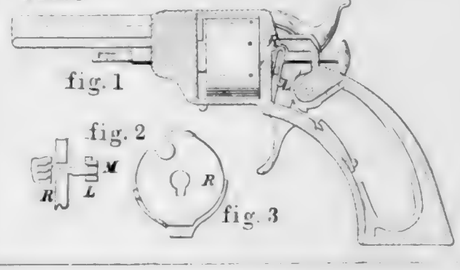
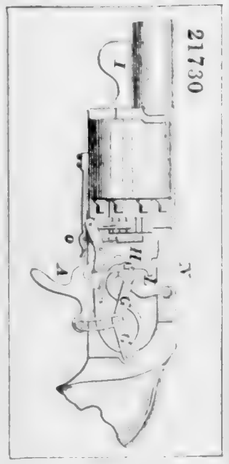


fig. 1

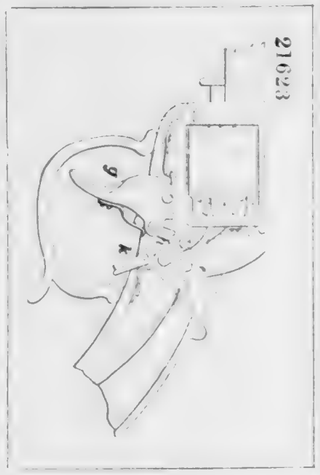
fig. 2

fig. 3

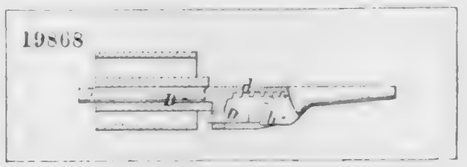
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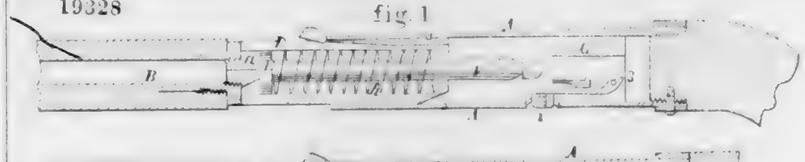


21623



19868



19328 fig. 1



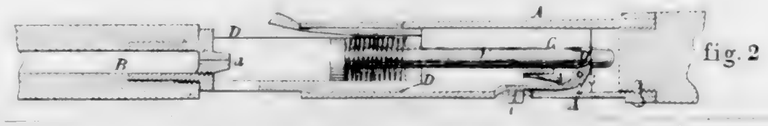


fig. 2

20597

fig. 1

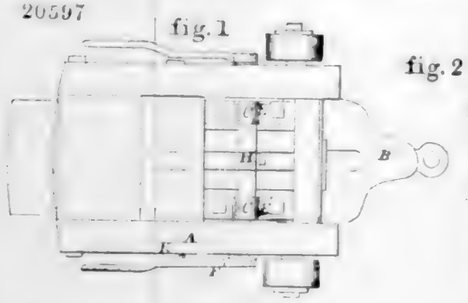
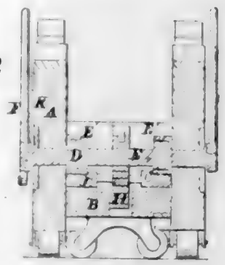


fig. 2



20757

fig. 2

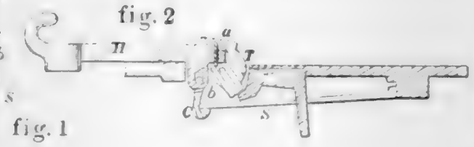


fig. 1



21109

fig. 1

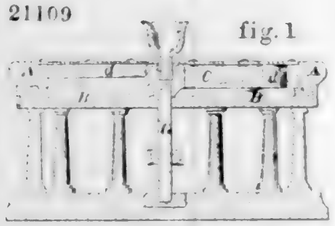
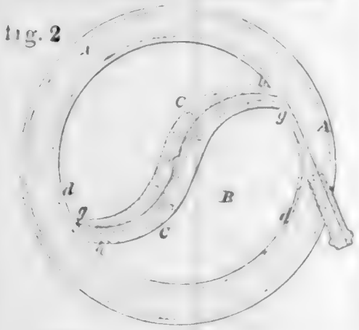


fig. 2



19121

fig. 1

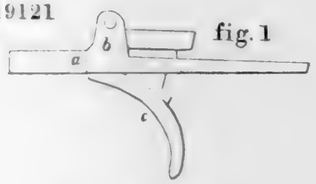
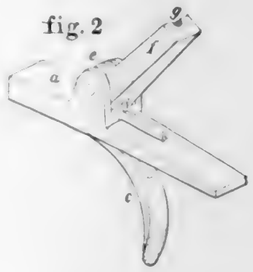


fig. 2



22377

fig. 1

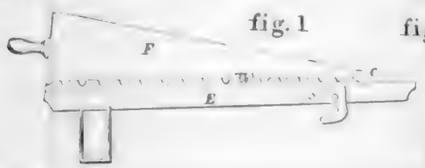
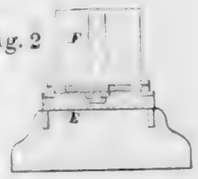


fig. 2



20229

fig. 1

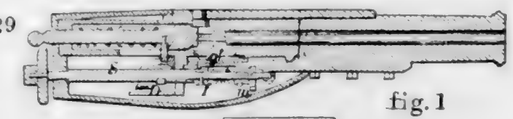
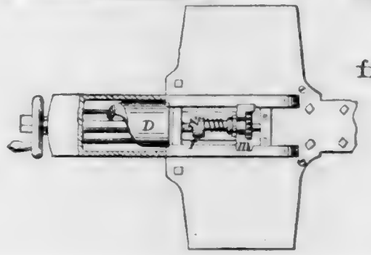


fig. 2

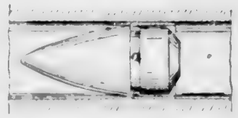


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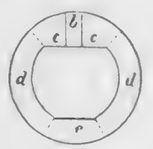
fig. 1



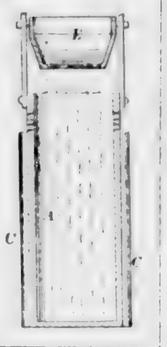
fig. 2



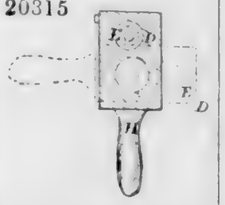
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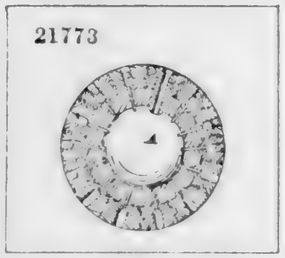
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20315



21773



19342

fig. 2

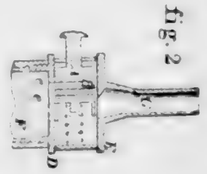
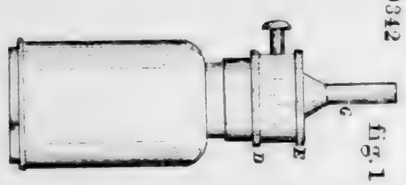


fig. 1



19068

fig. 1

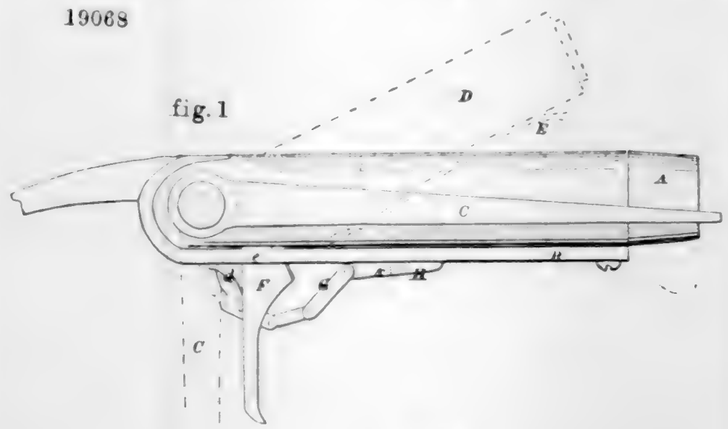
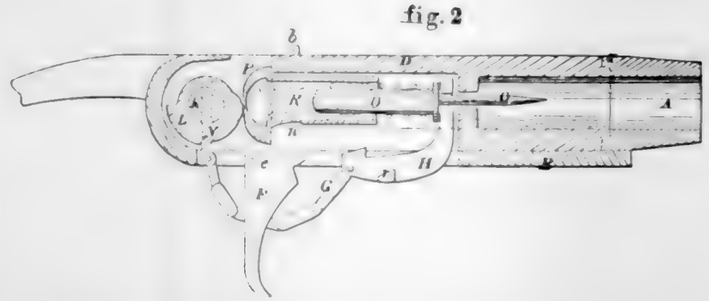


fig. 2



19086

fig. 1

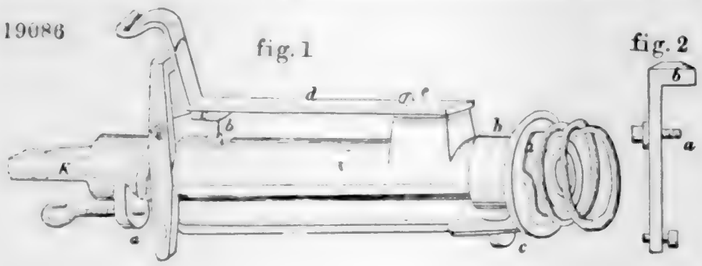


fig. 2

19674

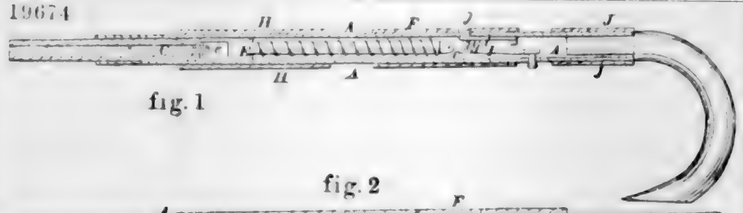


fig. 1

fig. 2

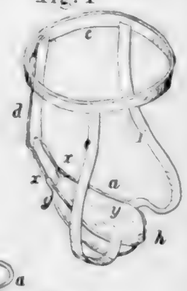


22293

fig. 3



fig. 1



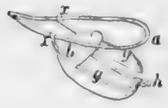
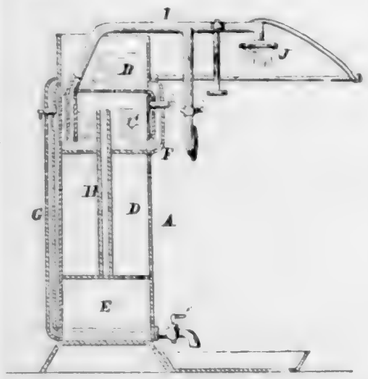
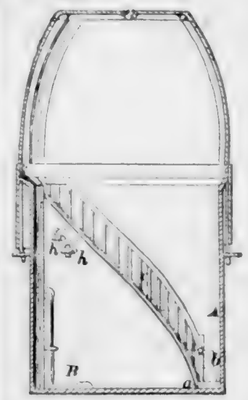


fig. 2

22298



21138

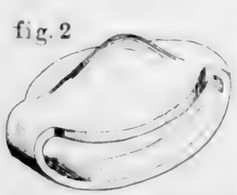


21790

fig. 1



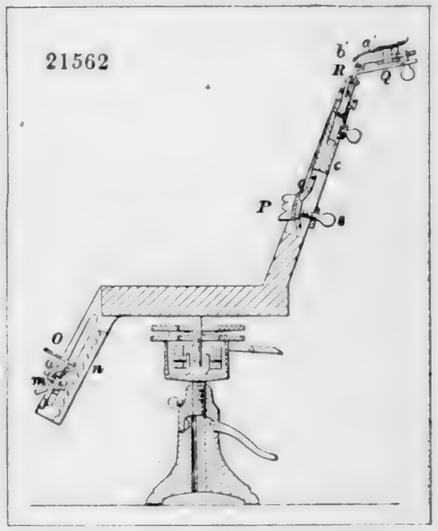
fig. 2



22080



21562



19858

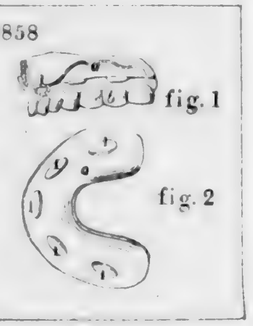
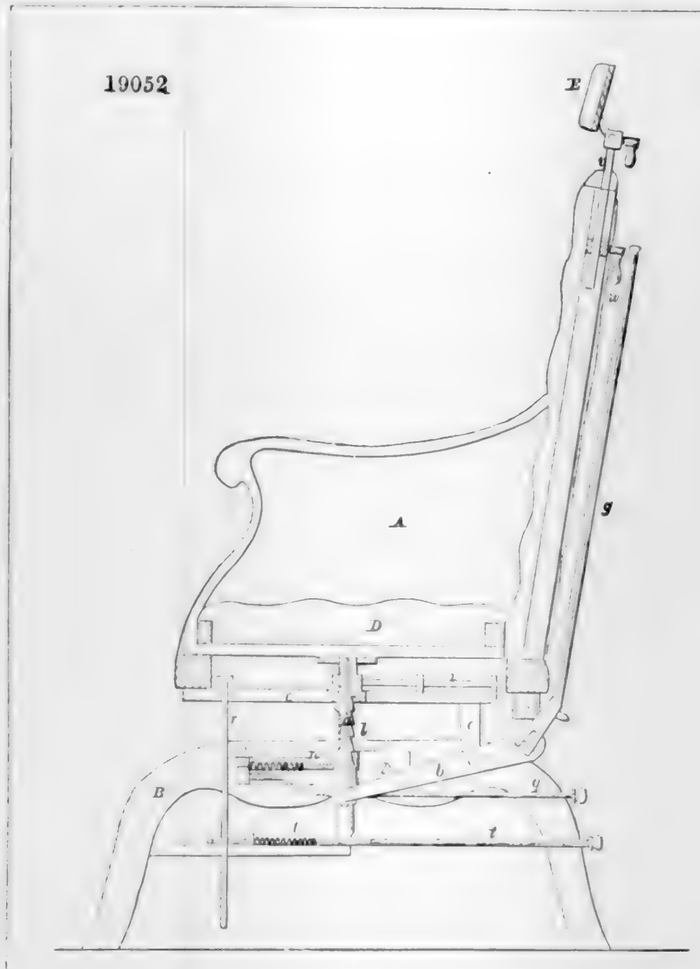


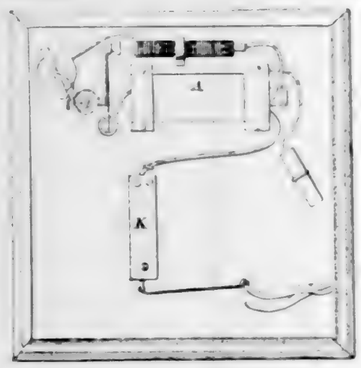
fig. 1

fig. 2

19052



22063



22018



21289



21291



20896

fig. 1

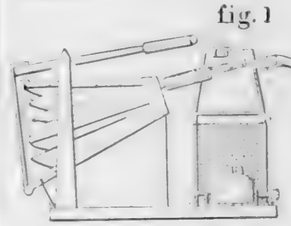


fig. 2

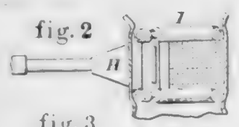
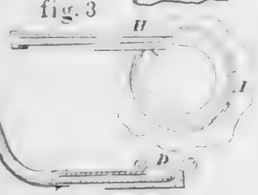
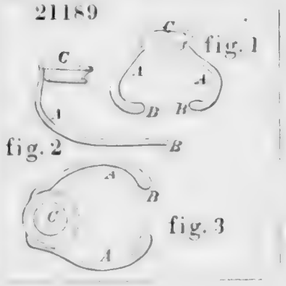


fig. 3



21189

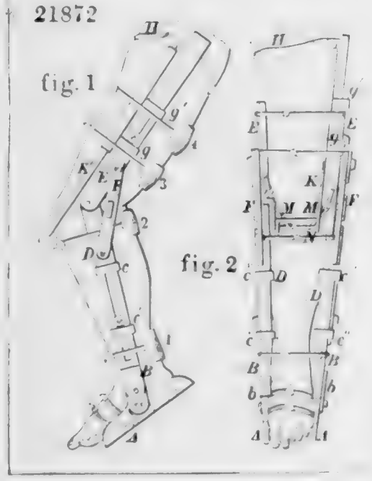


20754



41

21872



19025

fig. 1

fig. 2

20905

fig. 1

fig. 2

21853

20390

20444.

fig. 1

fig. 2

fig. 3

21767

19914

fig. 1

fig. 2

21548

XXI.—WEARING APPAREL, ETC.

20865

19932

fig. 1

fig. 2

22242

fig. 1

fig. 2

22133

fig. 1



fig. 2



20707



20632

fig. 1



fig. 2

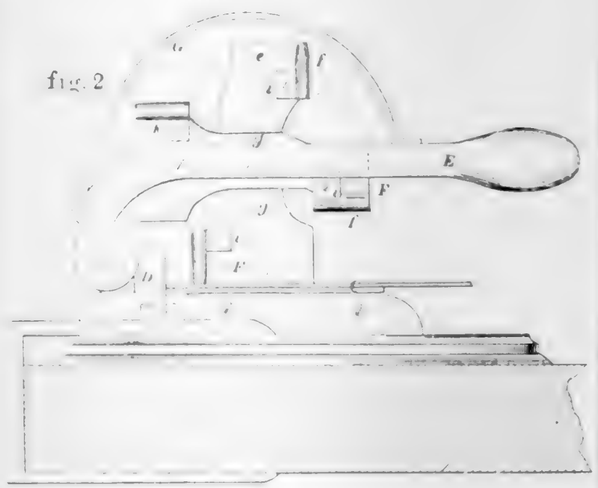
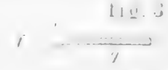


fig. 3



20194

fig. 1



fig. 2



22143

fig. 1

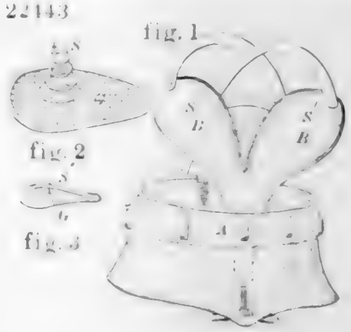


fig. 2

fig. 3

19120

fig. 1

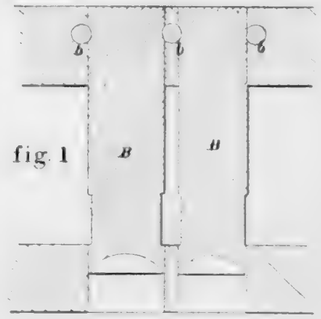


fig. 2

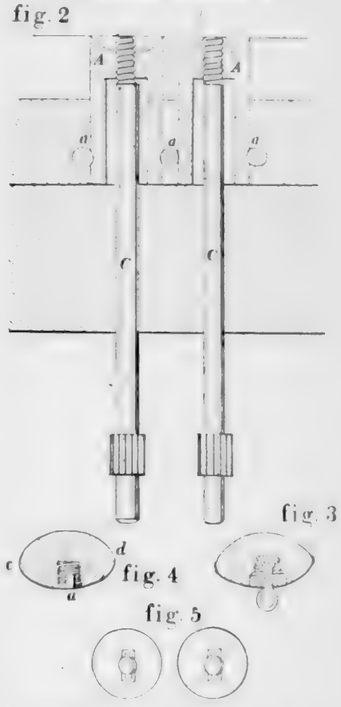


fig. 3

fig. 4

fig. 5

19118

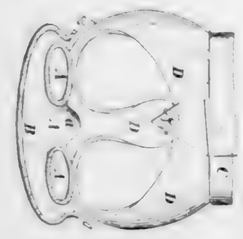
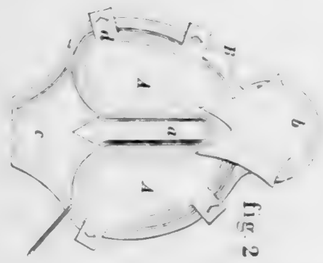
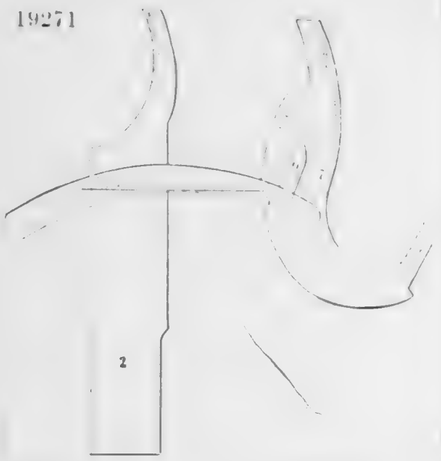


fig. 1

fig. 2



19271



19228

fig. 1

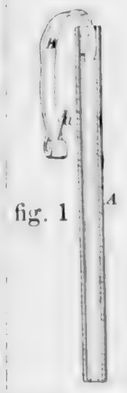


fig. 2



22366

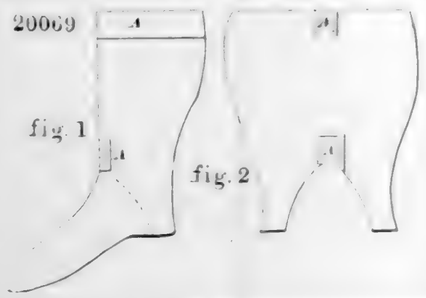
fig. 1



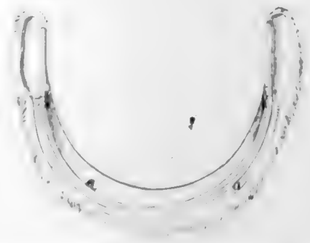
fig. 2



20069



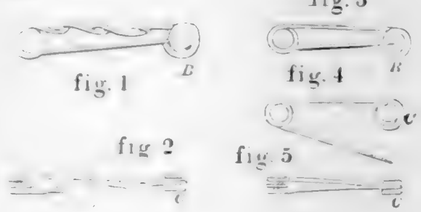
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20708



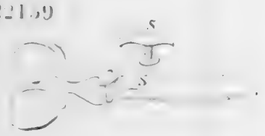
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19280



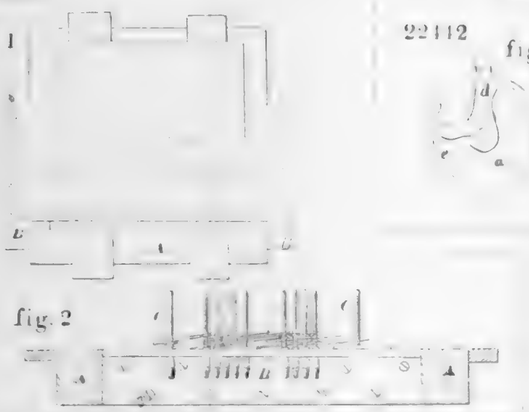
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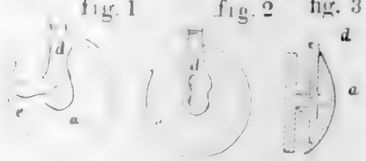
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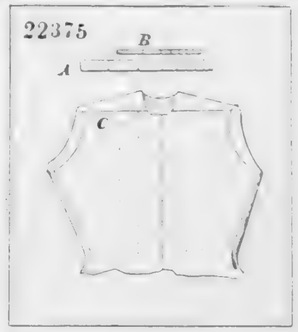
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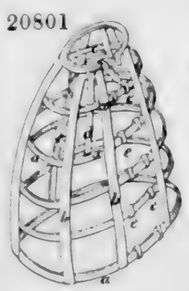
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22375



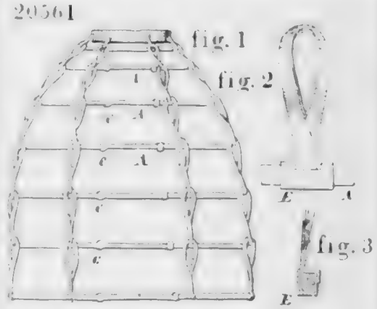
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21839



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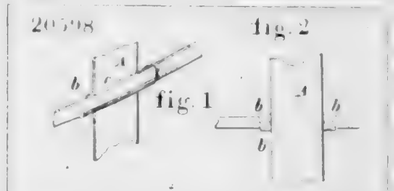
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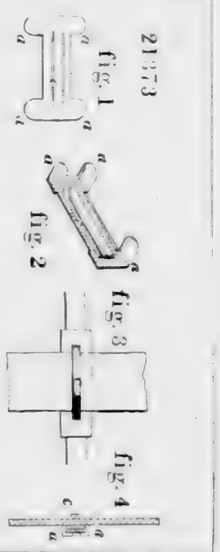
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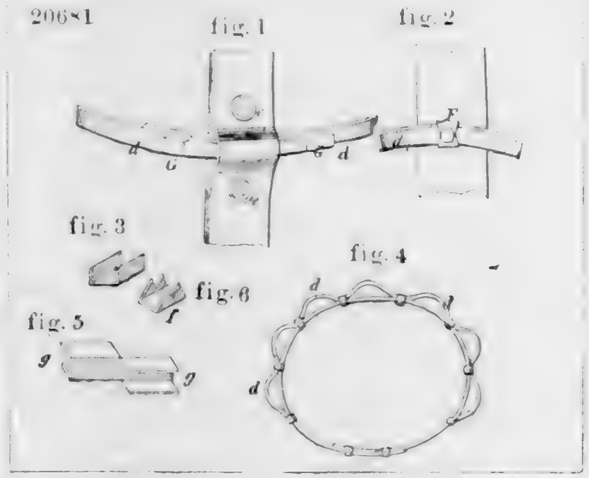
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21373



20681



22355



21581

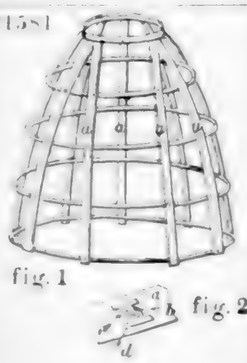


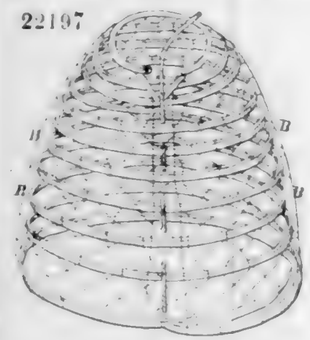
fig. 1 fig. 2

21709

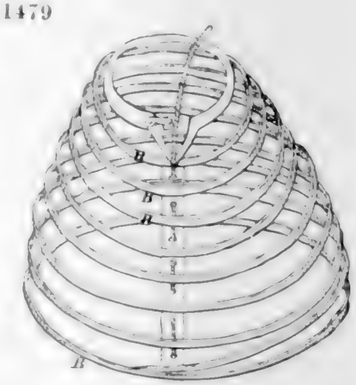


fig. 1 fig. 2

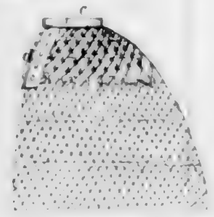
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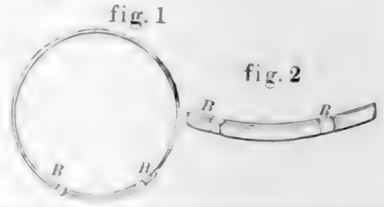


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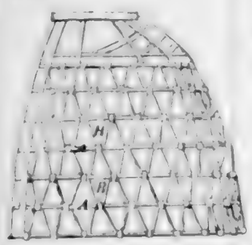


22051

fig. 1 fig. 2



21806



19576

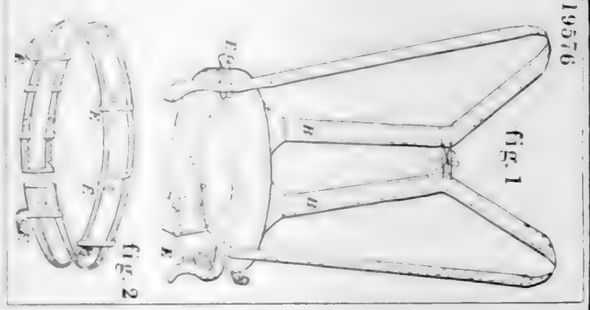
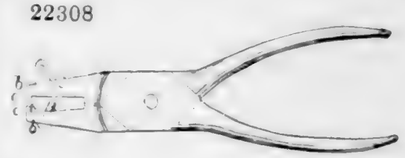


fig. 2 fig. 1

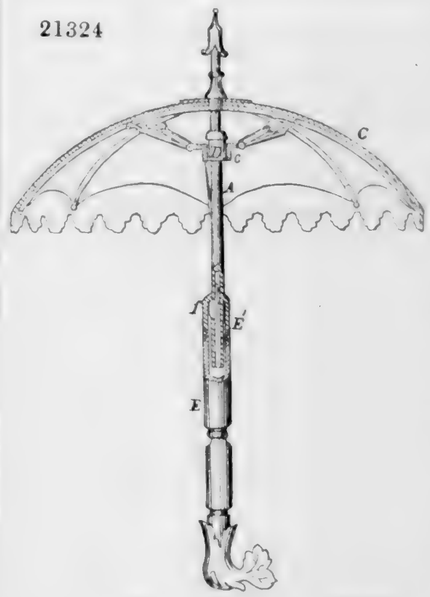
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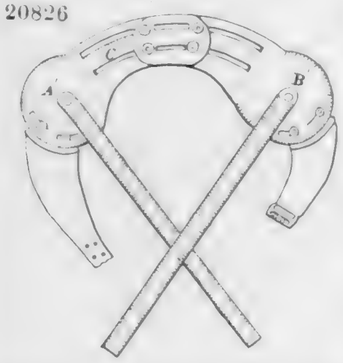
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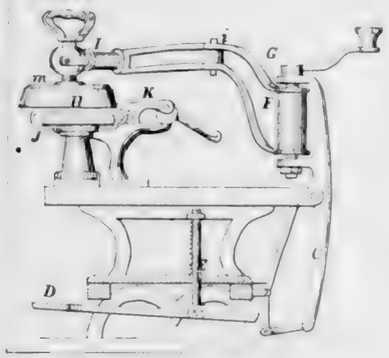
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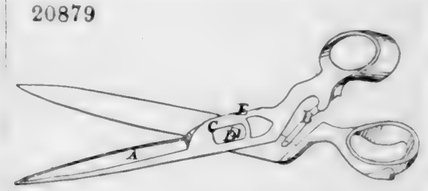
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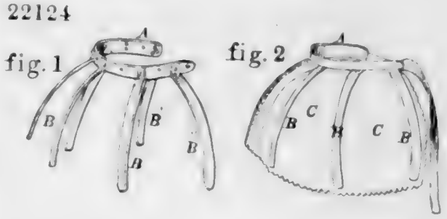


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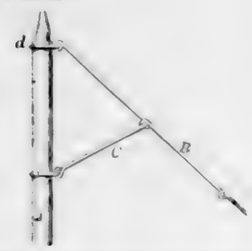


22124

fig. 1 fig. 2



19998



21313 fig. 3

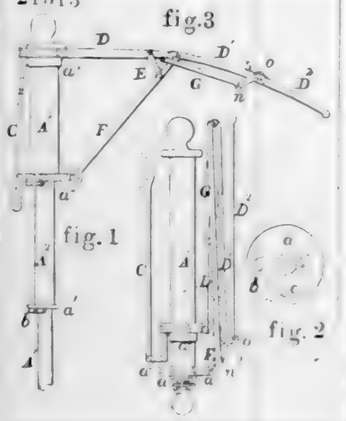
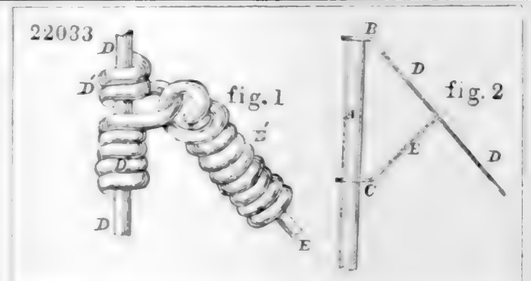
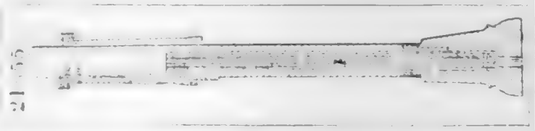


fig. 1 fig. 2

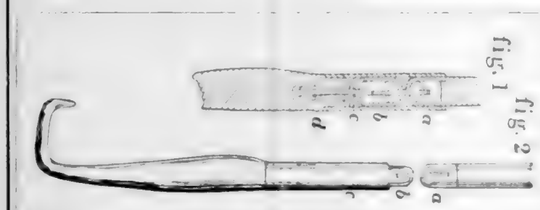
22033 fig. 1 fig. 2



21555



22112 fig. 1 fig. 2



22274

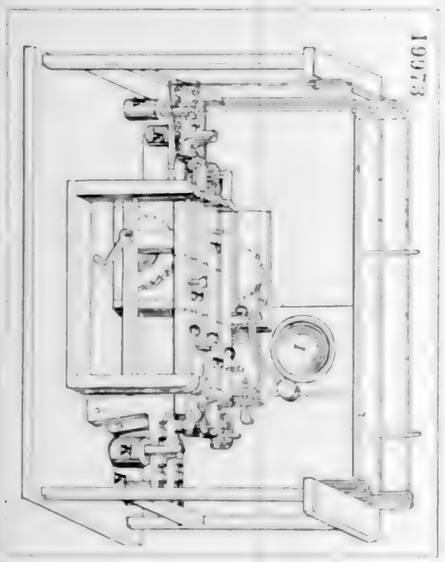


XXII. — MISCELLANEOUS.

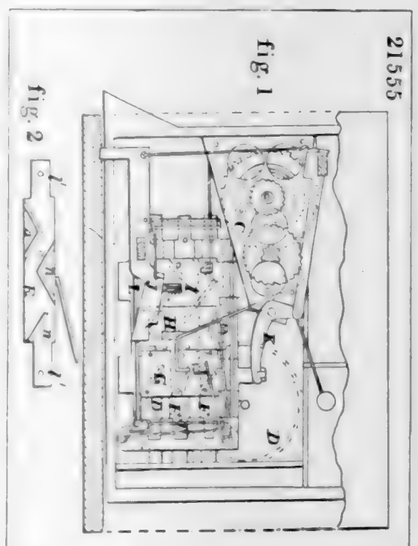
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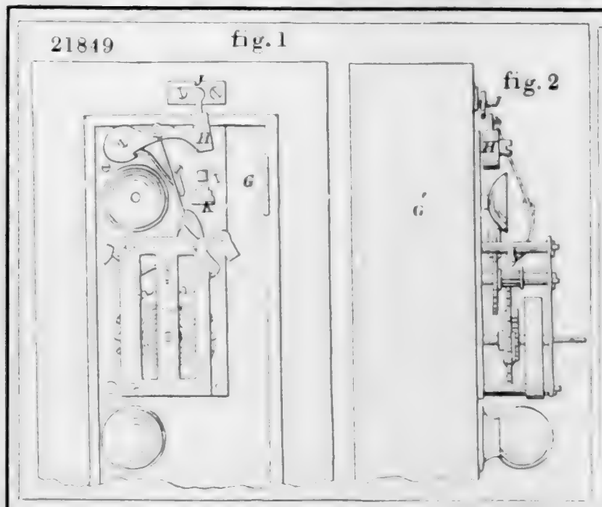
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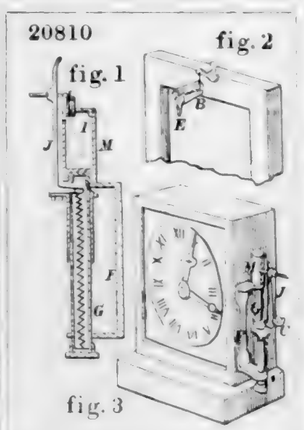
21555 fig. 1 fig. 2



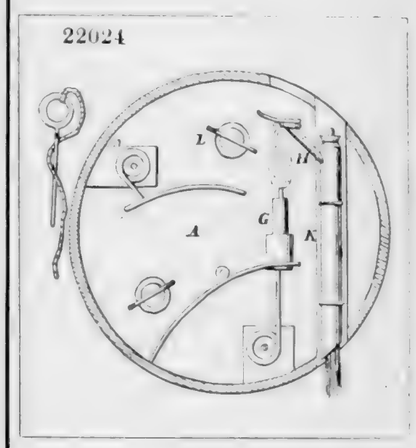
21849 fig. 1 fig. 2



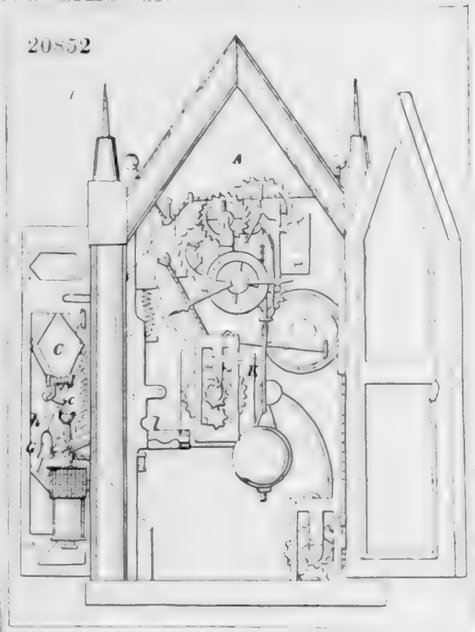
20810 fig. 1 fig. 2 fig. 3



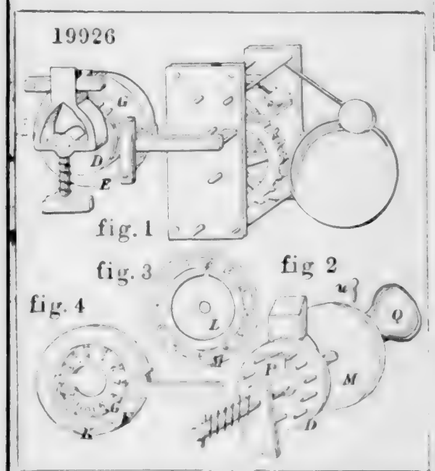
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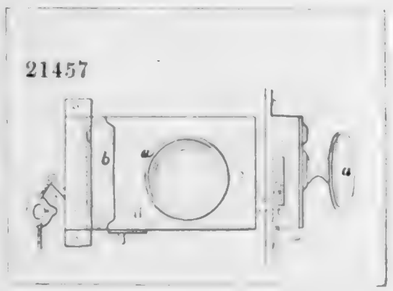
20852



19926 fig. 1 fig. 3 fig. 2 fig. 4



21457



21336 fig. 1

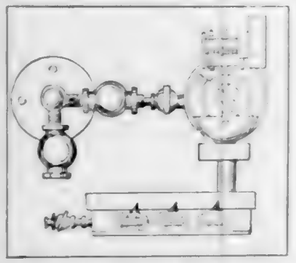
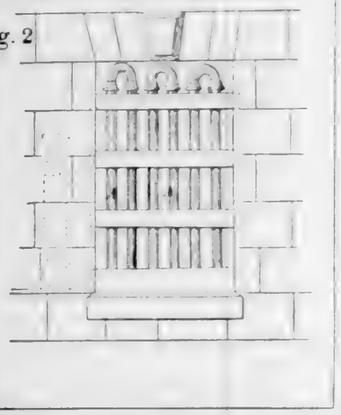


fig. 2



19295 fig. 1

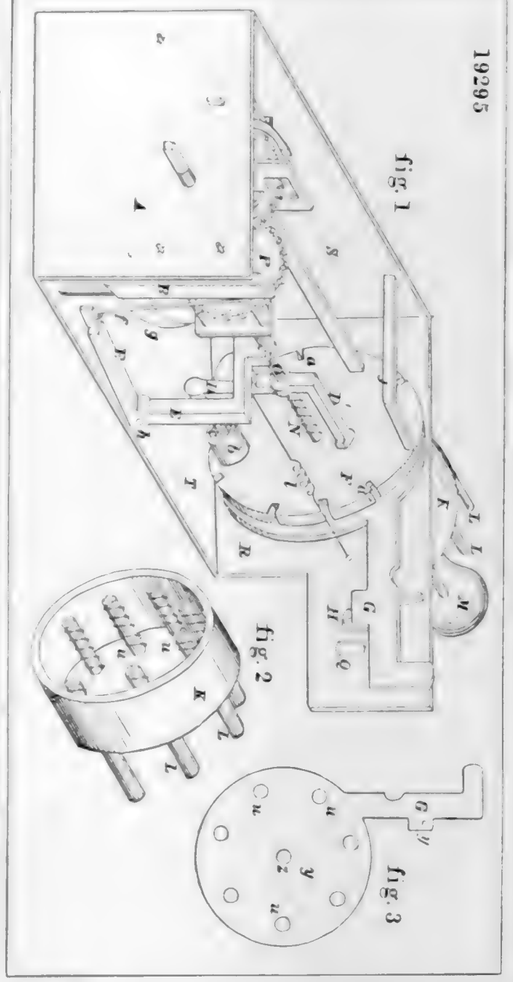
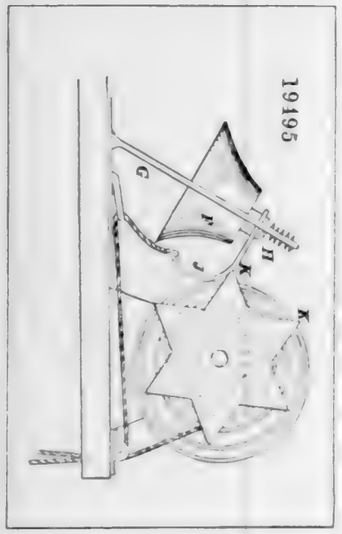


fig. 2

fig. 3

19495



20333 fig. 1

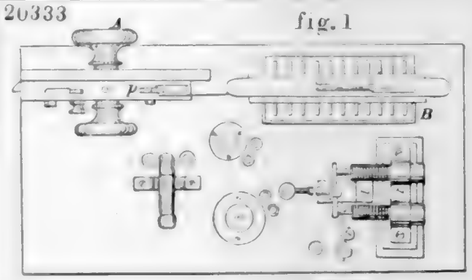
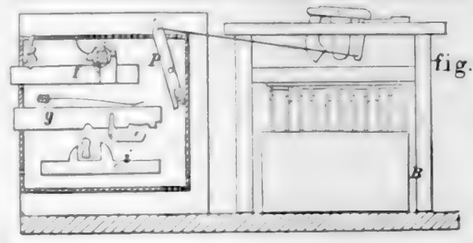


fig. 2



19196 fig. 1

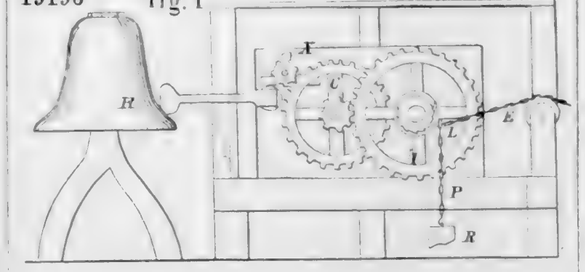
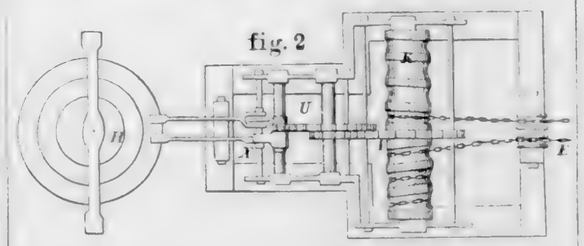
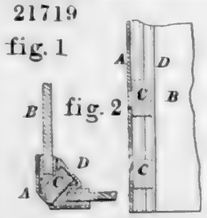


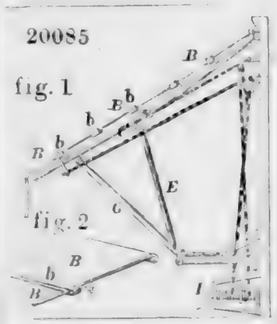
fig. 2



21719 fig. 1 fig. 2



20085 fig. 1 fig. 2



22176 fig. 1

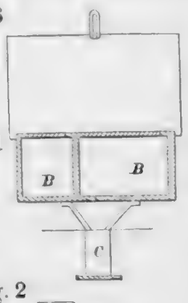


fig. 2

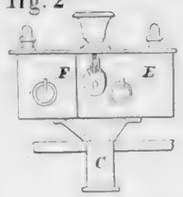
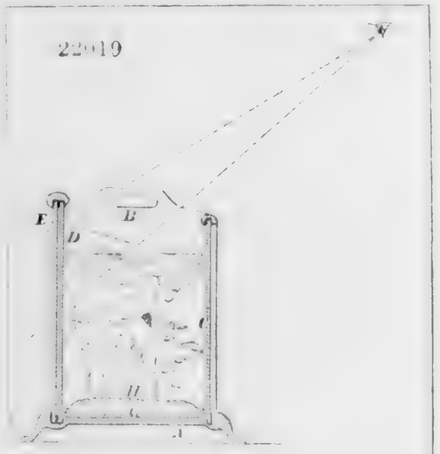


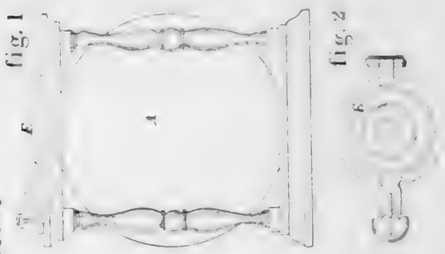
fig. 3



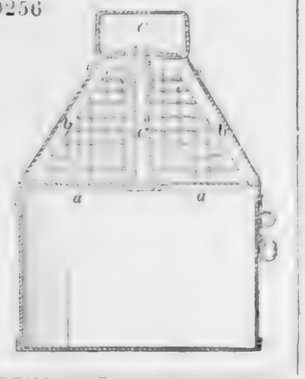
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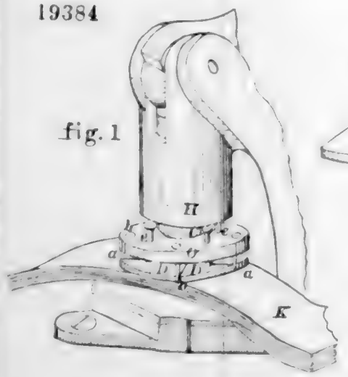
21684 fig. 1 fig. 2



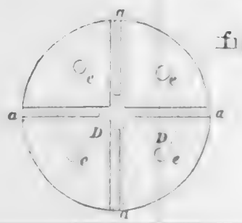
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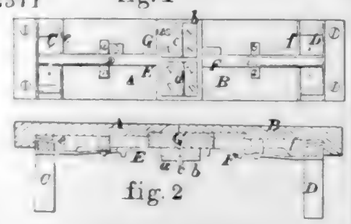
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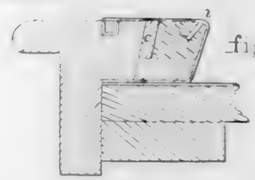


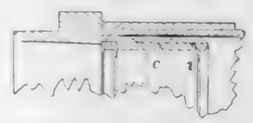


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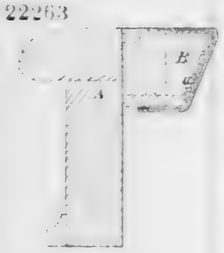


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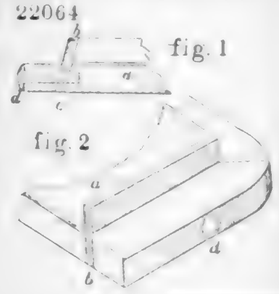




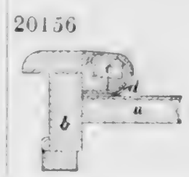
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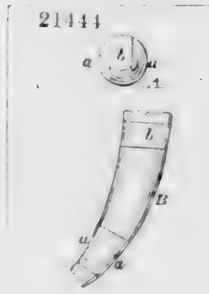
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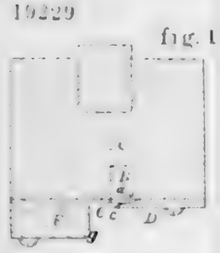
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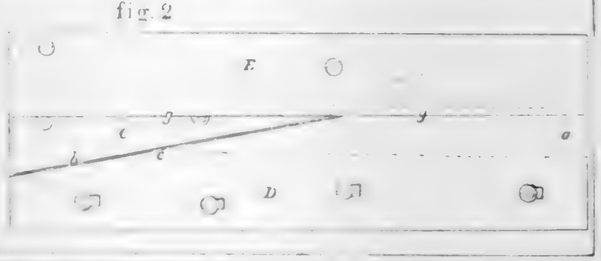


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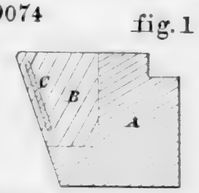


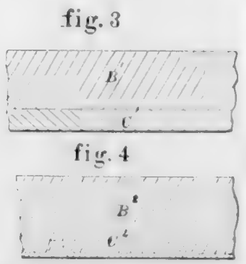
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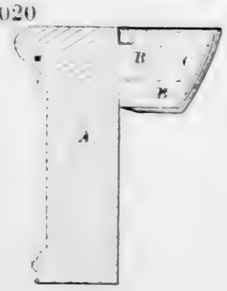


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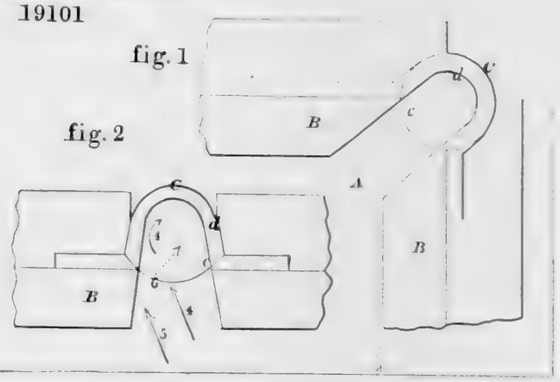




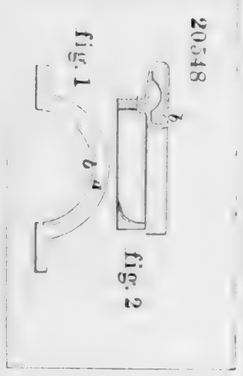
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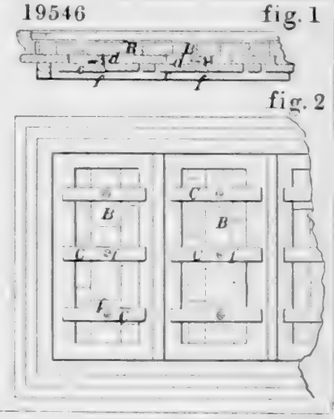
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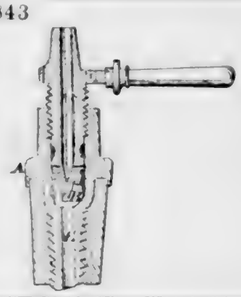
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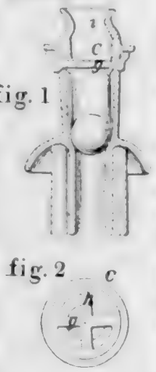
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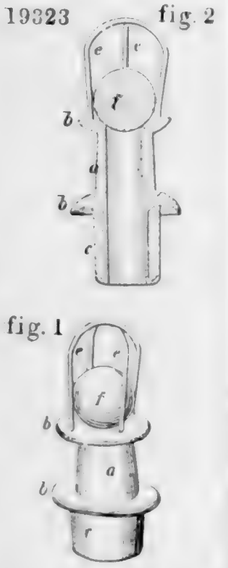
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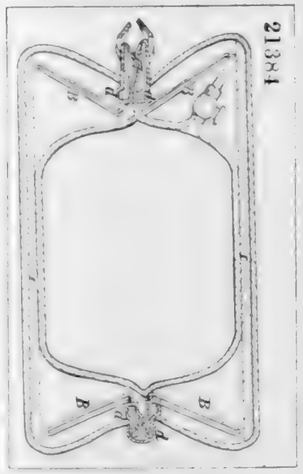
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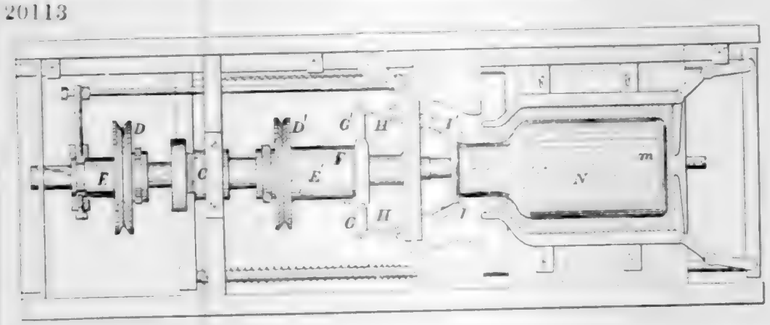
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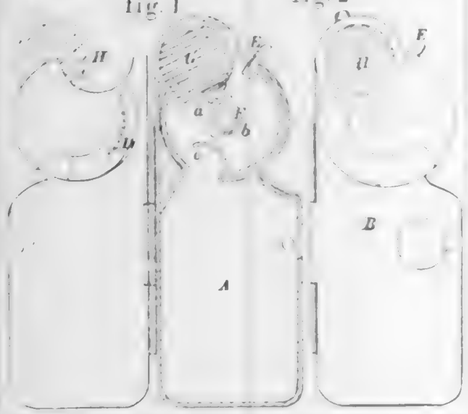
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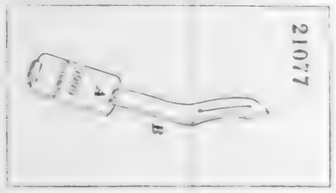
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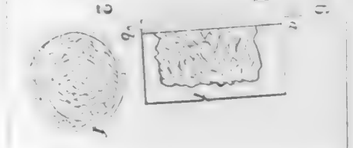
19580 fig. 1 fig. 2



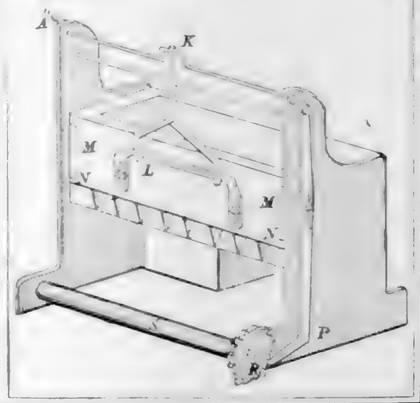
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19716 fig. 1 fig. 2



20240



19341 fig. 1

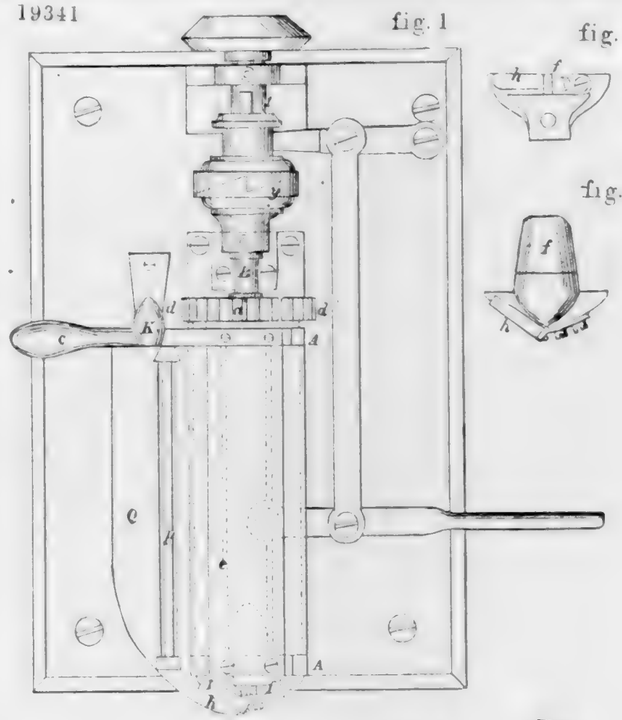


fig. 3



fig. 4

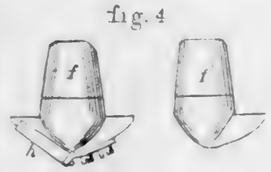


fig. 5

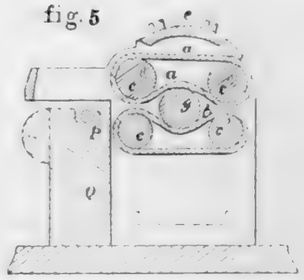
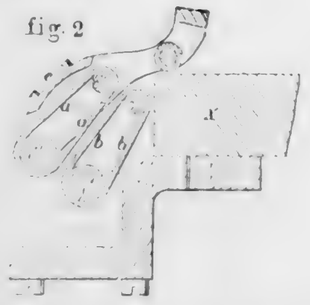
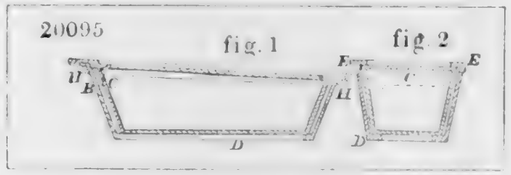


fig. 2



20095 fig. 1 fig. 2



19503 fig. 1 fig. 2



42

20771

fig. 1

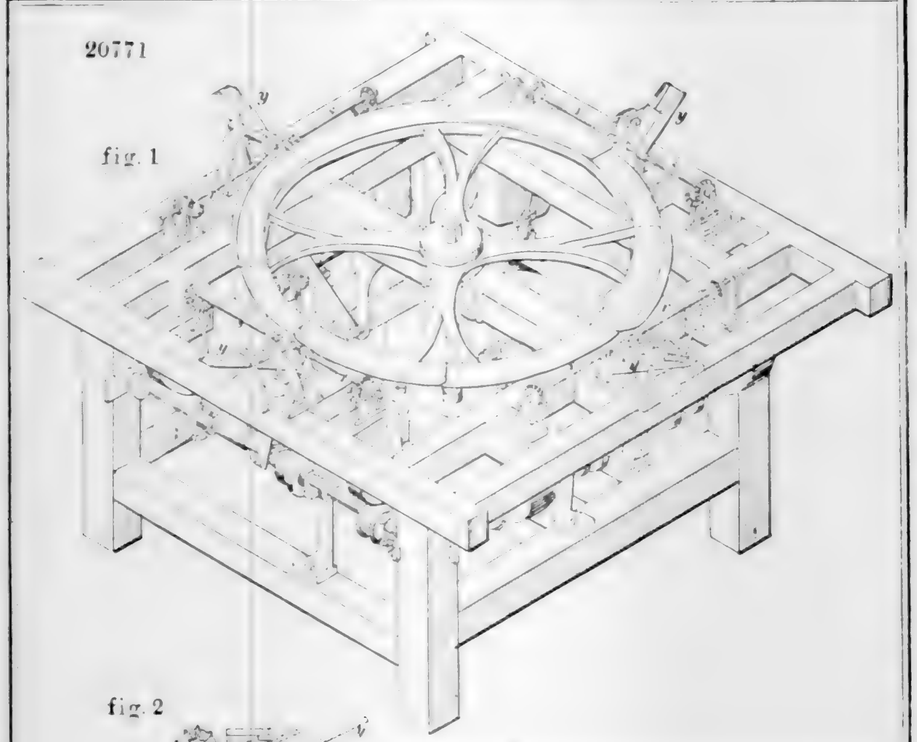
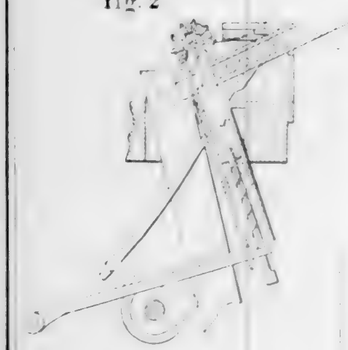
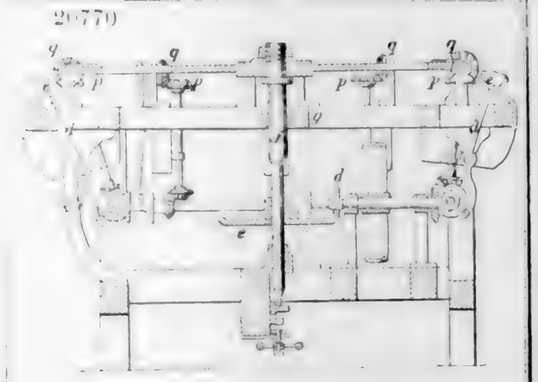


fig. 2



20770



19109

fig. 1

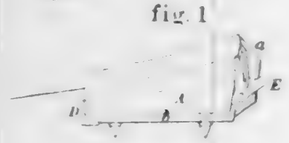


fig. 2



fig. 3



21944

fig. 1

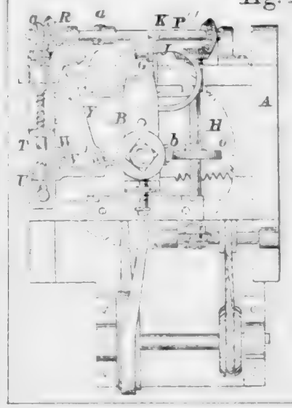


fig. 2

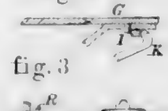
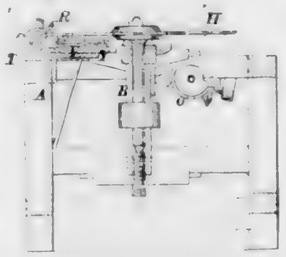


fig. 3



21955

fig. 1

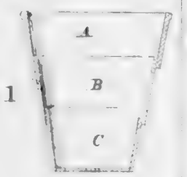
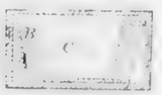
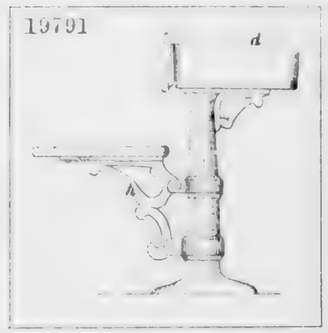


fig. 2



19791



21249

fig. 1

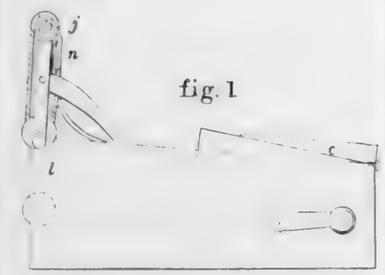
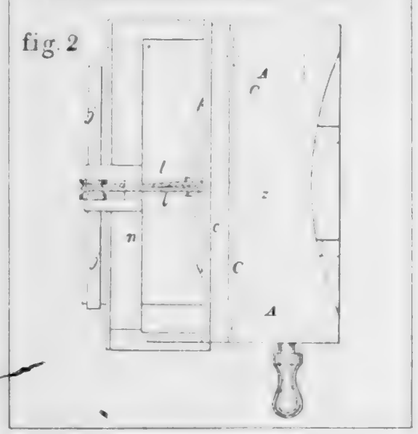
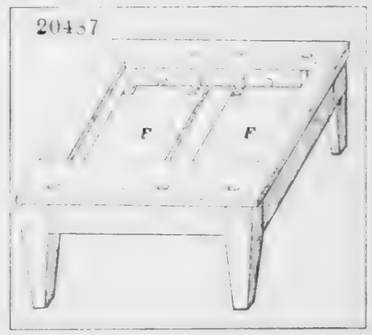


fig. 2



20457



20859

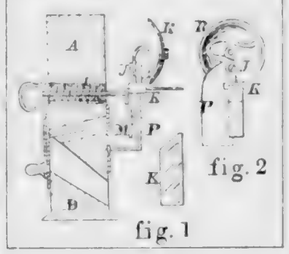
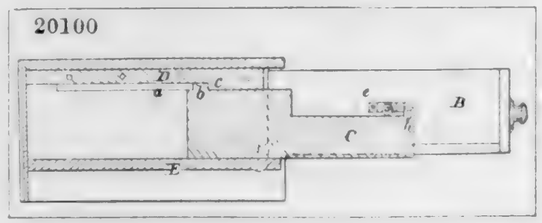


fig. 1

fig. 2

20100



20703

fig. 1

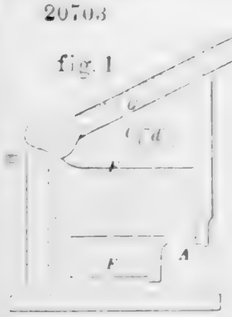
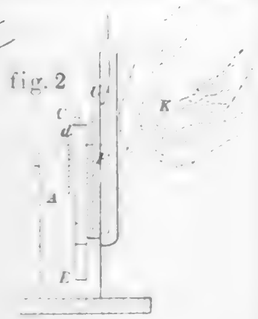


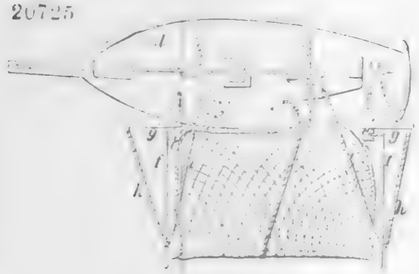
fig. 2



20701



20725



20309



21282

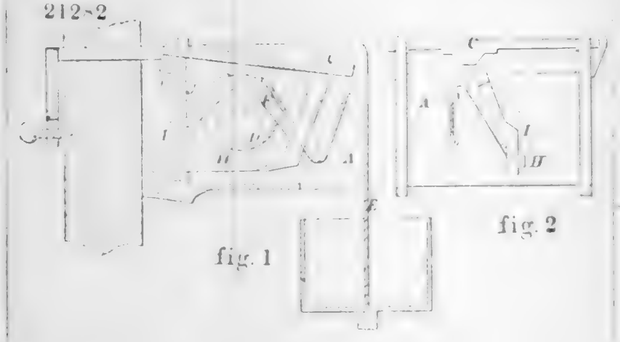
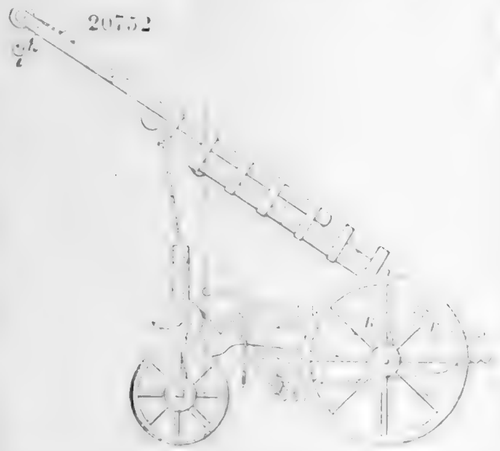


fig. 1

fig. 2

20752



20343



fig. 2

fig. 1

20539

fig. 3

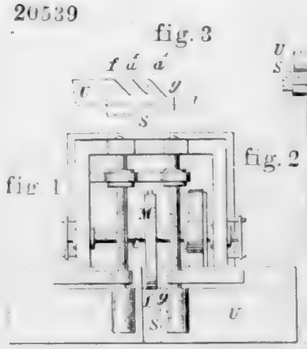


fig. 1

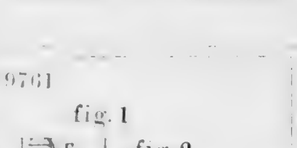
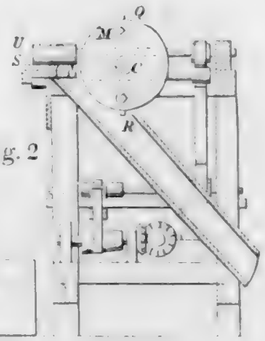


fig. 2



19205



19761

fig. 1



fig. 2

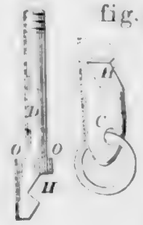
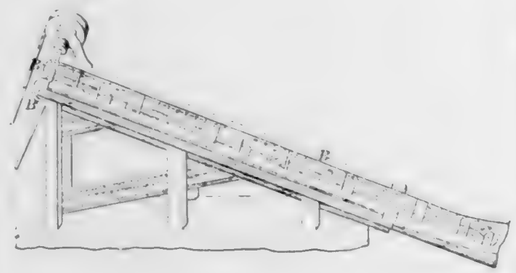


fig. 3

22210



19195

fig. 1

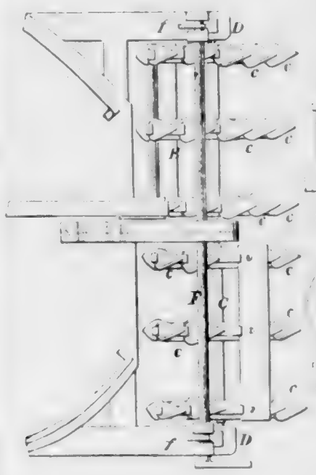


fig. 3

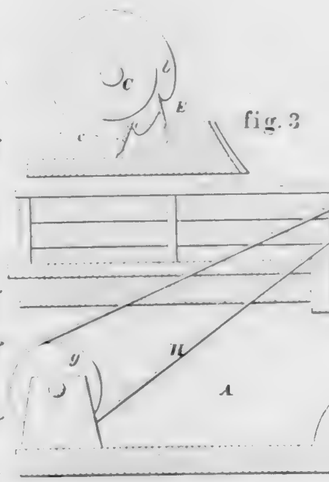
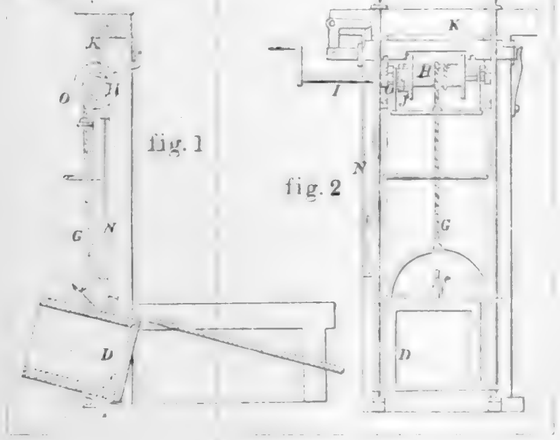


fig. 2



20322



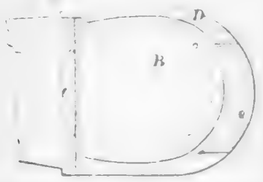
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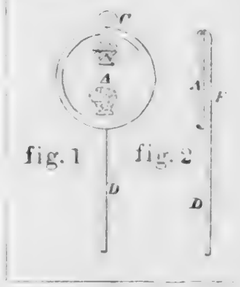
19378 fig. 1



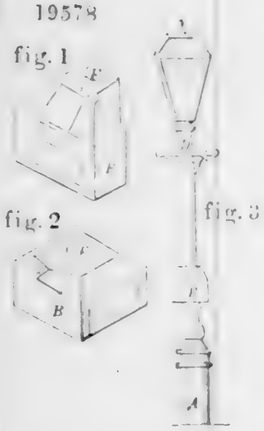
fig. 2



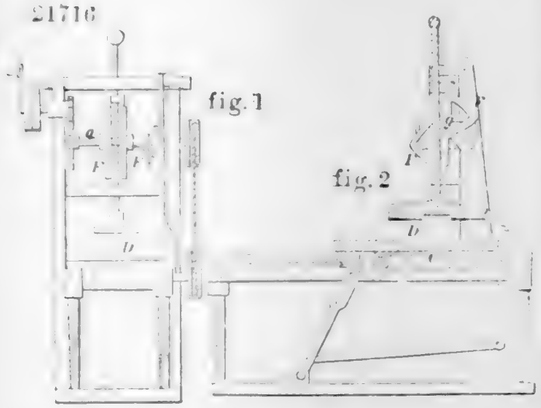
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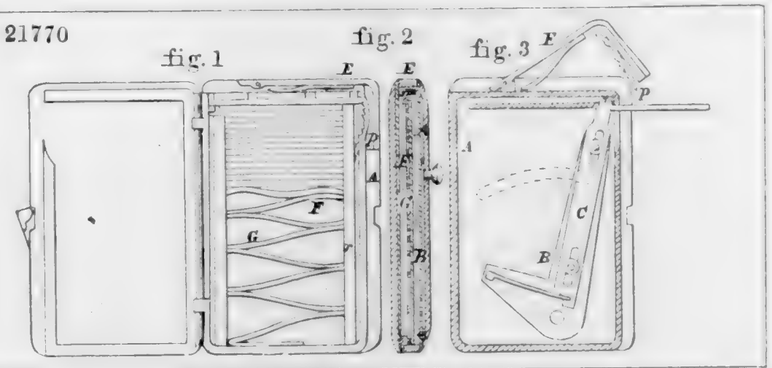
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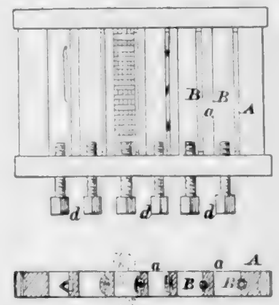
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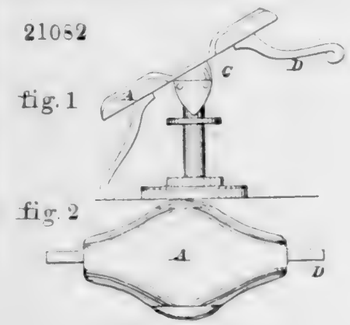
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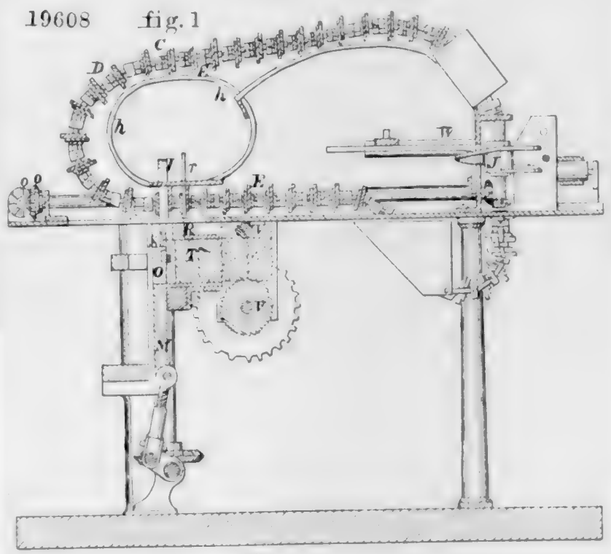
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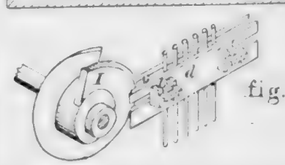


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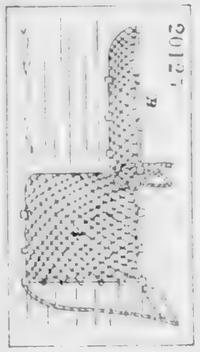


19608 fig. 1

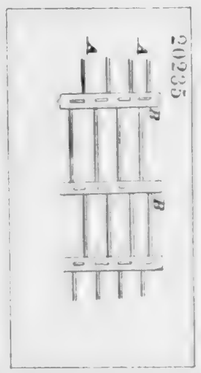




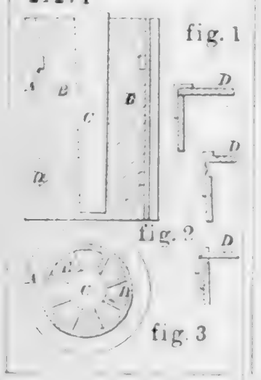
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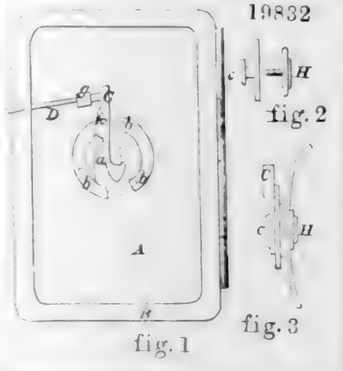
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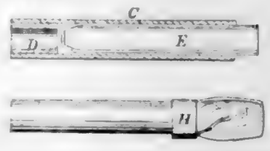
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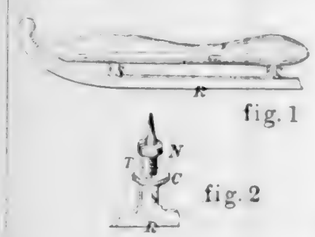
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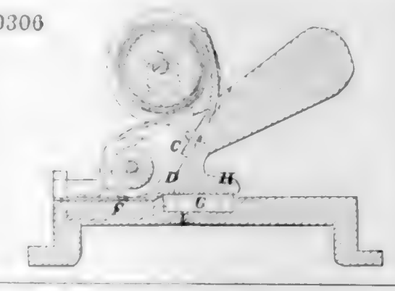
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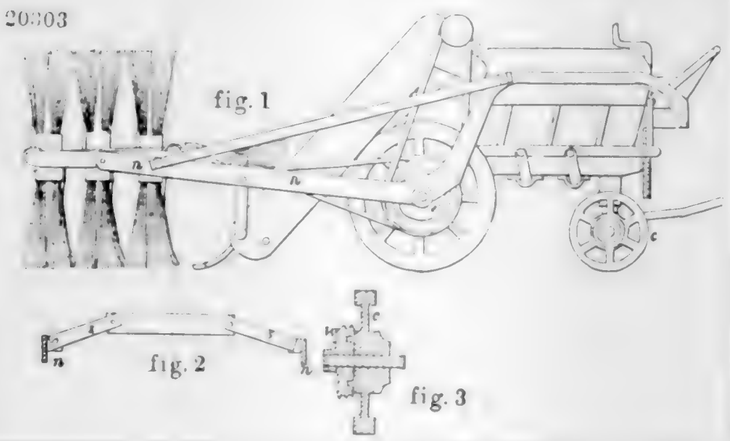
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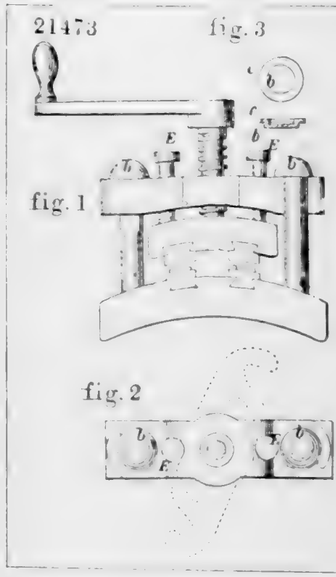
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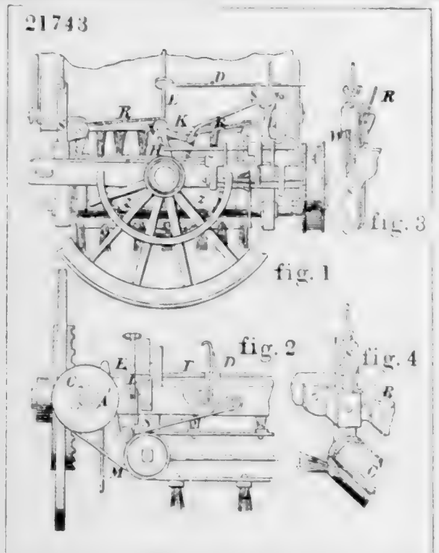
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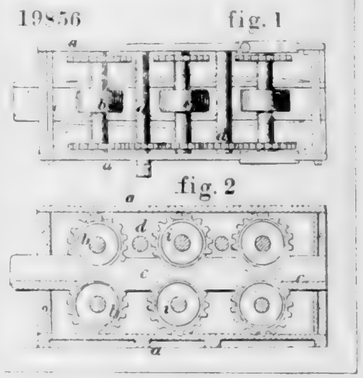
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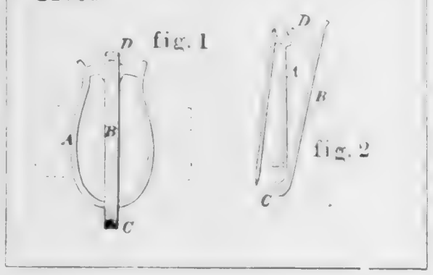
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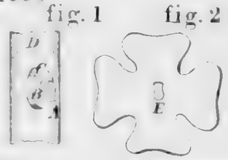
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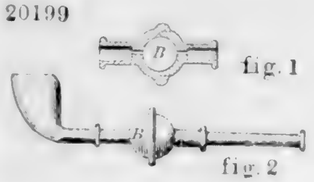
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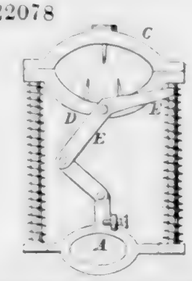
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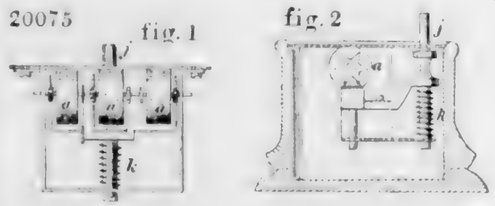
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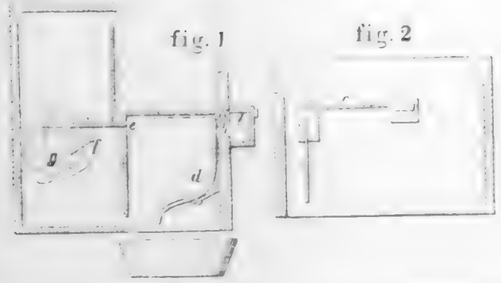
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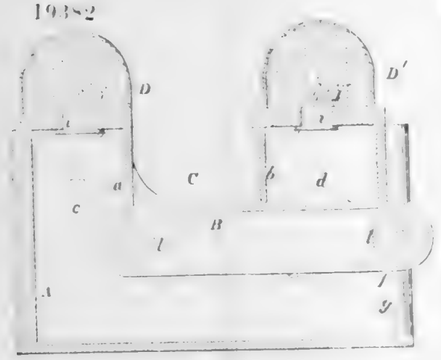
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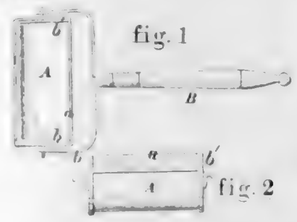
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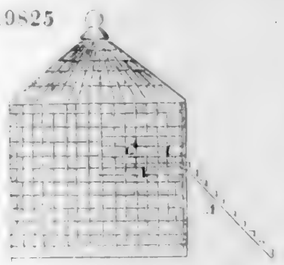
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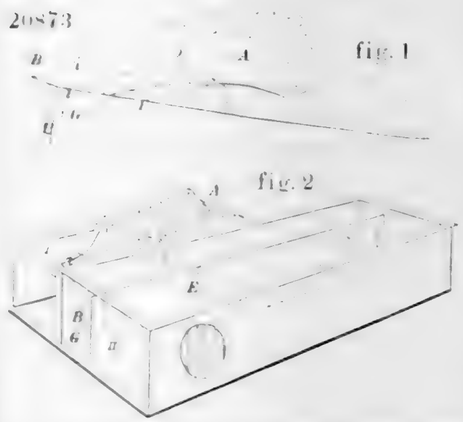
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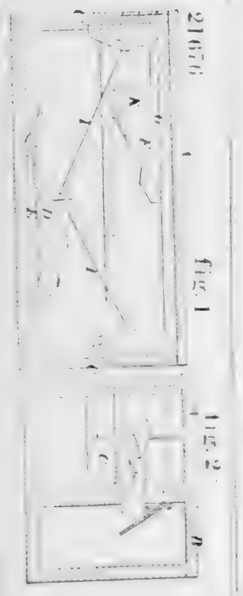
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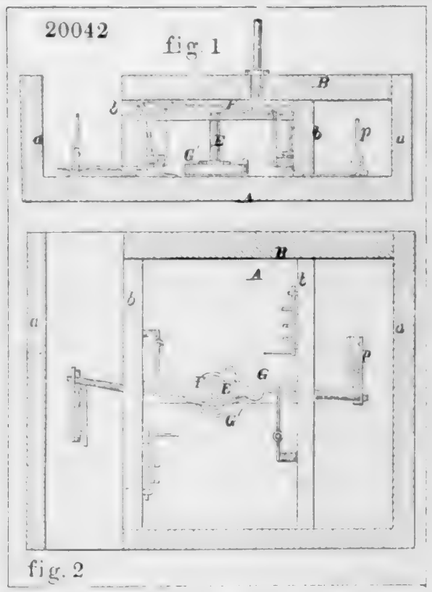
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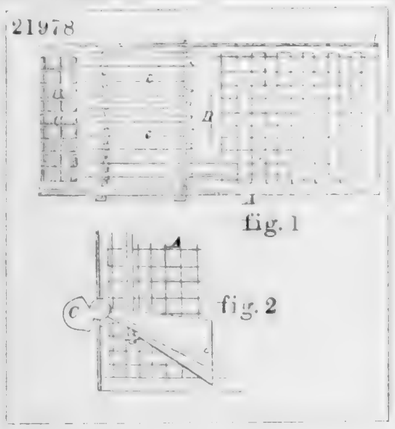
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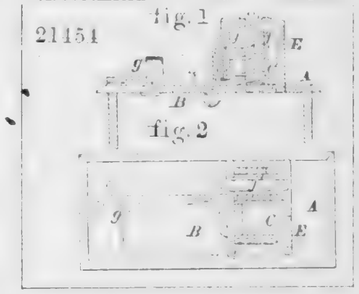
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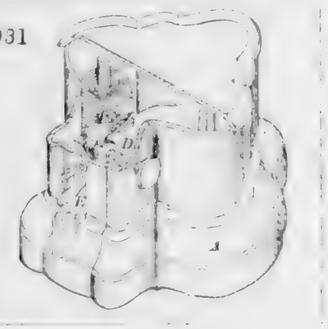
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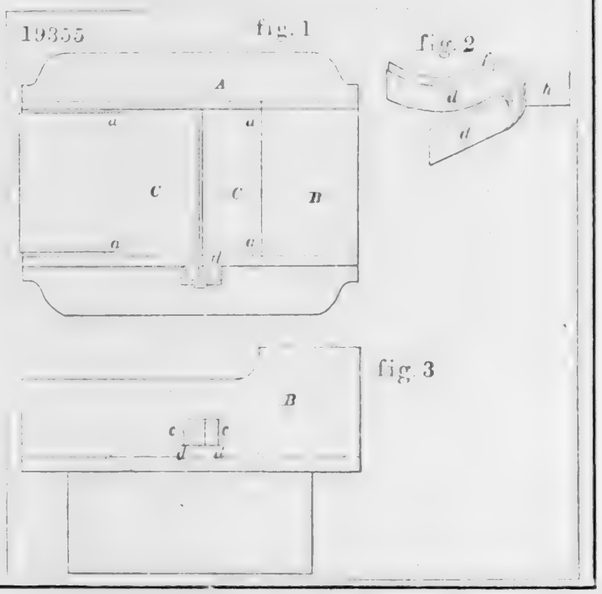
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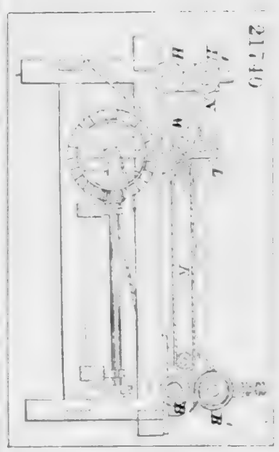
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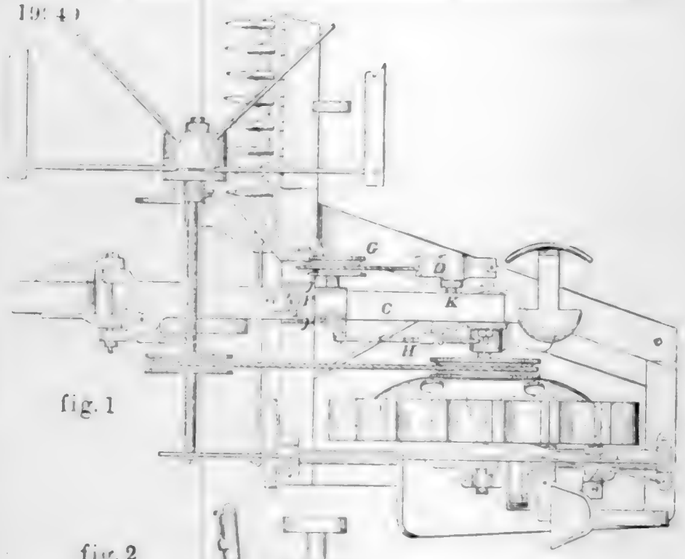


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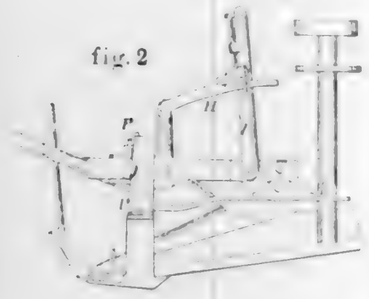


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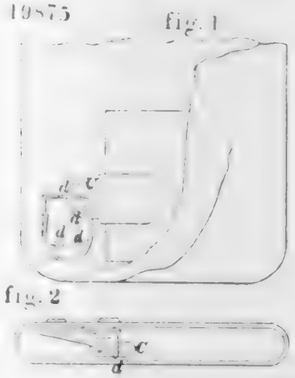


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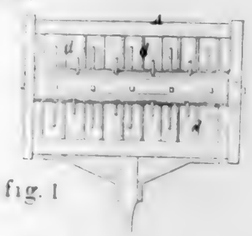
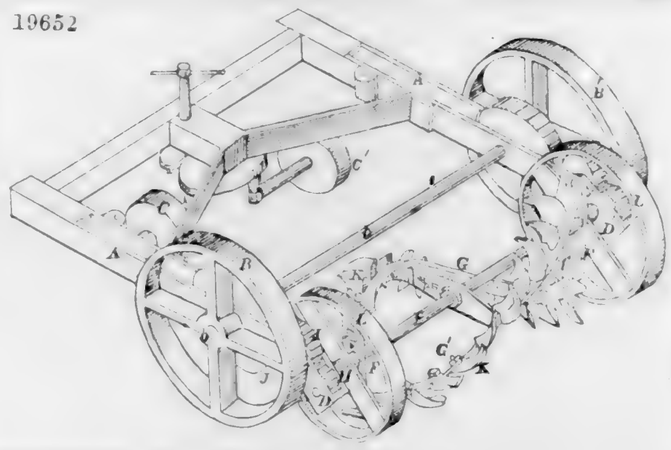


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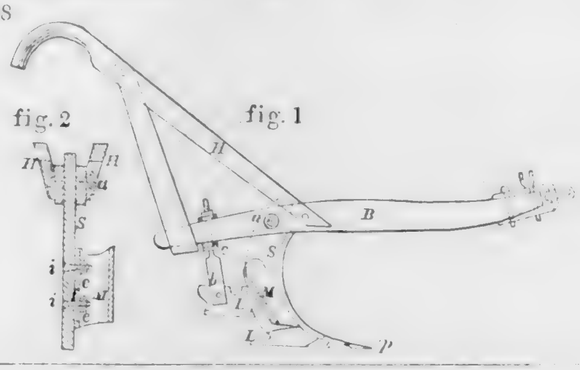
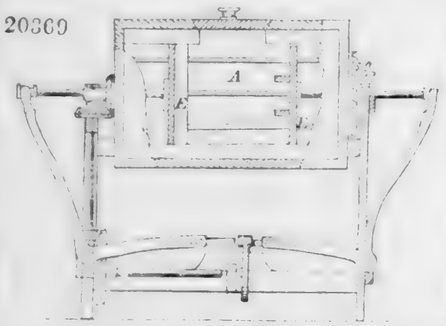


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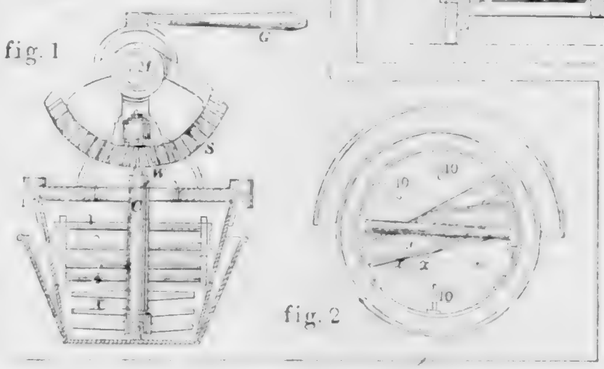


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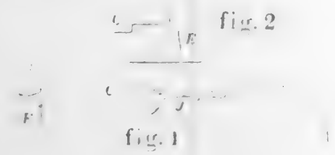


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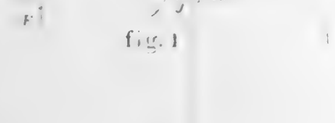


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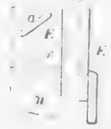


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fig. 3



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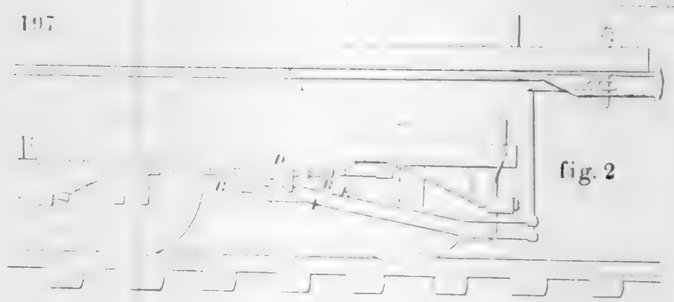


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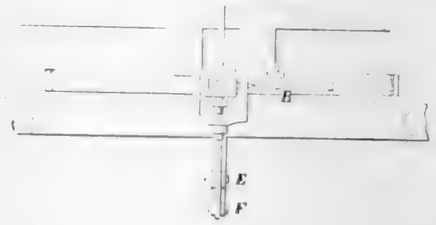
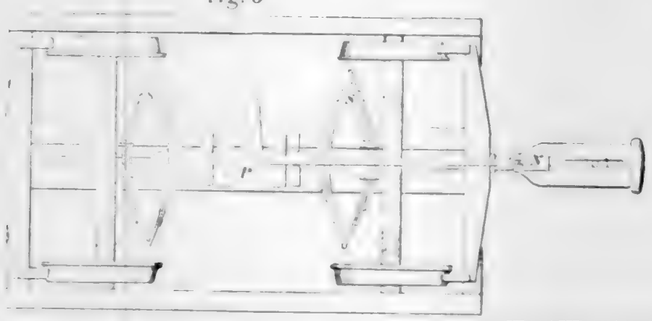
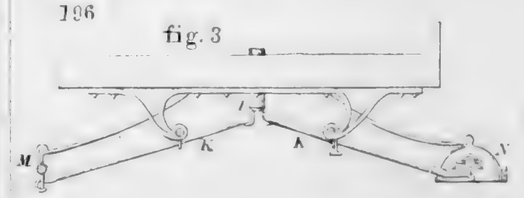


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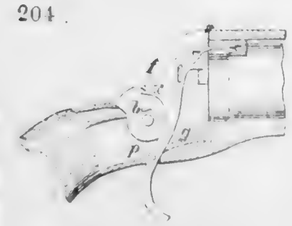


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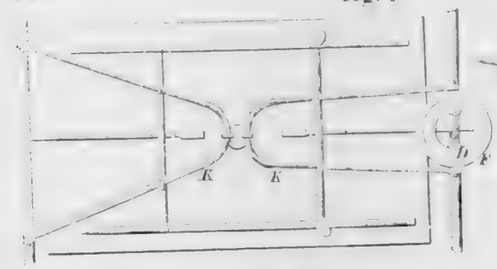


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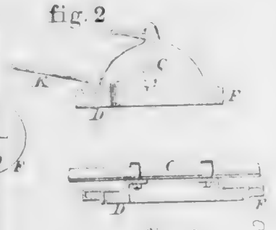


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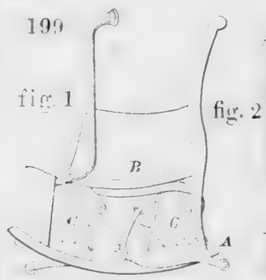
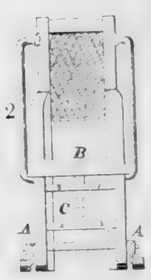
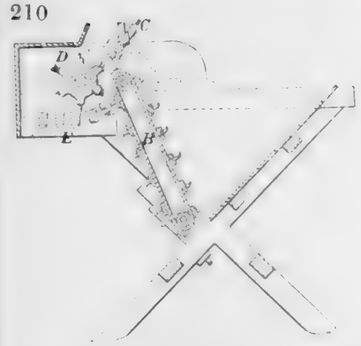


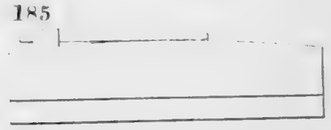
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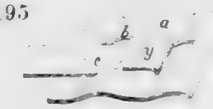
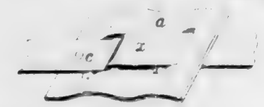
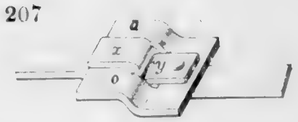


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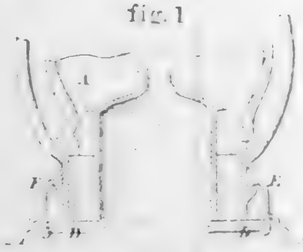
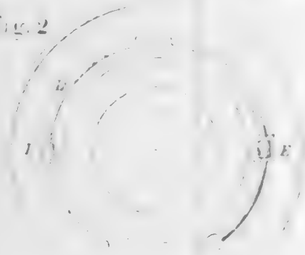


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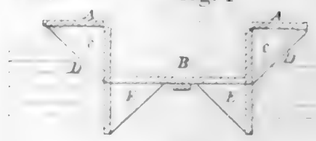


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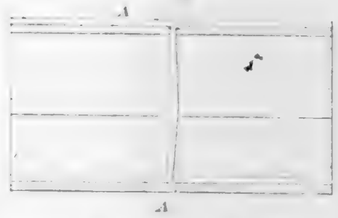
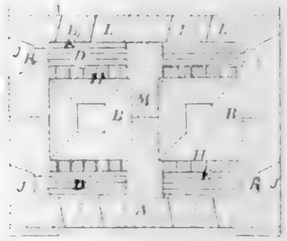


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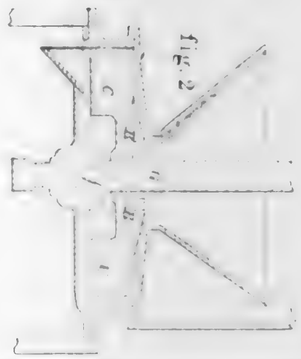
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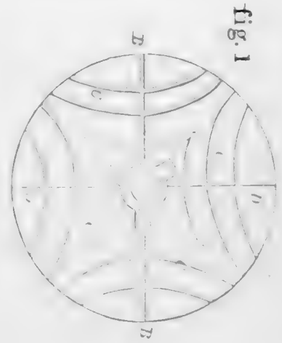
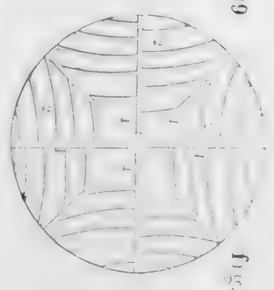


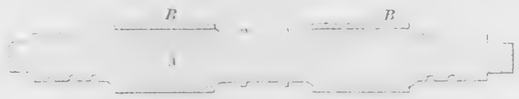
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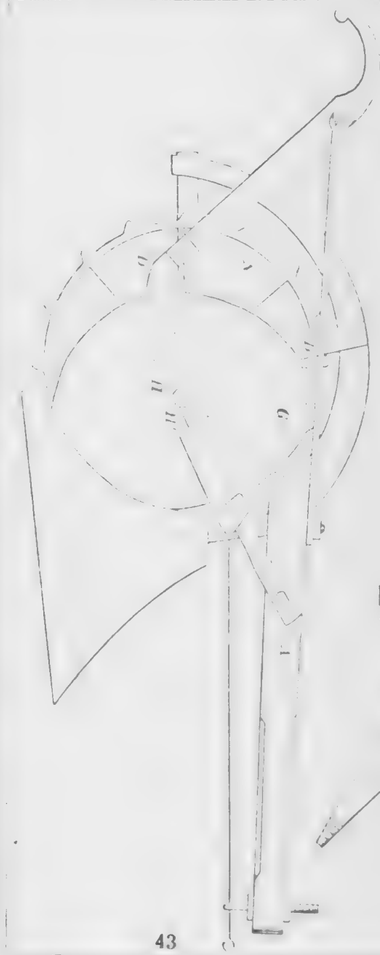
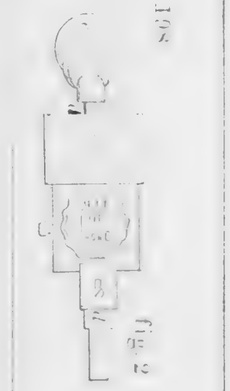


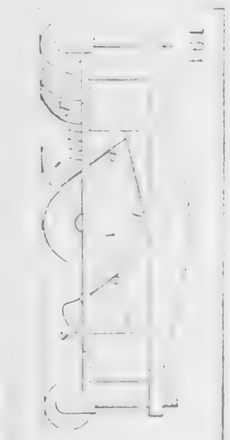
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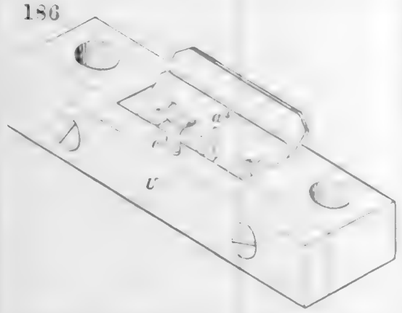
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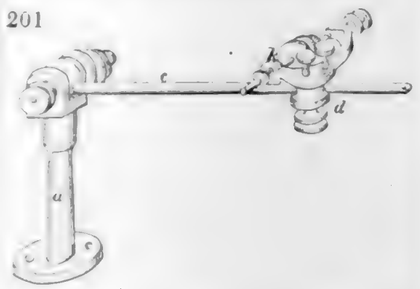
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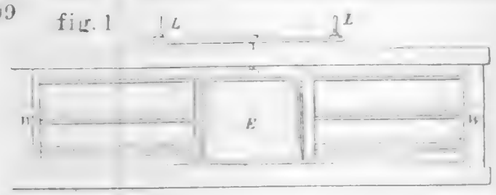


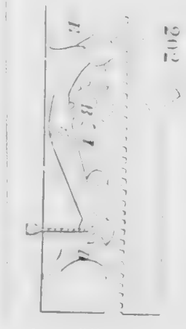
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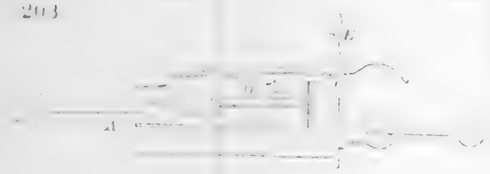
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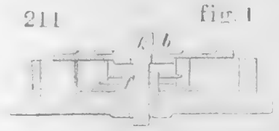
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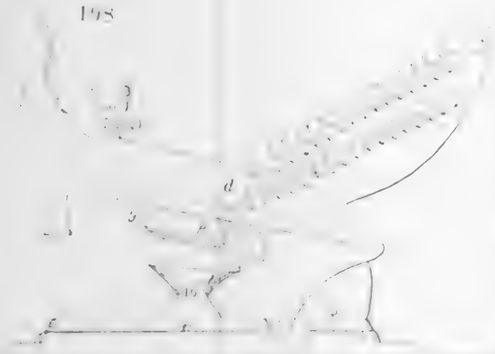
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73	Let-off Motion in Power Looms	I, 612	III, 181
74	Cushion for Billiard Tables	II, 592	III, 655
75	Machine for Blacking Boots, Shoes, &c	II, 432	III, 566
76	Hinge Eye for Shutters	I, 523	III, 123
77	Gang Plough	I, 402	III, 84
78	Harness Tree	II, 404	III, 552
79	Railroad Car Seat	II, 197	III, 402
80	Sewing-Machine	I, 619	III, 187
81	Piano forte	II, 523	III, 648
82	Bell-Hanging	II, 431	III, 565
83	Mowing Machine	I, 431	III, 61
84	Marine Safe	II, 71	III, 312
85	Raking Attachment for Harvester	I, 419	III, 54
86	Spring-Gun	II, 558	III, 637
87	Hay and Straw-Elevators	II, 265	III, 444
88	Wheel Vehicles	II, 230	III, 422
89	Apparatus for Ventilating Pulpits	I, 760	III, 265
90	Machine for Bending Metal Plates	I, 545	III, 135
91	Plotting Instrument	II, 101	III, 336
92	Velocipedes	II, 231	III, 423
93	Grinding-Mill	II, 303	III, 473
94	Chain-Making Machine	I, 511	III, 115
95	Railroad Car-Box	II, 186	III, 391
96	Steam Valve	II, 45	III, 295
97	Cotton-Gin	I, 593	III, 168–9
98	Valve Arrangement for Steam-Engines	II, 15	III, 277
99	Horse-Power Machine for Cross-Cut Sawing	II, 370	III, 505
100	Rotary Steam-Engine	II, 10	III, 272
101	Cushion for Billiard-Tables	II, 592	III, 655
102	Equalizing Carriage Springs	II, 211	III, 411
103	Butter-Worker	II, 436	III, 569
104	Excavator	II, 131	III, 359
105	Carpenter's Rule	II, 104	III, 338
106	Scissors-Sharpener	II, 478	III, 594
107	Clothes-Rack	II, 474	III, 591
108	Lubricating Journals, &c., by a Pendulum Valve Arrangement	II, 269	III, 448
109	Creeper	II, 670	III, 658
110	Retaining in proper position the Splitting Knife in Rattan-Machines	II, 347	III, 503
19,111	Match-Safe	I, 744	III, 256

No.	Invention or Discovery.	Text.	Plates.
19,112	Wagon-Brake	II, 232	III, 424
113	Attaching Shafts and Poles to Carriages	II, 216	III, 413
114	Gas-Stove	I, 756	III, 263
115	Chute for Water-Wheels	II, 260	III, 441
116	Telegraphic Cables	II, 109	III, 343
117	Churn	I, 346	III, 3
118	Hand-Reaper	I, 471	III, 92
119	Valves and Passages in Cylinders of Steam-Engines	II, 48	III, 297
120	Buttons	II, 570	III, 645
121	Lock of Double-Barrelled Guns	II, 558	III, 636
122	Seed-Planter	I, 443	III, 70
123	Machine for Covering the Heads of Trunk Nails	I, 513	III, 142
124	Railroad Chair	II, 149	III, 369
125	Plough	I, 452	III, 77
126	Seed-Planter	I, 443	III, 71
127	Construction of Furniture	II, 460	III, 583
128	Adjusting two Circular Saws to the Same Plane	II, 350	III, 506
129	Sewing-Machine	I, 620	III, 188
130	Crozing Plane	II, 344	III, 500
131	Chain-Cable Stoppers	II, 56	III, 303
132	Application of Electro-Magnetic Batteries to Car-Brakes	II, 94	III, 330
133	Rope-Machine	I, 618	III, 186
134	Variable Cut-Off for Steam-Engine	II, 18	III, 280
135	Sewing-Machine	I, 621	III, 190
136	Shingle-Machine	II, 361	III, 517–8
137	Harvester	I, 388	III, 31
138	Machinery for Forming Brims of Felt Hats	I, 600	III, 174
139	Table-Rack for Steamers, Ships, &c	II, 76	III, 317
140	Grain Separator	I, 379	III, 26
141	Sewing-Machine	I, 620	III, 189
142	Corn-Husker	I, 354	III, 8
143	File	I, 518	III, 119
144	Seeding-Machine	I, 474	III, 95
145	Sawing-Machine	II, 351	III, 507
146	Portable Railroad Switch	II, 173	III, 382
147	Cream-Freezer	II, 458	III, 582
148	Threshing-Machine	I, 497	III, 108
149	Press for Packing the Pulp of Linseed, &c	II, 277	III, 454
150	Gas-Tube Joint	I, 579	III, 159
151	Cranberry Separators	I, 364	III, 17
152	Double Seaming-Machine	I, 572	III, 155
153	Compound Pendulum	II, 100	III, 336
154	Cut-Off for Steam-Engines	II, 16	III, 278
155	Sewing-Machine	I, 621	III, 190
156	Feeding Millstones	I, 310	III, 479
157	Railroad Car-Brake	II, 187	III, 393
158	Lamp or Candlestick and Match-Box	I, 734	III, 250
159	Connecting the Panels of Field Fences	II, 137	III, 363
160	Corn-Sheller	I, 359	III, 13
161	Spinning-Machine	I, 655	III, 211
162	Ratchet Movement for Screw-Drivers	I, 569	III, 153
163	Plough	I, 452	III, 77
164	Carpet-Fastener	II, 441	III, 571
165	Joints of Railroad Tracks	II, 159	III, 374
166	Feeding and Gigging Back the Carriage in Circular Sawing-Machines	II, 356	III, 512
167	Butting and Pointing Shingle-Bolts	II, 367	III, 525
168	Scroll Sawing-Machine	II, 356	III, 511
169	Combined Horse Collar and Hames	II, 400	III, 549
170	Window-Blind Fixtures	II, 119	III, 349
19,171	Sewing-Machine	I, 620	III, 189

No.	Invention or Discovery.	Text.	Plates.
19,172	Restoring Waste Vulcanized Rubber	I, 693	.....
173	Pump Bucket	II, 251	III, 436
174	Construction of Marquetry Floors	II, 138	III, 363
175	Coal-Screen	I, 704	III, 234
176	Registering Speed of Railroad Trains by Electro-Galvanic Batteries	II, 93	III, 329
177	Steam Spring-Pressure Gauge	II, 21	III, 282
178	Potato-Planter	I, 442	III, 69
179	Plough	I, 453	III, 78
180	Rotary Pump	II, 253	III, 437
181	Washing-Machine	II, 486	III, 598
182	Air-tight Pepper Box	II, 471	III, 589
183	Obtaining and Preserving Power from Trains at Stations	II, 316	III, 482
184	Apparatus for Dyeing Yarn in the Skein	I, 671	III, 218
185	Gas-Heating Apparatus	I, 720	III, 242
186	Railroad Car-Coupling	II, 193	III, 399
187	Musical Wind Instrument	II, 511	III, 612
188	Curry-Comb	I, 512	III, 116
189	Machine for Ploughing	I, 466	III, 88
190	Art of Making Brooms	II, 433	III, 567
191	Bade for Pencil Sharpeners	II, 520	III, 617
192	Railroad Car Brake	II, 188	III, 392
193	Effecting the Taper in Shingle-Machines	II, 365	III, 523
194	Pug Mill	II, 390	III, 543
195	Machine for Planing Away Ice in Rivers	II, 605	III, 661
196	Tidal Alarm	II, 587	III, 653
197	Heaters or Coolers	I, 721	III, 243
198	Corn-Planter	I, 434	III, 63
199	Shingle-Machine	II, 362	III, 518
200	Straw Cutter	I, 490	III, 105
201	Tanning Leather	II, 417	.....
202	Cotton-Press	II, 273	III, 451
203	Steam Throttle-Valve	II, 47	III, 296
204	Railroad Car-Coupling	II, 193	III, 400
205	Spur to Prevent Slipping on Ice	II, 604	III, 661
206	Hydrant	II, 241	III, 430
207	Lantern	I, 736	III, 251
208	Padlock	I, 542	III, 133
209	Galvanic Battery	II, 96	III, 333
210	Mash for Distillation	I, 670	III, 217
211	Apparatus for Tanning Skins	II, 418	III, 559
212	Raking and Binding Devices for Harvesters	I, 419	III, 53
213	Nipple-Guard of Fire-Arms	II, 549	III, 632
214	Water-Wheel	II, 257	III, 439
215	Ploughing-Machine	I, 466	III, 87
216	Canvas Sheets Connected with Life-Preserving Rafts	II, 62	III, 307
217	Weather Strip for Doors	II, 126	III, 356
218	Harvester	I, 389	III, 32
219	Railroad Car-Spring	II, 205	III, 407
220	Passages and Valves for Cushioning Pistons of Steam-Engines	II, 16	III, 276
221	Corn Harvesters	I, 409	III, 45
222	Seed-Planter	I, 444	III, 71
223	Railroad Car-Brake	II, 188	III, 394
224	Hydraulic Engine	II, 244	III, 431
225	Reefing Topsails	II, 73	III, 313
226	Window-Shade Fixtures	II, 497	III, 605
227	Securing Straps upon Boot Legs	II, 394	III, 545
228	Clamp for Holding Ladies' Hair in Curl	II, 572	III, 645
229	Tool for Manufacturing Splint Baskets	II, 589	III, 654
230	Carpet-Stretcher	II, 442	III, 572
19,231	Machine for Forming Bonnet Frames	I, 584	III, 163

No.	Invention or Discovery.	Text.	Plates.
19,232	Jack-Screw Press	II, 278	III, 456
233	Shingle-Machine	II, 362	III, 518
234	Cultivator Teeth	I, 372	III, 21
235	Forming the Bat for Making Felt Cloth	I, 587	.....
236	Brick-Machine	II, 379	III, 534
237	Reducing the Friction of Journals of Axles on Railways	II, 143	III, 366
238	Bread Cutter	II, 433	III, 567
239	Hot-Air Furnace	I, 713	III, 239
240	Stove	I, 745	III, 257
241	Laying Railroad Tracks	II, 158	III, 374
242	Corn Planter	I, 434	III, 63
243	Wheelwrights' Machine	II, 375	III, 531
244	Gumming and Jointing Saws	I, 567	III, 151
245	Attaching the Electrodes to the Poles of Galvanic Batteries	II, 96	III, 333
246	Gold Amalgamator	I, 504	III, 110
247	Rotary Steam-Engine	II, 10	III, 271
248	Cultivator	I, 365	III, 18
249	Damper Regulator	I, 705	III, 235
250	Apparatus for Hoisting Ice	II, 266	III, 445
251	Grain Mill	II, 302	III, 472
252	Plate-Frame for Photographic Cameras	II, 524	III, 617
253	Corn-Sheller	I, 359	III, 13
254	Invalid Bedstead	II, 429	III, 564
255	Hemp-Brakes	I, 600	III, 175
256	Tobacco Press	II, 278	III, 455
257	Washing-Machine	II, 486	III, 598
258	Flasks for Casting Wheels	I, 510	III, 114
259	Harrow	I, 383	III, 29
260	Railroad Car-Brake	II, 188	III, 395
261	Making Railway Bars	I, 504	III, 111
262	Plough	I, 453	III, 78
263	Safety Winch	II, 284	III, 460
264	Adjustable Carriage Brace for Carriages	II, 215	III, 413
265	Saw Gummer	I, 265	III, 150
266	Lamp	I, 723	III, 244
267	Fastening for Widow-Sashes	II, 182	III, 389
268	Turning-Table for Railways	II, 166	III, 378
269	Water-Proof Gaiter Shoes and Boots	II, 399	III, 548
270	Angular Paper Boxes	I, 613	III, 183
271	Machine for Draughting Garments	II, 572	III, 645
272	Shifting Belts	II, 285	III, 461
273	Dressing Millstones	II, 310	III, 479
274	Seed-Planters	I, 444	III, 72
275	Feeding the Bolt in Shingle-Machines	II, 365	III, 524
276	Operating Pistons of Pumps	II, 255	III, 439
277	Furnace for Locomotives	I, 711	III, 238
278	Apparatus for Paying Out Telegraphic Cables	II, 107	III, 342
279	Cotton Press	II, 273	III, 451
280	Diaper or Shawl Pin	II, 573	III, 646
281	Harrow	I, 383	III, 28
282	Preparing Blanks for Shoe Pegs	II, 444	III, 557
283	Sewing Silk	I, 652	III, 210
284	Implement for Holding Open Shoes, Bags, &c.	II, 415	III, 558
285	Sewing-Machine	I, 621	III, 191
286	Pump	II, 247	III, 433
287	Hydro-Carbon Vapor Lamp	I, 733	III, 249
288	Cards for Currying Cattle	I, 346	III, 2
289	Grinding Mill	II, 303	III, 474
290	Railroad Car Axle Box	II, 185	III, 390
291	Lubricating Apparatus for Journal Boxes of Railroad Cars	II, 269	III, 447
19,292	Machine for Cutting Tenons on Spokes	II, 372	III, 529

No.	Invention or Discovery.	Text.	Plates.
19,293	Shingle-Machine	II, 362	III, 519
294	Potato-Planter	I, 442	III, 69
295	Alarm Lock	II, 585	III, 652
296	Musical Instruments	II, 510	III, 611
297	Hominy Mill	II, 307	III, 477
298	Harvester	I, 389	III, 32
299	Washing-Machine	II, 487	III, 599
300	Straining Reciprocating Saws	II, 360	III, 515
301	Removable Window-Sash	II, 182	III, 389
302	Scrapers for Grinding Mills	II, 313	III, 480
303	Flour Bolts	II, 286	III, 463
304	Operating Railroad Station Pumps	II, 157	III, 373
305	Attaching India-Rubber Soles to Boots and Shoes	II, 398	III, 548
306	Wrought-Iron Railroad Chair	II, 151	III, 371
307	Clamp for Rectangular Pieces of Wood, while being bored, &c	II, 376	III, 532
308	Stave-Machine	II, 369	III, 527
309	Burning Brick	II, 386	III, 540
310	Churn	I, 347	III, 3
311	Machine for Cutting Brush from Cotton Fields	I, 364	III, 16
312	Pedals for Organs, &c	II, 512	III, 613
313	Lead Pipe-Machine	I, 559	III, 146
314	Joints for Sheet Metal Roofs	II, 170	III, 379
315	Washing-Machine	II, 487	III, 598
316	Painting and Varnishing-Machine	II, 512	III, 613
317	Collapsible Boats	II, 53	III, 301
318	Lap Joints for Belting	II, 284	III, 461
319	Harvester, Grain and Grass	I, 414	III, 49
320	Corn-Husker	I, 355	III, 9
321	Plough	I, 453	III, 78
322	Machine for Planting Potatoes	I, 452	III, 76
323	Bottle-Stopper	II, 594	III, 655
324	Cotton-Gin	I, 594	III, 170
325	Corn-Husker	I, 354	III, 8
326	Corn-Husker	I, 355	III, 9
327	Fire-Arm	II, 545	III, 630
328	Cane-Gun	II, 556	III, 635
329	Hand Corn-Planter	I, 440	III, 67
330	Hydrant	II, 242	III, 430
331	Connecting the Trucks of Railroad Cars	II, 224	III, 418
332	Signal Lantern	II, 75	III, 316
333	Seeding-Machine	I, 474	III, 95
334	Churn	I, 347	I, 4
335	Filtering Apparatus	II, 238	III, 428
336	Rollers for Window-Shades	II, 498	III, 605
337	Ore-Washer	I, 520	III, 121
338	Gold-Washer	I, 557	III, 145
339	Railroad Snow-Plough	II, 155	III, 373
340	Hanger for Shafting	II, 320	III, 485
341	Machine for Making Cigars	II, 597	III, 657
342	Powder-Flask	II, 559	III, 638
343	Rotary Blast-Producing Chair	II, 447	III, 575
344	Harvester	I, 389	III, 33
345	Cutting Key-Boards, &c., for Musical Instruments	II, 510	III, 611
346	Propelling Canal Boats	II, 55	III, 302
347	India-Rubber Door-Mat	II, 406	III, 586
348	Metallic Window-Shutters	II, 183	III, 389
349	Shingle-Machine	II, 363	III, 521
350	Life-Preserving Mattress	II, 64	III, 306
351	Public Clock	II, 89	III, 327
19,352	Rocking-Chairs	II, 447	III, 574

No.	Invention or Discovery.	Text.	Plates.
19,353	Field-Fence	II, 132	III, 360
354	Holding Horse-Reins	II, 411	III, 555
355	Trap for Catching Rats and other Animals	II, 616	III, 667
356	Surveyors' Protractor	II, 166	III, 341
357	Tree Protectors	I, 499	III, 109
358	Fire-Box and Grate	I, 706	III, 235
359	Securing the Plane-Iron to its Stock	II, 344	III, 500
360	Cutter for Harvesters	I, 412	III, 48
361	Railroad Snow-Plough	II, 155	III, 372
362	Window-Frame	II, 181	III, 388
363	Harpoon and Lance	II, 58	III, 304
364	Tools for Clenching Nails	I, 553	III, 141
365	Revolving Harrow	I, 386	III, 30
366	Brick-Machine	II, 380	III, 535
367	Reaping and Mowing-Machine	I, 471	III, 91
368	Water-Backs for Ranges	I, 742	III, 255
369	Caster for Furniture	II, 460	III, 584
370	Knitting-Machine	I, 604	III, 176
371	Harness Tree	II, 405	III, 551
372	Extension Reach for Wagons	II, 233	III, 425
373	Refrigerator	II, 475	III, 591
374	Hinge	I, 522	III, 422
375	Water Closet	II, 123	III, 354
376	Ice-Spur	II, 606	III, 662
377	Harvester	I, 389	III, 33
378	Raking-Attachment for Harvesters	I, 420	III, 55
379	Receiving Magnet	II, 90	III, 334
380	Railroad Car Wheel	II, 207	III, 408
381	Cotton-Press	II, 274	III, 452
382	Fly-Trap	II, 614	III, 666
383	Furling the Sails of Wind-Wheels	II, 262	III, 442
384	Bank-Check Canceller	II, 589	III, 654
385	Lubricator	II, 270	III, 449
386	Mill Bushes	II, 296	III, 468
387	Repeating Fire-Arm	II, 549	III, 632
388	Plough	I, 454	III, 79
389	Churn	I, 347	III, 4
390	Ironing Table	II, 482	III, 596
391	Plough	I, 454	III, 79
392	Gravimotometer	II, 97	III, 334
393	Raking-Attachment for Harvester	I, 420	III, 55
394	Drawing Cotton, &c	I, 590	III, 166
395	Rest-Attachment for Lathes	II, 340	III, 497
396	Carriage Spring Guard	II, 211	III, 410
397	Railroad Safety Switches	II, 175	III, 383
398	Hydraulic Valve	II, 244	III, 432
399	Cotton-Press	II, 274	III, 452
400	Steam Pressure Gauge	II, 21	III, 281
401	Plough	I, 454	III, 79
402	Apple-Corer	II, 420	III, 560
403	Cable-Stopper	II, 56	III, 302
404	Seed-Planter	I, 444	III, 72
405	Method of Manufacturing Furniture	II, 461	III, 584
406	Dovetailing Tool	II, 333	III, 492
407	Stone-Dressing Machine	II, 340	III, 542
408	Wheel and Axle-Attachment of Horse-Power, &c	II, 295	III, 467
409	Sewing Machine	I, 622	III, 191
410	Spring Bed Bottom	II, 424	III, 561
411	Harvester	I, 390	III, 34
412	Shovel-Plough	I, 465	III, 86
19,413	Cotton-Press	II, 274	III, 453

No.	Invention or Discovery.	Text.	Plates.
19,414	Water-Metre	II, 246	III, 432
415	Cotton-Gin	I, 594	III, 170
416	Expanding Tool	I, 578	III, 159
417	Cotton-Gin	I 594	III, 171
418	Substitute for Infants' Diapers	II, 571	III, 645
419	Culinary Ladle	II, 465	III, 586
420	Horse-Rake	I, 469	III, 90
421	Cider-Mill	II, 297	III, 469
422	Harvester	I, 391	III, 34
423	Seeding-Machine	I, 475	III, 96
424	Journal-Box	II, 225	III, 419
425	Straw-Cutter	I, 491	III, 105
426	Snow Plough	II, 171	III, 380
427	Steam Plough	I, 465	III, 86
428	Picker for Looms	I, 611	III, 180
429	Machine for Splitting Coal	I, 704	III, 234
430	Machine for Gathering Stones	I, 489	III, 104
431	Machine for Sowing Fertilizers	I, 488	III, 103
432	Table Refrigerator	II, 477	III, 593
433	Construction of Permanent Way of Railroads	II, 160	III, 375
434	Connecting the Panels of Field Fences	II, 137	III, 362
435	Railroad Car Spring	II, 205	III, 407
436	Fire-Tongs	I, 759	III, 265
437	Cotton Bale Hoops	II, 263	III, 448
438	Cotton Seed-Planter	I, 438	III, 66
439	Sewing-Machine	I, 622	III, 192
440	Railroad Track Clearers	II, 158	III, 374
441	Grain Mill	II, 302	III, 474
442	Harvesters	I, 391	III, 34
443	Rotary Valve	II, 43	III, 294
444	Stave-Machine	II, 369	III, 527
445	Railroad Car Wheel	II, 207	III, 408
446	Box for Receiving Money in Carriages	II, 216	III, 414
447	Harvester	I, 340	III, 33
448	Railroad Car-Spring	II, 205	III, 407
449	Wardrobe Bedstead	II, 431	III, 565
450	Volute Springs	II, 229	III, 421
451	Fastening of Cast-Iron Bedsteads	II, 427	III, 563
452	Spike-Machine	I, 574	III, 156
453	Suspended		
454	Saw-Mill	II, 348	III, 503
455	Plough	I, 454	III, 79
456	Seed-Planter	I, 444	III, 71
457	Garden Tool	I, 377	III, 24
458	Corn-Husker	I, 355	III, 9
459	Whitewash Brush-Blocks	II, 435	III, 567
460	Lighting Gas by Electro-Galvanic Batteries	II, 93	III, 329
461	Shoe-Peg Machine	II, 412	III, 556
462	Straw-Cutter	I, 491	III, 105
463	Harvester	I, 390	III, 34
464	Oscillating Steam-Engine	II, 14	III, 276
465	Carpet-Beating Machine	II, 449	III, 571
466	Weighing Mechanism Applied to Carts of Coal Dealers and others	II, 283	III, 460
467	Scissors-Sharpener	II, 478	III, 594
468	Attaching Legs to Walking Locomotives	II, 30	III, 287
469	Carrying off Smoke from Locomotives in Engine-Houses	II, 29	III, 287
470	Brick-Machine	II, 380	III, 536
471	Omnibus Fare-Box	II, 236	III, 419
472	Lathe for Cutting Tenons for Clock Movements	II, 89	III, 326
19,473	Bed-Bottom	II, 423	III, 561

No.	Invention or Discovery.	Text.	Plates.
19,474	Washing-Machine	II, 487	III, 599
475	Bellows	II, 235	III, 426
476	Machine for Stoning Cherries	II, 448	III, 576
477	Manure-Wagon	II, 232	III, 423
478	Metallic Carriage Wheel	II, 214	III, 412
479	Compound Pendulum	II, 101	III, 336
480	Bending Shovel-Handles	II, 329	III, 489
481	Machine for Breaking Coal	I, 703	III, 233
482	Paddle-Wheel	II, 64	III, 308
483	Harvester	I, 392	III, 35
484	Eccentric for Operating Steam-Valves	II, 46	III, 296
485	Bolt-Machine	I, 505	III, 112
486	Harvester	I, 391	III, 35
487	Metallic Lathing	II, 143	III, 367
488	Operating Window-Blinds	II. 180	III, 387
489	Harrow	I, 384	III, 29
490	Metallic Ties for Cotton Bales	II, 263	III, 443
491	Field Fence	II, 132	III, 360
492	Machine for Cutting the Moulding for Sash	II, 343	III, 499
493	Apparatus for Supplying Water to Boilers	II, 3	III, 267
494	Harrow	I, 384	III, 29
495	Alarm Sash-Balance	II, 587	III, 652
496	Hill-side Plough	I, 463	III, 85
497	Loop-Chain for Jewelry	II, 509	III, 610
498	Shaping and Punching Metals	I, 547	III, 137
499	Farm Gate	II, 139	III, 364
500	Raising Sunken Vessels	II, 83	III, 321
501	Sash-Fastener	I, 515	III, 117
502	Register for Hot-Air Furnaces	I, 714	III, 240
503	Coffin	II, 598	III, 657
504	Mowing-Machine	I, 431	III, 61
505	Eccentric Explosive Shell	II, 560	III, 638
506	Machine for Making Paper Bags	II, 513	III, 614
507	Hominy Mortar	II, 461	III, 584
508	Boot-Trees	II, 395	III, 546
509	Machine for Cutting Barrel-Heads	II, 326	III, 488
510	Machine for Cutting Barrel-Heads	II, 326	III, 488
511	Hydrant	II, 242	III, 431
512	Corn-Husker	I, 355	III, 10
513	Hydrant	II, 242	III, 431
514	Seeding-Machine	I, 475	III, 96
515	Method of Setting Sugar-Kettles	I, 697	III, 230
516	Submarine Grapples	II, 57	III, 303
517	Machine for Forming Sheet-Metal Pans	I, 544	III, 134
518	Finger-Harvester	I, 414	III, 49
519	Calendar Clock	II, 89	III, 326
520	Bee-Hive	I, 343	III, 1
521	Grinding-Mill	II, 303	III, 475
522	Harvester	I, 391	III, 35
523	Rake for Harvester	I, 417	III, 51
524	Scythes	I, 572	III, 154
525	Lime-Kiln	II, 388	III, 541
526	Horse-Shoe	I, 525	III, 122
527	Burglars' Alarm	II, 583	III, 650
528	Horse-Shoe Machine	I, 525	III, 124
529	Piano Lock	I, 542	III, 133
530	Boxes and Journals for Railroad Car-Axles	II, 186	III, 391
531	Regulating the Supply of Spinning-Machines	I, 655	III, 212
532	Sewing-Machine	I, 632	III, 192
533	Lock	I, 532	III, 128
19,534	Operating Scroll-Saws	II, 361	III, 516

No.	Invention or Discovery.	Text.	Plates.
19,535	Sewing-Machine	I, 622	III, 192
536	Sawing-Machine	II, 351	III, 506
537	Rotary Steam Engine	II, 11	III, 272
538	Method of Bending several pieces of Wood of unequal lengths at once	II, 377	III, 533
539	Floor-Plane	II, 344	III, 500
540	Hand Corn-Planter	I, 441	III, 68
541	Mill for Reducing Substances	II, 301	.....
542	Artificial Skins	II, 416	III, 558
543	Machine for Mining Coal	II, 144	III, 367
544	Bedstead Fastenings	II, 427	III, 563
545	Sugar and Cider Mills	II, 312	III, 479
546	Billiard Table Tops or Beds	II, 593	III, 655
547	Meat-Cutter	II, 467	III, 587
548	Tightening Keys of the Journal-Boxes of Connecting Rods	II, 226	III, 419
549	Seed-Planter	I, 445	III, 72
550	Machine for Fitting Wagon-Tires	II, 233	III, 425
551	Lubricating the Axle-Boxes of Carriage-Wheels	II, 270	III, 449
552	Corn-Husker	I, 356	III, 10
553	Repeating Fire-Arm	II, 550	III, 633
554	Machinery for Manufacturing Plaited Cord	I, 588	III, 165
555	Splice Joints of Railroad Rails	II, 155	III, 372
556	Pin-Sticking Machine	I, 557	III, 145
557	Machine for Hulling Rice	I, 429	III, 60
558	"Fifth Wheel" for Vehicles	II, 230	III, 421
559	Grinding-Mill	II, 304	III, 473
560	Curtain Fixture	II, 455	III, 580
561	Machine for Cutting and Crushing Corn-Stalks	I, 363	III, 16
562	Stump-Extractor	II, 173	III, 382
563	Plough	I, 455	III, 79
564	Lock	I, 533	III, 128
565	Machine for Excavating Post-Holes	II, 131	III, 359
566	Field Fence	II, 132	III, 360
567	Attaching the Springs of Vehicles	II, 230	III, 421
568	Safety Apparatus for Steam-Boilers	II, 6	III, 269
569	Machinery for Polishing Glass	II, 388	III, 541
570	Safety-Valve	II, 43	III, 295
571	Cotton-Press	II, 275	III, 453
572	Machine for Packing Flour	II, 271	III, 449
573	Constructing Framing of Bridges	II, 123	III, 353
574	Operating Brakes of Railroad Cars	II, 221	III, 417
575	Manufacture of Gas	I, 678	III, 222
576	Skirt Supporter	II, 579	III, 648
577	Snow-Plough	II, 172	III, 381
578	Attaching Metallic Letter-Boxes to Lamp-Posts	II, 606	III, 662
579	Seed-Planter	I, 445	III, 72
580	Apparatus for Containing and Igniting Cigar-Lighting Cinders	II, 597	III, 656
581	Rotary-Pump	II, 253	III, 438
582	Spring-Seats of Chairs, Sofas, &c	II, 448	.....
583	Enamelling Leather	II, 407	III, 553
584	Cultivator	I, 365	III, 18
585	Clothing for Carding Cylinders	I, 586	III, 164
586	Vertical and Horizontal Reciprocating-Motion	II, 315	III, 481
587	Grinding-Mill	II, 304	III, 474
588	Window Fastener	I, 517	III, 119
589	Mathematical Divider	II, 91	III, 328
590	Harvester	I, 392	III, 35
591	Hot-Water Radiators	I, 710	III, 253
592	Iron Pavement	II, 145	III, 367
19,593	Life-Preserver Raft of Buoyant Mattresses	II, 62	III, 306

No.	Invention or Discovery.	Text.	Plates.
19,594	Valve for Steam-Engines	II, 39	III, 292
595	Bench Hook	II, 329	III, 489
596	Carpet-Stretcher	II, 442	III, 572
597	Trenching-Plough	II, 175	III, 384
598	Cotton-Gin	I, 595	III, 171
599	Railroad Car-Brake	II, 188	III, 394
600	Machine for Picking Fibrous Material	I, 592	III, 167
601	Steam-Boiler	II, 1	III, 266
602	Construction of Military Drums	II, 502	III, 608
603	Corn-Shelling Machine	I, 359	III, 13
604	Generating Steam with Atmospheric Air as a Motive Power	II, 35	III, 290
605	Dress of Stones for Hulling-Mills	II, 313	III, 480
606	Attaching Tools to Handles	I, 578	III, 159
607	Pentographic Engraving-Machine	II, 503	III, 608
608	Match-Machine	II, 607	III, 663
609	Washing-Machine	II, 488	III, 600
610	Raising Dough	II, 457	III, 580
611	Pricking and cutting Heels of Boots and Shoes	II, 398	III, 547
612	Sewing-Machine	I, 623	III, 192
613	Inkstand	II, 507	III, 609
614	Latch for Doors	I, 532	III, 128
615	Grain-Winnower	I, 500	III, 109
616	Ventilating-Hats	I, 600	III, 173
617	Seed Drill	I, 373	III, 22
618	Life-Preserving Buoy	II, 61	III, 306
619	Machine for Planing Blind-Slats	II, 345	III, 500
620	Joiners' Bevelling-Plane	II, 345	III, 500
621	Steam-Boiler	II, 1	III, 266
622	Vise	I, 580	III, 160
623	Calender-Rolls	I, 617	III, 185
624	Mounting Fluid-Lenses	II, 509	III, 610
625	Textile Hose	I, 603	III, 177
626	Photolithography	II, 522	III, 618
627	Roofing Cement	II, 166	.....
628	Lock	I, 533	.....
629	Separator and Smut-Machine	II, 318	III, 484
630	Wrought-Iron Girders	II, 142	III, 365
631	Cut-Nail Machine	I, 549	III, 139
632	Life-Preserving Float	II, 61	III, 306
633	Seed-Drill	I, 373	III, 22
634	Washing-Machine	II, 488	III, 600
635	Apparatus for Drying Fruit	II, 459	III, 581
636	Blow-Pipe	I, 700	III, 232
637	Grain-Separators and Cleaners	II, 318	III, 484
638	Combined Floating-Anchor and Life-Preserver	II, 51	III, 300
639	Attaching the Glasses of Vault-Covers	II, 176	III, 385
640	Operating Valves in Steam-Engines	II, 49	III, 298
641	Holder for Planing-Knives while grinding	I, 531	III, 127
642	Measuring and Regulating the Intensity of Electric Currents	II, 92	III, 328
643	Grain-Cradle	I, 378	III, 25
644	Sawing-Machine	II, 351	III, 508
645	Picturetypes	II, 540	.....
646	Door-Register	II, 425	III, 355
647	Spinning-Bobbins	I, 584	III, 163
648	Milking-Pail	II, 470	III, 588
649	Spring-Bedstead	II, 430	III, 565
650	Cooking-Stove	I, 751	III, 259
651	Cooking-Stove	I, 751	III, 260
652	Gang Plough	I, 462	III, 669
653	Washing-Machine	II, 488	III, 599
19,654	Machine for Trimming Books	II, 500	III, 607

No.	Invention or Discovery.	Text.	Plates.
19,655	Portable Gas-Retort	I, 684	III, 226
656	Canal-Boat Propeller	II, 54	III, 301
657	Preparing Silk for use with Felting Substances	I, 689	.....
658	Plough	I, 455	III, 669
659	Anchor	II, 51	III, 300
660	Sewing-Machine	I, 623	III, 192
661	Metallic Sash	II, 170	III, 379
662	Sewing-Machine	I, 623	III, 193
663	Dumping-Box for Agricultural Purposes	I, 376	III, 24
664	Let-off Motion for Power Looms	I, 612	III, 182
665	Sewing-Machine	I, 624	III, 193
666	Devices for Lowering and Detaching Boats	II, 54	III, 302
667	Process of Making Soap	I, 695	.....
668	Graphite in Reducing Metals	I, 685	.....
669	Steam Boiler	II, 1	III, 266
670	Machine for Crushing Ore	I, 556	III, 144
671	Pump	II, 247	III, 433
672	Printing Press	II, 529	III, 622
673	Self-Adjusting Door Sill	II, 126	III, 355
674	Walking-Stick Gun	II, 559	III, 637
675	Railroad Rail	II, 153	III, 371
676	Securing the Wheels of Carriages	II, 216	III, 414
677	Casting Metallic Cheese Hoops	I, 546	III, 737
678	Self-Adjusting Damper for Hot-Air Furnaces	I, 715	III, 240
679	Cotton-Gin	I, 595	III, 171
680	Oscillating Pump	II, 252	III, 436
681	Meat Chopper	II, 467	III, 587
682	Fire Proof Ceiling	II, 123	III, 353
683	Hot-Air Furnace	I, 713	III, 239
684	Sewing-Machine	I, 624	III, 193
685	Connecting the Sections of Metallic Funnels	II, 176	III, 384
686	Method of Cleaning Gas Generators	I, 677	III, 222
687	Binding Attachment to Reapers	I, 471	III, 91
688	Machine for Cutting the Leaves from the Sugar [Cane]	II, 291	III, 465
689	Haycock Protector	I, 425	III, 58
690	Regulator for Roving or Yarn	I, 659	III, 215
691	Hominy Mill	II, 307	III, 477
692	Machine for Sawing Staves	II, 358	III, 514
693	Metallic Boats	II, 54	III, 301
694	Water-Tight Washstand	II, 486	III, 597
695	Roofing Cement Composition	II, 167	.....
696	Grinding Attachment to Pug Mills	II, 308	III, 477
697	Rotary Engine	II, 11	III, 272
698	Ribbon Loom	I, 612	III, 182
699	Pump	II, 247	III, 433
700	Holding Bolt for Carpenters' Brackets	II, 332	III, 490
701	Dyeing Yarn Parti-Colored	I, 672	III, 219
702	Clamping Polygonal Pieces in Planing-Machines	II, 346	III, 502
703	Harvesters	I, 392	III, 36
704	Superstructure of Railways	II, 165	III, 377
705	Railroad Car-Coupling	II, 149	III, 369
706	Plough	I, 455	III, 80
707	Graphotype	II, 506	.....
708	Press for Extracting Oil from Linseed	II, 277	III, 454
709	Cotton Bale-Ties	II, 263	III, 443
710	Compounds for Hardening Iron and Steel	I, 668	.....
711	Machine for Turning Tool Handles, &c	II, 374	III, 530
712	Cement Composition for Roofing	II, 167	.....
713	Stove-Heating Apparatus	I, 757	III, 264
714	Cotton Press	II, 275	III, 453
19,715	Revolving Cylinder Steam Engine	II, 15	III, 275

No.	Invention or Discovery.	Text.	Plates.
19,716	Corn Harvester	I, 409	III, 45
717	Cigar-Lighting Cinders	II, 596	.....
718	Turning and Sliding Tables for Railroads	II, 169	III, 375
719	Stop-Motion for Hair-Cloth Looms	I, 610	III, 180
720	Gas-Burner	I, 716	III, 240
721	Tightening the Tires of Carriage Wheels	II, 215	III, 413
722	Pistons and Piston-Rod Connexions	II, 30	III, 288
723	Sewing-Machine	I, 624	III, 193
724	Field Fence	II, 135	III, 361
725	Plough	I, 455	III, 80
726	Reciprocating and Rotary Motion	II, 314	III, 481
727	Mill Bush	II, 297	III, 469
728	Meat-Cutting Machine	II, 469	III, 588
729	Composition for Varnishes	I, 698	.....
730	Shoe Pegs	II, 412	III, 556
731	Steam-Gauge	II, 20	III, 281
732	Sewing-Machine	I, 624	III, 193
733	Cream Freezer	II, 458	III, 581
734	Railroad Car-Brake	II, 189	III, 393
735	Belt Coupling	II, 284	III, 461
736	Tracks for City Railways	II, 165	III, 377
737	Ship's Bulkhead	II, 74	III, 316
738	Egg Beater	II. 457	III, 581
739	Revolving Fire-Arm	II, 551	III, 633
740	Knitting-Machine	I, 604	III, 177
741	Railroad Car Axle Box	II, 185	III, 391
742	Cultivator	I, 365	III, 18
743	Sugar Mould Carriages	I, 697	III, 231
744	Regulator for Time-Keepers	II, 115	III, 346
745	Machine for Hulling and Cleaning Clover-Seed	I, 427	III, 59
746	Cigars	II, 597	III, 656
747	Staples for Blind-Slats	I, 575	III, 157
748	Paper File	II, 514	III, 614
749	Harvester	I, 393	III, 36
750	Lubricator for Railroad Axles	II, 270	III, 449
751	Opening and Closing Outside Blinds	I, 505	III, 111
752	Screw-Cutting Machine	I, 569	III, 153
753	Horse Hay-Rake	I, 470	III, 90
754	Manufacture of Soap	I, 695	III, 229
755	Folding Billiard Table	II, 593	.....
756	Compositions for Tanning Leather	I, 666	.....
757	Balance Steam Trap	II, 37	III, 291
758	Printing Press	II, 529	III, 623
759	Preventing Corrosion of the Binding Screws in Galvanic Batteries	II, 96	III, 332
760	Rotary Reciprocating Knives for Smoothing Staves	II, 371	III, 528
761	Self-Loosening Horse and Cattle Tie	II, 604	III, 661
762	Axle Boxes	II, 183	III, 390
763	Car Wheel	II, 206	III, 408
764	Pneumatic Springs	II, 229	III, 421
765	Cane for Paying Omnibus Fares	II, 226	III, 420
766	Lighting Gas by Electricity	II, 92	III, 328
767	Machine for Testing the Strength of Car-Springs	II, 204	III, 407
768	Machine for Slating Coal	I, 705	III, 234
769	Horse-Power Machine	II 294	III, 467
770	Doll Heads	II, 502	.....
771	Apparatus for Manufacturing White Lead	I, 698	III, 231
772	Clothes-Dryer	II, 449	III, 576
773	Self-Waiting Table	II, 483	III, 596
774	Sawing-Mill	II, 358	III, 513
19,775	Heating Apparatus	I, 721	III, 243

No.	Invention or Discovery.	Text.	Plates.
19,776	Railroad Car-Wheel	II, 208	III, 409
777	Gas-Generator	I, 676	III, 221
778	Composition for Coating Telegraph Wires	I, 665	.....
779	Straw-Cutter	I, 491	III, 105
780	Coffee and Tea Pot	II, 472	III, 589
781	Air-Heating Furnace	I, 709	III, 236
782	Churn	I, 347	I, 4
783	Combination of Lead Pencil and Eraser	II, 509	III, 610
784	Scissors-Sharpener	II, 479	III, 594
785	Diving-Bell	II, 57	III, 303
786	Lathe Chuck	I, 532	III, 128
787	Windlass	II, 84	III, 323
788	Washing-Machine	II, 488	III, 600
789	Ticket Holders for Railroad Cars	II, 223	III, 418
790	Wrench	I, 582	III, 161
791	Desk-Seats for Schools	II, 601	III, 659
792	Brick-Machine	II, 381	III, 536
793	Sewing Machine	I, 625	III, 193
794	Railroad Car-Coupling	II, 194	III, 399
795	Railroad-Brakes	II, 120	III, 350
796	Stove	I, 746	III, 257
797	Casting Types for Printing	II, 528	III, 621
798	Pendulum-Power	II, 101	III, 336
799	Tubular Wrought-Iron Shafts	I, 530	III, 127
800	Machine for Shelling Peas	I, 433	III, 62
801	Cross-Cut Sawing Machine	II, 353	III, 509
802	Mastic Composition	I, 667	.....
803	Harvester	I, 393	III, 36
804	Tempering and Hardening Steel and Iron	I, 576	.....
805	Wood Screws	I, 569	III, 153
806	Rotary-Cutter for Tonguing and Grooving	II, 372	III, 528
807	Mill	II, 296	III, 468
808	Seed-Drill	I, 374	III, 22
809	Corn-Sheller	I, 360	III, 14
810	Railroad Car-Wheel	II, 208	III, 409
811	Press	II, 272	III, 449
812	Hoe	I, 427	III, 58
813	Steering Apparatus	II, 76	III, 317
814	Hand Exercises for Musicians	II, 512	III, 612
815	Permutation Lock	I, 542	III, 133
816	Machine for Burning Wood	I, 658	III, 214
817	Attaching Plumb-Line to Plumb and Level Indicator	II, 102	III, 337
818	Seed-Planter	I, 445	III, 73
819	Lightning-Conductors	II, 98	III, 334
820	Hub of Carriage-Wheel	II, 213	III, 412
821	Cotton-Press	II, 275	III, 453
822	Corn Harvester	I, 409	III, 45
823	Sewing Machine	I, 625	III, 194
824	Sirup Casters	II, 445	III, 573
825	Trap for Animals	II, 615	III, 666
826	Grinding-Mill	II, 304	III, 475
827	Apparatus for Roasting Coffee	II, 453	III, 579
828	Churn	I, 348	III, 5
829	Attaching Expansible Cutting-Lips to Augers	II, 325	III, 487
830	Clasps for Fastening Bags	II, 262	III, 443
831	Pen and Pencil Cases	II, 518	III, 616
832	Securing Pocket-Books	II, 609	III, 664
833	Hand Corn Planter	I, 441	III, 68
834	Portable Pump	II, 252	III, 437
835	Saw-Gummer	I, 565	III, 150
19,836	Hardening Iron and Steel	I, 528	.....

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19,837	Refrigerator	II, 475	III, 591
838	Cotton-Press	II, 275	III, 453
839	Seeding-Machine	I, 476	III, 96
840	Box Cases and Lubricators for Railroad Car-Axles	II, 185	III, 391
841	Protecting Tiller-Ropes of Vessels from Fire	II, 79	III, 318
842	Pipe Tongs	I, 577	III, 159
843	Puddling Furnace	I, 561	III, 147
844	Bootjack and Burglars' Alarm combined	II, 432	III, 567
845	Lantern	I, 737	III, 251
846	Horse-Collar Blocks	II, 400	III, 549
847	Railroad-Station Indicator	II, 156	III, 372
848	Converting Reciprocating into Rotary Motion	II, 313	III, 480
849	Potato-Digger	I, 467	III, 88
850	Reefing Sails	II, 72	III, 313
851	Row-Lock	II, 71	III, 311
852	Coupling Pipes	I, 558	III, 146
853	Holding and Feeding the Bolt in Stave-Machines	II, 370	III, 528
854	Machine for Cutting Files	I, 519	III, 120
855	Ice Pitcher	II, 471	III, 589
856	Machine for Crimping Tobacco	II, 642	III, 665
857	Piano-Forte Action	II, 523	III, 618
858	Atmospheric-Pressure Dental Plates	II, 562	III, 639
859	Seeding-Machine	I, 475	III, 96
860	Smut-Machine	II, 321	III, 485
861	Vise-Anvil for Repairing T-Rails	I, 580	III, 160
862	Corn-Sheller	I, 360	III, 14
863	Fence Post	II, 137	III, 362
864	Harvester	I, 394	III, 36
865	Threshing-Machine	I, 497	.....
866	Coated Metals	I, 545	III, 136
867	Machine for Splitting Wood	II, 377	III, 532
868	Removable Rammer of Revolving Fire-Arm	II, 556	III, 635
869	Machine for Planting Potatoes	I, 452	III, 76
870	Saw-Mill	II, 354	III, 509
871	Seeding-Machine	I, 476	III, 96
872	Seeding-Machine	I, 476	III, 97
873	Field Fence	II, 133	III, 360
874	Cotton-Seed Planter	I, 439	III, 67
875	Wallet-Fastener	II, 617	III, 668
876	Sewing-Machine	I, 625	III, 194
877	Grain-Separator	I, 380	III, 27
878	Plough	I, 456	III, 80
879	Lock	I, 533	III, 128
880	Railroad Station Indicator	II, 156	III, 373
881	Hand-Printing Stamp	II, 537	III, 628
882	Carpet-Holder	II, 441	III, 572
883	Ironing-Table	II, 483	III, 596
884	Harvester	I, 393	III, 36
885	Lamp-Attachment	I, 727	III, 246
886	Plough	I, 456	III, 80
887	Coupling of Shafting for Propellers	II, 70	III, 311
888	Piston for Steam-Engines	II, 18	III, 279
889	Locomotive Engine	II, 25	III, 285
890	Grate for Steam-Engines	II, 18	III, 279
891	Door-Bolt	I, 505	III, 111
892	Machinery for Bolting, Dusting, and Separating	II, 285	III, 464
893	Guiding Reciprocating Scroll-Saws	II, 361	III, 515
894	Reaping and Mowing-Machine	I, 472	III, 93
895	Straw-Cutter	I, 492	III, 105
896	Lamp	I, 723	III, 244
19,897	Lantern	I, 737	III, 251

No.	Invention or Discovery.	Text.	Plates.
19,898	Lamp	I, 724	III, 245
899	Grain-Separator	I, 380	III, 27
900	Portable Gas Retort	I, 685	III, 226
901	Awls and Tools	I, 502	III, 110
902	Seeding-Machine	I, 476	III, 97
903	Sewing-Machine	I, 626	III, 194
904	Reaping and Mowing-Machine	I, 471	III, 93
905	Chaff-Screens for Winnowing-Machines	I, 500	III, 109
906	Sawing-Machine	II, 352	III, 508
907	Double-Acting Force-Pump	II, 252	III, 437
908	Dredging-Machine	II, 127	III, 356
909	Plough	I, 456	III, 80
910	Railroad Car-Seat	II, 198	III, 403
911	Washing-Machine	II, 488	III, 600
912	Turning the Edges of Circular Boot-Tops	II, 395	III, 545
913	Mowing-Machine	I, 431	III, 61
914	Truss-Pad	II, 567	III, 643
915	Corn-Sheller	I, 360	III, 14
916	Bases for Artificial Teeth	II, 566	----------
917	Railroad Car-Brake	II, 189	III, 393
918	Cop-Tubes	I, 512	III, 116
919	Harvester	I, 394	----------
920	Cutting Device for Harvesters	I, 413	III, 48
921	Hay Knives	I, 426	III, 58
922	Spring Bed-Bottom	II, 424	III, 561
923	Water and Fireproof Safe	I, 745	III, 256
924	Seed-Drill	I, 374	III, 22
925	Railroad Car-Coupling	II, 194	III, 399
926	Alarm-Lock	II, 586	III, 651
927	Chronometric-Lock	I, 539	III, 131
928	Wheelwright's Machine	II, 375	III, 531
929	Filterer	II, 238	III, 428
930	Machine for Excavating and Washing Gold	I, 520	III, 120
931	Bee-Hive	I, 343	III, 1
932	Bonnet-Frame	II, 568	III, 643
933	Throttle-Valve	II, 47	III, 297
934	Constructing Trunk Handles	II, 419	III, 559
935	Straw-Cutter	I, 492	III, 106
936	Track Clearer for Mowing-Machine	I, 433	III, 62
937	Door-Fastener	I, 512	III, 116
938	Grain and Grass Harvester	I, 415	III, 49
939	Machine for Hoisting and Dumping Coal	II, 266	III, 445
940	Bar for Securing Bank Vaults	I, 503	III, 111
941	Illuminating Iron Rolling Shutters	II, 170	III, 379
942	Furnace	I, 708	III, 236
943	Stencil-Pallet	II, 539	III, 628
944	Conduit Joint for Gas-Pipe	I, 559	III, 146
945	Connecting Rigidly the Ends of Metal Beams	I, 544	III, 133
946	Cords for Skirts	II, 579	----------
947	Giving Adhesion to Driving Wheels of Steam Vehicles, &c	II, 234	III, 425
948	Process of Extracting Fat Oil from Seeds	I, 691	----------
949	Fog-Bell	II, 57	III, 303
950	Snow-Plough	II, 172	III, 381
951	Tightening Spokes and Felloes of Carraige Wheels	II, 214	III, 413
952	Straw-Cutter	I, 492	III, 105
953	Seed-Planter	I, 446	III, 73
954	Wrench	I, 582	III, 162
955	Chain-Shackle	I, 511	III, 115
956	Cooking-Stove	I, 752	III, 260
19,957	Horse-Shoe Machine	I, 526	III, 124

No.	Invention or Discovery.	Text.	Plates.
19,958	Raking Attachment to Harvesters	I, 421	III, 56
959	Gas-Burner	I, 716	III, 240
960	Soda Fountains	I, 695	III, 230
961	Repeating Fire-Arm	II. 551	III, 633
962	Locomotive Engine	II, 26	III, 285
963	Rolling-Mill	I, 562	III, 148
964	Preserving-Jar	II, 462	III, 584
965	Oven	II, 470	III, 588
966	Watch-Case	II, 116	III, 347
967	Rotary Steam-Engine	II, 11	III, 273
968	Machine for Rolling and Cutting Dough	II, 456	III, 580
969	Steam Generator	II, 33	III, 289
970	Signs, Door-Plates, &c	II, 538	III, 628
971	Manufacturing Splints for Brooms	II, 434	III, 226
972	Watch-Case	II, 116	III, 347
973	Burglars' Alarm	II, 583	III, 650
974	Preparing Manure-Beds	I, 686	----------
975	Horse Hay-Rakes	I, 470	III, 91
976	Gearing for Horse-Power	II, 293	III, 467
977	Life-Boat	II, 59	III, 305
978	Dressing-Saws	II, 359	III, 514
979	Sewing-Machine	I, 626	III, 194
980	Runners of Sleds	II, 228	III, 420
981	Compound Air-Pump and Gasometer	II, 250	III, 435
982	Sharpening Device for Rotary Cutters	II, 333	III, 491
983	Cross-Cut Sawing-Machine	II, 354	III, 510
984	Cooling and Drying Meal	II, 295	III, 468
985	Platform Scales	II, 280	III, 457
986	Driving Wheel for Locomotive Engines	II, 27	III, 286
987	Portable Invalid Bedstead	II, 429	III, 564
988	Burnisher	I, 507	III, 113
989	Life-Preserving Bucket-Shaft	II, 61	III, 305
990	Field Fence	II, 133	III, 360
991	Treatment of Sulphuretted Ores	I, 698	----------
992	Rail for Street Railroads	II, 161	III, 375
993	Clenching Horse-Shoe Nails	I, 551	III, 140
994	Runners of Sleds	II, 227	III, 420
995	Steam-Governor	II, 24	III, 283
996	Centre Boards for Navigable Vessels	II, 80	III, 320
997	Operating Blacksmith's Hammer	I, 521	III, 122
998	Umbrella	II, 581	III, 649
999	Harvester	I, 394	III, 37
20,000	Combined Coal Scuttle and Ash Sifter	I, 705	III, 234
1	Potato Planter	I, 442	III, 69
2	Domestic Mangle	II, 466	III, 586
3	Corn-Sheller	I, 361	III, 14
4	Securing Tires to Railroad Car Wheels	II, 208	III, 409
5	Portable Field Fence	II, 135	III, 361
6	Operating Sewing-Machines	I, 651	III, 210
7	Railroad Rail	II, 153	III, 372
8	Catch Latch for Farm Gates	II, 140	III, 364
9	Hollow Cast-Iron Cooking Utensils	I, 529	III, 127
10	Bit-Holder	II, 330	III, 490
11	Metallic Shoes for the Braces of Truss-Girders	II, 142	III, 365
12	Quartz-Mill	II, 308	III, 478
13	Curtain Fixture	II, 455	III, 580
14	Seed Planting Hoes	I, 451	III, 76
15	Lime-Kiln	II, 389	III, 542
16	Machine for Making Dowel Pins	II, 377	III, 533
17	Reaping-Machine	I, 473	III, 94
20,018	Smoothing and Polishing Iron	II, 479	III, 594

No.	Invention or Discovery.	Text.	Plates.
20,019	Meat-Cutter	II, 468	III, 587
20	Manufacture of Pasteboard	I, 617	
21	Ventilating Railroad Cars	II, 220	III, 416
22	Casting Car Wheels	I, 509	III, 113
23	Horse-Shoe Machine	I, 526	III, 123
24	Corn-Planter	I, 434	III, 63
25	Churn	I, 348	III, 5
26	Revolving Retorts for Distilling Coal, &c	I, 670	III, 217
27	Lock	I, 533	III, 128
28	Inkstand	II, 508	III, 610
29	Mill-Stone Dress	II, 309	III, 478
30	Rice-Huller	I, 427	III, 59
31	Furniture Casters	II, 460	III, 583
32	Apparatus for Beating Eggs, Churning, &c	II, 458	III, 581
33	Attaching Shafts to Vehicles	II, 229	III, 421
34	Apparatus for Evaporating Brine	I, 672	III, 219
35	Mowing-Machine	I, 431	III, 62
36	Machine for Cutting Screws	I, 570	III, 153
37	Device for Turning Down the Edges of Elastic Cloth	I, 587	III, 164
38	Straw and Stalk Cutters	I, 490	III, 104
39	Card Printing Press	II, 536	III, 627
40	Frog for Railroad Crossings	II, 152	III, 371
41	Breech Loading Fire-Arm	II, 546	III, 630
42	Rat Trap	II, 616	III, 667
43	Machine for Making Washers	I, 581	III, 160
44	Loom	I, 608	III, 179
45	Blowing Apparatus	II, 230	III, 426
46	Constructing Joints	II, 106	III, 339
47	Sulphuret of Carbon	I, 663	III, 216
48	Processes for Extracting Fatty Matters	I, 691	III, 228
49	Cotton Seed Planter	I, 439	III, 67
50	Harvester	I, 395	III, 37
51	Cotton-Gin	I, 596	III, 171
52	Hatchet	I, 522	III, 122
53	Tuyere	I, 579	III, 159
54	Cabbage-Cutter	II, 437	III, 570
55	Ruler	II, 609	III, 664
56	Pencil-Sharpener	II, 519	III, 617
57	Buffer-Head for Railroad Coupling	II, 151	III, 371
58	Liquids for Gas Metres	I, 680	
59	Roofing Tile	II, 169	III, 379
60	Pump-Coupling	II, 252	III, 436
61	Raking Attachment for Harvester	I, 420	III, 55
62	Churn	I, 348	III, 5
63	Lock for Doors	I, 541	III, 133
64	Combination Cooking Range and Gas Generator	I, 741	III, 254
65	Pen Cleaner and Holder	II, 518	III, 616
66	Cotton-Harvester	I, 412	III, 48
67	Corn-Harvester	I, 410	III, 46
68	Steam Warming Apparatus	I, 760	III, 265
69	Hose-Supporters	II, 572	III, 646
70	Elliptic Cushion for Railroad Cars	II, 220	III, 416
71	Field Fence	II, 133	III, 361
72	Life and Treasure Buoy	II, 59	III, 304
73	Breech-Loading Fire-Arm	II, 546	III, 631
74	Corn Planter	I, 435	III, 64
75	Toy	II, 603	III, 665
76	Spike-Machine	I, 574	III, 157
77	Machine for Wetting Paper	II, 517	III, 615
78	Protecting Gilding on Glass	II, 506	III, 609
20,079	Machine for Making Horse-Shoes	I, 527	III, 126

No.	Invention or Discovery.	Text.	Plates.
20,080	Harvester	I, 395	III, 37
81	Preparing Stereotype Plates	II, 540	III, 628
82	Metallic Shoe for Truss Bridges	II, 123	III, 352
83	Millstone Dress	II, 309	III, 478
84	Millstone Dress	II, 309	III, 478
85	Metal Awning	II, 588	III, 653
86	Cotton-Gin	I, 596	III, 172
87	Envelopes for Letters, &c	II, 504	III, 608
88	Convertible Extension Table	II, 481	III, 595
89	Churn	I, 348	III, 5
90	Printing Press	II, 530	III, 623
91	Fly-Trap	II, 614	III, 666
92	Bedstead Rail	II, 430	III, 564
93	Apparatus for Raising Leather from Vats	II, 407	III, 553
94	Steam-Valve	II, 45	III, 295
95	Constructing Coffins	II, 598	III, 657
96	Paddle-Wheel	II, 64	III, 308
97	Bedstead	II, 425	III, 562
98	Leather-Sticker	II, 409	III, 554
99	Washing-Machine	II, 489	III, 601
100	Draw for Closets, Bureaus, &c	II, 602	III, 659
101	Washing-Machine	II, 489	III, 600
102	Mill for Grinding Paint	II, 300	III, 471
103	Straw-Cutter	I, 492	III, 106
104	Smut and Grain-Cleaning Machine	II, 321	III, 485
105	Frame or Caisson of Breakwater, &c	II, 121	III, 351
106	Warm-Air Register or Ventilator	I, 743	III, 255
107	Brick-Machine	II, 381	III, 536
108	Supplying Tenders with Water at Railroad-Stations	II, 157	III, 373
109	Brick-Machine	II, 381	III, 536
110	Apparatus for Generating Carbonic Acid Gas	I, 676	III, 221
111	Apparatus for Damping Paper	II, 513	III, 614
112	Folding-Mattress	II, 466	III, 586
113	Machine for Washing Bottles	II, 595	III, 656
114	Fire-Box of Locomotive-Engine Boilers	II, 26	III, 285
115	Fire-Box of Locomotive-Boilers	II, 25	III, 284
116	Boiler for Locomotive-Engines	II, 26	III, 285
117	Furnace of Locomotive-Boilers	II, 25	III, 285
118	Metallic Nuts	I, 546	III, 137
119	Raking and Delivering Attachment to Harvesters	I, 419	III, 53
120	Cotton-Gin	I, 596	III, 171
121	Corn and Cob-Mill	II, 298	III, 469
122	Gang Plough	I, 463	III, 84
123	Washing Machine	II, 489	III, 601
124	Sugar-Mill	II, 311	III, 479
125	Fishing Net	II, 608	III, 663
126	Nail-Machine	I, 548	III, 138
127	Adjustable-Seats for Vehicles	II, 229	III, 421
128	Bending Mould-Boards for Ploughs	I, 504	III, 111
129	Continuous Priming for Fire-Arms	II, 549	III, 632
130	Gas-Metres	I, 679	III, 222
131	Ship's Capstan	II, 74	III, 315
132	Syphonic Radiator	I, 741	III, 254
133	Ovens for Cooking-Stoves	I, 756	III, 263
134	Lamp	I, 724	III, 245
135	Sheltering from Dust the Lower Carrying-Pulley of Band-Saws	II, 259	III, 514
136	Steam-Engine	II, 12	III, 273
137	Machine for Bending Wood	II, 376	III, 533
138	Machine for Hulling Rice	I, 429	III, 60
139	Railroad Car-Coupling	II, 194	III, 400
20,140	[Suspended, and issued as No. 21,173]		

No.	Invention or Discovery	Text.	Plates.
20,141	Machine for Making Horse shoe Nails	I, 551	III, 141
142	Water-Closet	II, 124	III, 353
143	Seed-Planter	I, 446	III, 73
144	Revolving Fire-Arm	II, 552	III, 633
145	Nut-Machine	I, 564	III, 143
146	Brick-Kiln	II, 379	III, 534
147	Feeding Device for Cross-Cut Sawing	II, 350	III, 505
148	Railroad Car-Spring	II, 2-5	III, 407
149	Ring-Bolt	I, 506	III, 112
150	Governing Lateral Motion of Carriage in gigging bach	II, 357	III, 512
151	Casting Car-Wheels	I, 509	III, 114
152	Harvester	I. 395	III, 37
153	Vapor-Lamp Burner	I, 730	III, 248
154	Washing-Machine	II, 489	III, 601
155	Braces of Eave-Troughs	II, 130	III, 358
156	Billiard-Table Cushions	II, 592	III, 654
157	Quartz-Crushers	I, 562	III, 148
158	Seed-Planter	I, 446	III, 73
159	Lamp	I, 724	III, 245
160	Revolving Fire-Arm	II, 552	III, 633
161	Smut-Mill	II, 308	III, 478
162	Seeding-Machine	I, 477	III, 97
163	Corn-Husker	I, 356	III, 10
164	Mowing Machine	I, 431	III, 62
165	Punching Metallic Tubes	I, 547	III, 137
166	Automatic Lathe	II, 338	III, 495
167	Steam Boiler	II, 1	III, 266
168	Chuck for Screw Cutting	I, 568	III, 152
169	Fluid Metre	II, 245	III, 432
170	Hoisting-Machine	II, 267	III, 445
171	Cast-Iron Pipe	I, 558	III, 146
172	Arrangement of Gas Engines	II, 9	III, 270
173	Cement for Roofing	II, 168	----
174	Checking the Feed in Shingle-Machines	II, 364	III, 522
175	Sewing Machine	I, 627	III, 194
176	Ventilating and Excluding Dust from Railroad Cars	II, 221	III, 416
177	Gas Generator	I, 677	III, 221
178	Lamp Attachment for Preventing Smoke	I, 727	III, 246
179	Tympans for Printing Presses	II, 537	III, 627
180	Harvester	I, 396	III, 37
181	Harvester	I, 396	III, 37
182	Harvester	I, 397	III, 38
183	Sheet Metal Chains	II, 501	III, 607
184	Sawing Machine	II, 352	III, 508
185	Boot-Tree	II, 395	III, 546
186	Self-Regulating Grain Measurer	II, 99	III, 335
187	Water-Wheel	II, 257	III, 440
188	[Suspended]	----	----
189	Churn	I, 348	III, 5
190	Dressing and Sizing Warps	I, 607	III, 214
191	Harvester	I, 398	III, 38
192	Seating the Movable Cutter in Expansive Bits	II, 331	III, 490
193	Corn Planter	I, 435	III, 64
194	Fasteners for Sleeve Buttons	II, 571	III, 644
195	Harrow	I, 384	III, 29
196	Grain-Cleaning Machine	I, 377	III, 25
197	Hub-Machine	II, 224	III, 419
198	Reclining Chair	II, 446	III. 574
199	Pipes and Cigar Holders	II, 613	III, 665
200	Water Wheel	II, 258	III, 440
20,201	Time-Keeper	II, 113	III, 345

No.	Invention or Discovery	Text.	Plates.
20,202	Bee-Hive	I, 343	III, 1
203	Preserve Can	II, 438	III, 570
204	Printing Press	II, 530	III, 623
205	Paint Compounds	I, 688	----
206	Sofa Bedstead	II, 430	III, 565
207	Cultivator	I, 366	III, 18
208	Corn Mill	II, 298	III, 469
209	Can for Preserving Food	II, 438	III, 570
210	[Cancelled]	----	----
211	Wrench	I, 582	III, 162
212	Reaping and Mowing-Machine	I, 472	III, 93
213	Compound Photograph	II, 522	----
214	Cartridge Case	II, 545	III, 630
215	Binding Device for Harvester	I, 409	III, 44
216	Cotton Gin	I, 597	III, 172
217	Self-Inking Hand Stamps	II, 539	III, 628
218	Implement for Shooting Missiles at Cows, &c., on Railroads	II, 160	III, 375
219	Implement for Sharpening Slate Pencils	II, 520	III, 617
220	Cider Mill	II, 297	III, 469
221	Harvester	I, 397	III, 38
222	Harness Tug Buckle	II, 405	III, 552
223	Corn-Huskers	I, 356	III, 10
224	Straw-Cutter	I, 492	III, 106
225	Harvester	I, 397	III, 38
226	Brush	II, 434	III, 567
227	Harvester	I, 397	III, 38
228	Lasts	II, 406	III, 552
229	Repeating Ordnance	II, 559	III, 638
230	Washing-Machine	II, 490	III, 601
231	Ironing Table	II, 483	III, 596
232	Burner for Vapor Lamps	I, 728	III, 247
233	Working Ship's Lower Sails in Courses	II, 75	III, 316
234	Water-Wheel	II, 257	III, 440
235	Fly-Net	II, 608	III, 663
236	Metallic Rolling Shutters	II, 171	III, 380
237	Railroad Car-Brake	II, 189	III, 395
238	Sash-Fastener	I, 515	III, 118
239	Steering Apparatus	II, 77	III, 317
240	Candy-Machine	II, 595	III, 656
241	Forks for Elevating Hay	I, 426	III, 58
242	Utilizing Waste Vulcanized Rubber	I, 694	----
243	Finger or Guard for Harvesters	I, 414	III, 48
244	Washing-Machine	II, 490	III, 601
245	Guides for Sewing-Machines	I, 650	III, 209
246	Fastening for Hame Tugs	II, 402	III, 550
247	Opening and Closing Farm Gates	II, 140	III, 364
248	Fastening Railroad Rails	II, 161	III, 376
249	Machinery for Hulling and Threshing Clover	I 428	III, 59
250	Shot	II, 561	III, 638
251	Reaping and Mowing Machine	I, 472	III, 93
252	Escapement for Time Keepers	II, 113	III, 346
253	Corn-Husker	I, 356	III, 10
254	Railroad Car for Day and Night Service	II, 220	III, 416
255	Electric Lamp	I, 732	III, 249
256	Ballot-Boxes	II, 589	III, 653
257	Horse-Power	II, 292	III, 466
258	Meat-Chopper	II, 467	III, 587
259	Card Plate for Trunks	II, 420	III, 559
260	Cultivator	I, 366	I, 19
261	Barrel-Head Machine	II, 325	III, 487
20,262	Pencil Sharpeners	II, 519	III, 616

No.	Invention or Discovery.	Text.	Plates.
20,263	Woven Tucked Fabrics	I, 591	III, 166
264	Railroad Car-Coupling	II, 195	III, 400
265	Cooking Stove	I, 752	III, 260
266	Corn-Sheller	I, 361	III, 14
267	Thick Woven Fabrics	I, 591	III, 166
268	Forming the Heads of Carriage Springs	II, 212	III, 411
269	Plough	I, 456	III, 80
270	Machine for Cleaning Cotton	I, 590	III, 166
271	Harvester	I, 398	III, 38
272	Harvester	I, 399	III, 39
273	Sign	II, 538	III, 628
274	Stove	I, 746	.....
275	Reaping and Mowing Machine	I, 472	III, 93
276	Press for Zincographic Printing	II, 526	III, 620
277	Grinding and Sizing Paper Pulp	I, 615	III, 184
278	Hame Tug Fastener	II, 402	III, 550
279	Horse Power	II, 291	III, 466
280	Safety Drop for Keys	I, 531	III, 127
281	Block for Repairing T-Rails	II, 162	III, 376
282	Toothed Cylinder for Grinding	II, 291	III, 466
283	Vapor Lamp	I, 735	III, 250
284	Spring Rocking Cradle	II, 454	III, 579
285	Applying Cop Tubes to Spindles	I, 654	III, 212
286	Tile-Machine	I, 518	III, 119
287	Worming, Parcelling, and Serving the Rigging of Vessel	II, 83	III, 322
288	Mill for Treating Chinese Sugar Cane	II, 302	III, 472
289	Aero-Vapor Burners for Lamps	I, 727	III, 246
290	Chasing Mill	II, 312	III, 480
291	Manufacture of Metallic Zinc	I, 584	III, 162
292	Feeding the Bolt in Lath-Machines	II, 337	III, 494
293	Safety Attachment for Railroad Cars	II, 222	III, 417
294	Preparation of Fibre for Paper Pulp	I, 616	III, 184
295	Device for Slicing Apples	II, 421	III, 560
296	Burner for Vapor Lamps	I, 729	III, 247
297	Corn-Planter	I, 435	III, 64
298	Lathe Dog	II, 338	III, 495
299	Artificial Whalebone	II, 617	.....
300	Apparatus for Cleaning the Coulters of Ploughs	I, 466	III, 88
301	Seeding-Machine	I, 477	III, 97
302	Self-Lighting and Extinguishing Lanterns	I, 738	III, 252
303	Street-Sweeping Machine	II, 611	III, 664
304	Apparatus for Baking and Cooking	I, 700	III, 232
305	Regulating by Electricity the Issues of Gas from Burners	I, 701	III, 232
306	Machine for Affixing Office Stamps to Letters	II, 611	III, 664
307	Bootjack	II, 432	III, 565
308	Moulding Frame for the Construction of Boats	II, 55	III, 302
309	Tips for Fishing Rods	II, 604	III, 660
310	Grinding Mill	II, 305	III, 475
311	Securing Metallic Bands on Cotton Bales	II, 264	III, 443
312	Nail-Machine	I, 549	III, 139
313	Marking Device Attached to Hand Saws	II, 360	III, 515
314	Valve Cock	II, 236	III, 427
315	Breech-Loading Rifle	II, 560	III, 638
316	Furnace Grates	I, 713	III, 239
317	[Cancelled and subsequently issued as No. 20,929]	.....	.....
318	Driving Wheels for Portable Steam Engines, &c	II, 324	III, 486
319	Steam Boiler	II, 2	III, 266
320	Composition for Varnishing Leather	I, 666	.....
321	Sounding Apparatus	II, 75	III, 316
322	Machine for Hoisting Ice	II, 65	III, 662
20,323	Lathe	II, 337	III, 495

No.	Invention or Discovery.	Text.	Plates.
20,324	Vapor Lamp Burner	I, 731	III, 248
325	Harrow	I, 384	III, 29
326	Actuating the Index of Hydrometers	II, 97	III, 333
327	Hominy Mill	II, 307	III, 476
328	Reciprocating Paddle	II, 64	III, 307
329	Flouring Mill	II, 299	III, 469
330	Machine for Grinding Saws	I, 568	III, 151
331	Labricating Car Axles	II, 269	III, 448
332	Valve Propeller	II, 69	III, 311
333	Burglars' Alarm Lock	II, 586	III, 652
334	Harvester	I. 399	III, 39
335	Water-Wheel	II, 258	III, 440
336	Wind-Wheel	II, 261	III, 442
337	Levelling Device Attached to Hand Saws	II, 360	III, 515
338	Window-Spring	I, 575	III, 157
339	Railroad Car-Brake	II, 189	III, 396
340	Knife Polisher	II, 464	III, 585
341	Carpet Fastener	II, 441	III, 571
342	Gang Plough	I, 463	III, 85
343	Apparatus for Catching Fish	II, 603	III, 660
344	Machine for Turning Irregular Forms	II, 374	III, 530
345	Cutter-Head and Rest for Cutting Irregular Forms.	II, 335	III, 492
346	Cheese Press	II, 272	III, 450
347	Manufacture of Dextrin and Sugar	I, 697	.....
348	Thermostat	II, 112	III, 345
349	Omnibus Register	II, 22	III, 419
350	Wind Wheel	II, 261	III, 442
351	Separating Combustible from Incombustible Gases in Furnaces, &c	I, 736	III, 240
352	Iron Gate and Fence Post	II, 147	III, 368
353	Production of Electrotype Plates	I, 691	.....
354	Marine Alarm and Fog Signal	II, 63	.....
355	Preparing Paper Pulp from Reeds	I, 615	III, 184
356	Protractor	II, 102	III, 337
357	Seeding-Machine	I, 477	III, 97
358	Seeding-Machine	I, 477	III, 97
359	Foot Cleaner	II, 458	III, 581
360	Corn-Husker	I, 357	III, 10
361	Straw-Cutter	I, 493	III, 106
362	Bed Bottom	II, 422	III, 560
363	Journal Box	II. 225	III, 419
364	Clothes-Pin	II, 452	III, 578
365	Washing-Machine	II, 491	III, 601
366	Seeding-Machine	I, 478	III, 98
367	Railroad-Switch	II, 174	III, 382
368	Governor for Horse Power	II, 294	III. 467
369	Washing-Machine	II, 490	III, 601
370	Flouring-Mill	II, 299	III, 471
371	Apparatus for Distilling Spirit of Turpentine	I, 671	III, 217
372	Lifting Jacks	II, 267	III, 446
373	Lamp for Burning Coal Oil	I. 733	III, 249
374	Life Boat	II, 60	III, 305
375	Gas Retort	I, 683	III, 225
376	Rocking Chair and Cradle	II, 445	III, 574
377	Seed Drill	I, 374	III, 23
378	Raking Attachment to Harvesters	I, 421	III, 56
379	Wrench	I, 583	III, 162
380	Feed Regulator for Steam Boilers	II, 5	III, 268
381	Attachment for Opening and Closing Doors	I, 593	III,
382	Portable Soda-Water Apparatus	I, 695	III, 229
383	Composition for Artificial Leather	I, 665	.....
20,384	Changing Rotary into Reciprocating Motion	II, 313	III, 480

No.	Invention or Discovery.	Text.	Plates.
20,385	Power and Head Drill	I, 514	III, 117
386	Vapor Lamp	I, 735	III, 250
387	Machine for Cutting Pipe	I, 559	III, 146
388	Steam Trap Valve	II, 47	III, 297
389	Stove	I, 746	III, 257
390	Extracting Teeth	II, 567	III, 642
391	Knife-Cleaner	II, 463	III, 585
392	Railroad Car-Coupling	II, 195	III, 401
393	Rotary Last-Holder	II, 406	III, 553
394	Harvester	I, 399	III, 39
395	Casting Faucets	I, 509	III, 114
396	Railroad-Brake	II, 120	III, 351
397	Musical Instrument	II, 510	III, 612
398	Telephonic Indicator for Steam-Boilers	II, 8	III, 269
399	Machine for Elevating, Measuring, and Bagging Grain	II, 290	III, 465
400	Lattice Iron Fence	II, 135	III, 362
401	Plate Holder for Photographic Cameras	II, 521	III, 617
402	Mechanism for Operating Semaphoric Signals	II, 105	III, 339
403	Attachment to ascertain time without looking at the watch	II, 118	III, 348
404	Mantel Bar	I, 738	III, 252
405	Sash-Fastener	I, 516	III, 118
406	Lubricating Car-Axles	II, 269	III, 448
407	Pipe-Tongs	I, 560	III, 146
408	Washing Machine	II, 491	III, 601
409	Sewing Needles	I, 652	III, 210
410	Harrow	I, 385	III, 29
411	Raking Attachment to Harvester	I, 422	III, 56
412	Carriage-Brake	II, 209	III, 409
413	Sewing Machine	I, 627	III, 195
414	Bridge	II, 121	III, 351
415	Wood-Burning Stove	I, 758	III, 264
416	Harvester	I, 399	III, 39
417	Bee-Hive	I, 344	III, 1
418	Springs for Railroad-Cars	II, 223	III, 417
419	Compound Railroad Axle	II, 148	III, 369
420	Smut-Machine	II, 321	III, 485
421	Horse Power	II, 292	III, 466
422	Machine for Cleaning Grain	II, 289	III, 464
423	Steam-Valves	II, 45	III, 296
424	Shoulder-Brace Suspender	II, 580	III, 649
425	Grain-Cleaning Machine	I, 377	III, 25
426	Buoyant Life-Preserving State-Rooms	II, 80	III, 319
427	Windlass	II, 84	III, 323
428	Combined Wash-Stand and Night-Stool	II, 485	III, 597
429	Railroad Car-Brake	II, 190	III, 396
430	Cooking-Stove	I, 753	III, 261
431	Signal Lantern	II, 104	III, 339
432	Cotton-Seed Planter	I, 439	III, 67
433	Brick	II, 385	III, 539
434	Adjusting and Vibrating Back-Band Strap	II, 393	III, 545
435	Bedstead	II, 425	III, 562
436	Hinge for Daguerreotype and other Cases	II, 501	III, 607
437	Horizontal Water-Wheel	II, 261	III, 442
438	Gas Apparatus	I, 673	III, 220
439	Straw and Wood Over-Shoes	II, 412	III, 556
440	Seed-Planter	I, 446	III, 73
441	Machine for Making Horse-Shoes	I, 528	III, 126
442	Pump	II, 248	III, 434
443	Pump-Bucket	II, 251	III, 436
444	Truss Pad	II, 568	III, 643
445	Smoothing Iron	II, 480	III, 594
20,446	Lathe for Turning Metal Shafting	I, 546	III, 136

No.	Invention or Discovery.	Text.	Plates.
20,447	Whitewash Brush	II, 435	III, 568
448	Gas-Retort	I, 683	III, 225
449	Threshing-Machine	I, 497	III, 108
450	Cooking-Stove	I, 752	III, 260
451	Spittoon	II, 480	III, 595
452	Rollers for Railway Bars	II, 163	III, 377
453	Manufacture of Gas	I, 678	III, 222
454	Hot-Air Furnace	I, 714	III, 239
455	Machinery for Hoisting and Lowering Goods	II, 266	III, 445
456	Water-Wheel	II, 258	III, 440
457	Harvester	I, 400	III, 39
458	Machine for Working Marble	II, 389	III, 542
459	Spoke-Shave	II, 367	III, 525
460	Pliers	I, 560	III, 147
461	Horse-Power	II, 292	III, 466
462	Mill-Stone Dress	II, 309	III, 478
463	Wooden Saddle-Trees for Harness-Saddles	II, 404	III, 551
464	Railroad-Chair	II, 150	III, 370
465	Apparatus for Distilling Turpentine	I, 671	III, 218
466	Stove	I, 746	III, 257
467	Corn-Planter	I, 435	III, 64
468	Railroad Car-Brake	II, 190	III, 396
469	Drill for Gas-Pipe	I, 513	III, 117
470	Machine for Wringing Clothes	II, 452	III, 578
471	Sewing-Machine	I, 627	III, 195
472	Railroad Chair	II, 149	III, 370
473	Washboard	II, 484	III, 597
474	Machine for Measuring, Registering, and Receiving Grain	I, 498	III, 109
475	Raking-Attachment to Harvester	I, 422	III, 56
476	Lock	I, 534	III, 128
477	Supplying Water to Steam-Boilers	II, 4	III, 267
478	Bedstead-Fastenings	II, 428	III, 563
479	Mowing-Machine	I, 432	III, 62
480	Attaching Ornaments to the Ear	II, 512	III, 613
481	Sewing-Machine	I, 628	III, 195
482	Washing-Machine	II, 491	III, 602
483	[Suspended]		
484	Admitting Light and Air through Steps, &c	II, 172	III, 381
485	Preserve-Can	II, 439	III, 570
486	Bed-Bottom	II, 422	III, 560
487	Writing-Desk	II, 601	III, 659
488	Apparatus for Manufacture of Beer	I, 661	III, 215
489	Extension-Table	II, 482	III, 595
490	Machine for Grinding and Cutting	II, 291	III, 465
491	Stop-Watch	II, 118	III, 348
492	Platform-Scales	II, 280	III, 457
493	Bench-Plane	II, 343	III, 500
494	Machine for Cutting Out Stumps	II, 173	III, 382
495	Attaching the Bits to the Brace	II, 331	III, 490
496	Revolving Fire-Arm	II, 552	III, 634
497	Carriage-Spring	II, 211	III, 410
498	Burner for Vapor-Lamps	I, 729	III, 247
499	Refrigerating-Pitcher	II, 472	III, 589
500	Piano-Forte Action	II, 523	III, 618
501	Obtaining the Taper in Shingle-Machines	II, 365	III, 523
502	Tanning	II, 418	
503	Breech-Loading Fire-Arm	II, 546	III, 631
504	Brake for Wagons, &c	II, 234	III, 425
505	Machine for Cutting Irregular Forms	II, 335	III, 493
506	Instrument for Taking the Sun's Altitude	II, 86	III, 324
20,507	Combined Umbrella and Head-Rest	II, 224	III, 418

No.	Invention or Discovery.	Text.	Plates.
20,508	Bee-Hive	I, 344	III, 1
509	Ratchet-Press	II, 278	III, 455
510	Revolving-Heels of Boots and Shoes	II, 399	III, 548
511	Excavating-Machine	II, 130	III, 358
512	Ink-Roller	II, 507	.....
513	Automatic Grain-Weighing Machine	II, 282	III, 460
514	Steam-Power Meter	II, 35	III, 290
515	Harvesting-Machine	I, 424	III, 57
516	Punching-Machine	I, 561	III, 147
517	Provision-Cutter	II, 473	III, 590
518	Bed-stead	II, 425	III, 562
519	Tailors' Pressing Machine	II, 580	III, 649
520	Metallic Cap for Bottles	II, 595	III, 656
521	Smut-Machine	II, 322	III, 456
522	Grain-Separator	I, 380	III, 27
523	Hydraulic-Ram	II, 244	III, 431
524	Door-Lock	I, 540	III, 132
525	Reaping-Machine	I, 400	III, 39
526	Sash-Fastener	I, 516	III, 118
527	Planing Machine	II, 346	III, 502
528	Supporting and Adjusting Gravers for Engraving-Machines	II, 504	III, 608
529	Machine for Finishing Soldered Tubing	I, 579	III, 159
530	Extension-Table	II, 481	III, 595
531	Sewing-Machine	I, 628	III, 195
532	Hose-Coupling	II, 239	III, 429
533	Applying the Power of the Steam Engine	II, 13	III, 274
534	Apparatus for Manufacturing Gas	I, 674	III, 220
535	Disconnecting Car-Axle Boxes from Pedestals	II, 185	III, 390
536	Brick Machine	II, 382	III, 537
537	[Suspended]	.....	.....
538	House-Bell	II 461	III, 584
539	Machine for Cutting Glaziers' Pins	II, 604	III, 661
540	Machine for Gathering the Toll in Grist-Mills	II, 312	III, 480
541	Apparatus for Manufacturing Gas	I, 675	III, 220
542	Machine for Crushing Stone	II, 391	III, 543
543	Quilting-Frame	II, 473	III, 590
544	Sash-Holder	I, 564	III, 149
545	Operating Churn	I, 353	III, 7
546	Heating Rotary-Boilers	I, 700	III, 232
547	Seeding-Machine	I, 478	III, 98
548	Pocket-Supporter for Billiard-Tables	II, 593	III, 655
549	Lime-Kiln	II, 389	III, 542
550	Attachment of Pipes to Water-Closet Basins	II, 422	III, 560
551	Hay and Cotton-Press	II, 277	III, 454
552	Machine for Hulling Rice	I, 429	III, 55
553	Device in Feed-Motion of Shingle-Machines	II, 365	III, 507
554	Watch-Case	II, 117	III, 347
555	Windlass	II, 84	III, 322
556	Hand Printing-Press	II, 536	III, 627
557	Sewing-Machine	I, 628	III, 195
558	Manufacture of Burning Fluids	I, 702	.....
559	Reducing Wheel-Tires	I, 577	III, 158
560	Field-Fence	II, 133	III, 361
561	Skirt-Hoops	II, 575	III, 647
562	Apparatus for Distilling Oils	I, 670	III, 217
563	Post and Pile-Driver	II, 129	III, 357
564	Round Belting	II, 285	III, 460
565	Tanning Leather	II, 478	.....
566	Adjustable Hanger for Shafting	II, 319	III, 484
567	Retort for Generating Gas	I, 684	III, 226
20,568	Corn-Husker	I, 357	.....

No.	Invention or Discovery.	Text.	Plates.
20,569	Ivory Frame Composition	I, 667	.....
570	Fastening for Double Door	I, 513	III, 116
571	Door-Lock	I, 541	III, 133
572	Cotton-Seed Planter	I, 439	III, 67
573	Lamp for Lighting Gas	I, 733	III, 249
574	Washing-Machine	II, 491	III, 602
575	Seeding-Machine	I, 478	III, 98
576	Metallic Window-Blind	II, 179	III, 387
577	Cracker-Machine	II, 453	III, 579
578	Apparatus for Raising Sunken Vessels	II, 82	III, 321
579	Clothes-Frame	II, 450	III, 577
580	Invalid Bedstead	II, 429	III, 564
581	Machine for Cleaning Grain	I, 378	III, 25
582	Straw-Cutter	I, 493	III, 106
583	Car-Wheel	II, 206	III, 408
584	Gas-Burner	I, 717	III, 241
585	Device for Holding Sheep while being Sheared	I, 487	III, 103
586	Metallic Hub for Carriage-Wheel	II, 214	III, 412
587	Retorts for Distilling Oils from Coal	I, 671	III, 217
588	Construction of Harness-Pads	II, 403	III, 551
589	Light-Reflector	I, 743	III, 255
590	Weather-Strip for Doors	II, 126	III, 355
591	Furnace for Burning Bagasse	I, 710	III, 237
592	Ice-Pitcher	II, 471	III, 589
593	Harvester	I, 401	III, 40
594	Brick-Machine	II, 382	III, 536
595	Piano-Forte Action	II, 524	III, 619
596	Locomotive Signals	II, 28	III, 286
597	Gun-Carriage	II, 556	III, 636
598	Clasp for Skirt Hoops	II, 576	III, 647
599	Field Fence	II, 133	III, 360
600	Harvester	I, 400	III, 40
601	Hulling Stone Dress	II, 288	III, 463
602	Machine for Sizing Hat Bodies	I, 599	III, 173
603	Seed-Drill	I, 374	III, 21
604	Argand Gas Burner	I, 719	III, 241
605	Rotary Cultivator	I, 372	III, 21
606	Propeller	II, 65	III, 309
607	Revolving Fire-Arm	II, 552	III, 634
608	Breech-Loading Cannon	II, 543	III, 629
609	Spring Bed-Bottom	II, 424	III, 561
610	Car-Wheel	II, 209	III, 409
611	Floating Revolving Wharf	II, 178	III, 386
612	Brick-Machine	II, 383	III, 537
613	Reciprocating Rotary-Engine	II, 10	III, 270
614	Preventing Cars from Running off the Track	II, 217	III, 414
615	Adjusting Plane-Irons	II, 344	III, 500
616	Furnace for Heating Steam-Boilers	I, 711	III, 238
617	Railroad-Chair	II, 150	III, 370
618	Hemp Harvester	I, 416	III, 50
619	Handle for Screw-Drivers	I, 569	III, 152
620	Railroad Track and Cast-Iron Pavement	II, 158	III, 374
621	Refrigerator	II, 475	III, 592
622	Railroad Car Seats and Berths	II, 201	III, 405
623	Machine for Sowing Marl, Dirt, &c	II, 279	III, 457
624	Mode of Applying Lever-Power	II, 268	III, 447
625	Gas-Regulator	I, 680	III, 224
626	Gas-Burner	I, 717	III, 241
627	Car-Coupling	II, 192	III, 397
628	Corn-Husker	I, 410	III, 47
20,629	Metallic Lath	II, 143	III, 366

No.	Invention or Discovery.	Text.	Plates.
20,630	Metallic Rolling Shutters	II, 171	III, 380
631	Pans for Evaporating Cane Juice	I, 672	III, 219
632	Cutting Button-Holes	II, 570	III, 644
633	Plough	I, 457	III, 81
634	Coupling-Box for Shafting	II, 319	III, 484
635	Repairing Cast Iron Cylinders	I, 508	III, 113
636	Metallic Roofing	II, 169	III, 379
637	Corn-Husker	I, 357	III, 11
638	Shingle Machine	II, 363	III, 519–20
639	Corn-Planter	I, 436	III, 65
640	Air-Heating Furnace	I, 709	III, 237
641	Camphene Lamp	I, 732	III, 248
642	Machine for Setting Spokes in Hubs	II, 368	III, 526
643	Seeding-Machine	I, 479	III, 98
644	Washboard	II, 484	III, 597
645	Corn-Harvester	I, 410	III, 46
646	Horse-Shoe Machine	I, 527	III, 125
647	Gang Plough	I, 463	III, 85
648	Vapor-Lamp Burner	I, 731	III, 248
649	Vapor-Lamp	I, 735	III, 250
650	Corn-Sheller	I, 361	III, 15
651	Seed-Planter	I, 447	III, 74
652	Metallic Wheels for Vehicles	II, 230	III, 422
653	Corn-Husker	I, 357	III, 11
654	Railroad Car Seat	II, 198	III, 403
655	Treatment of Metallic Sulphurets	I, 697	.....
656	Seeding-Machine	I, 479	III, 98
657	Air Cells for Giving Buoyancy to Vessels	II, 73	III, 314
658	Combination Lock	I, 540	III, 132
659	Plough	I, 457	III, 80
660	Clamping and Feeding the Log in Saw Mills	II, 349	III, 504
661	Solutions for Cleansing Woollens, &c	I, 664	.....
662	Apparatus for Sifting Coal Ashes	I, 703	III, 233
663	Cheese Vat	II, 448	III, 575
664	Cabinet for Sewing-Machines	I, 649	III, 209
665	Oil Cup for Machinery	II, 271	III, 449
666	Ore Separator	I, 556	III, 144
667	Furnace for Boilers and Stoves	I, 715	III, 240
668	Cooking Stove	I, 753	III, 261
669	Frame for Drying Clothes	II, 451	III, 578
670	Portfolio File	II, 524	III, 619
671	Gas Retort	I, 683	III, 225
672	Gearing for Machinery	II, 289	III, 464
673	Masting and Rigging Vessels	II, 79	III, 319
674	Oil Cups for Lubricating Engines	II, 269	III, 448
675	Replacing Railroad Cars on the Track	II, 208	III, 415
676	Paddle Wheel	II, 64	III, 308
677	Machine for Picking Cop Waste	I, 588	III, 165
678	Restoring Waste Vulcanized Rubber	I, 694	.....
679	Safety Vault Covers	II, 176	III, 385
680	Valves for Dry Gas Metres	I, 679	III, 223
681	Skirt Hoops	II, 575	III, 647
682	Cooking Stove	I, 753	III, 261
683	Stuffing Boxes	II, 323	III, 486
684	Sewing Machine	I, 629	III, 197
685	Riveting-Machine	I, 562	III, 148
686	Sewing-Machine	I, 629	III, 196
687	Arrangement of Steam Coils in Evaporating Vessels	I, 673	III, 219
688	Sewing-Machine	I, 629	III, 197
689	Drain Plough	I, 462	III, 83
20,690	Machinery for Braiding Cordage	I, 589	III, 165

No.	Invention or Discovery.	Text.	Plates.
20,691	Braided Cordage, Webbing, &c	I, 589	III, 166
692	Grinding Mill	II, 305	III, 475
693	Socket for Tool Handle	II, 373	III, 529
694	Cotton Seed Planter	I, 440	III, 67
695	Machine for Turning Salvages in Cloth	I, 588	III, 164
696	Rotary Sawing-Machine	II, 355	III, 510
697	Coating Metallic Surfaces	I, 664	.....
698	Pantographic Telegraph	II, 109	III, 343
699	Sewing-Machine	I, 630	III, 198
700	Upsetting Tire	I, 577	III, 158
701	Mode of Obtaining Motive Power	II, 316	III, 482
702	Rolling Railway Bars	I, 563	III, 148
703	Apparatus for Skinning Eels	II, 602	III, 660
704	Shingle-Machine	II, 364	III, 522
705	Lathe for Turning Oval Frames	II, 339	III, 496
706	Electric Signal Lights	II, 104	III, 339
707	Button Fastening	II, 570	III, 644
708	Pantaloons	II, 573	III, 646
709	Seed Planter	I, 447	III, 74
710	Ink-Roller	II, 507	III, 609
711	Ring Clamp for Engravers, &c	II, 503	III, 608
712	Cultivator	I, 396	III, 19
713	Horse-Shoe	I, 525	III, 123
714	Type Case for Printers	II, 526	III, 621
715	Screw Picket	II, 609	III, 664
716	Bank and other Locks	I, 539	III, 131
717	Pipe Coupling	I, 559	III, 146
718	Machine for Cleaning Daguerreotype Plates	II, 502	III, 607
719	Harvester	I, 401	III, 40
720	Skirt Hoops	II, 575	III, 647
721	Illuminated Covers for Vaults, &c	II, 177	III, 386
722	Can for Preserving Food	II, 438	III, 570
723	Bedstead	II, 426	III, 562
724	Knife and Spoon Cleaner	II, 463	III, 585
725	Net for Catching Fish	II, 603	III, 660
726	Gauge Cock and Alarm Whistle	II, 19	III, 279
727	Cartridge	II, 545	III, 630
728	Hand Drill	I, 513	III, 117
729	Vapor Lamp	I, 735	III, 250
730	Churn	I, 349	III, 5
731	Apparatus for Manufacturing White Lead	I, 699	III, 231
732	Washing-Machine	II, 492	III, 602
733	Cooking Stove	I, 753	III, 262
734	Grinding-Mill	II, 305	III, 476
735	Grain-Separator	I, 381	III, 27
736	Fire and Burglar-Proof Safes	I, 563	III, 149
737	Stave-Machine	II, 370	III, 527
738	Seed-Planter	I, 447	III, 74
739	Sewing-Machine	I, 631	III, 198
740	Churn	I, 349	III, 5
741	Fountain Pen	II, 578	III, 616
742	Sewing-Machine	I, 631	III, 198
743	Brad Punch	I, 561	III, 147
744	Propeller	II, 66	III, 309
745	Machine for Sawing Lumber	II, 341	III, 498
746	Burning Fluid Lamp	I, 731	III, 248
747	Cotton-Gin	I, 597	III, 172
748	Fastening Wick Tubes in Lamp Caps	I, 732	III, 248
749	Seed-Planter	I, 447	III, 73
750	Bedstead	II, 426	III, 562
20,751	Attaching and Housing Propellers	II, 70	III, 311

No.	Invention or Discovery.	Text	Plates.
20,752	Fire-Ladder	II, 603	III, 660
753	Sewing-Machine	I, 631	III, 198
754	Dentists' Pattern Plates	II, 565	III, 641
755	Pure Sulphurous Acid	I, 659	III, 215
756	Ore Separator	I, 556	III, 145
757	Double-Acting Gun Lock	II, 557	III, 636
758	Converting Peat into Charcoal	I, 664	
759	Sash Fastener	I, 516	III, 118
760	Apparatus for Rectifying	I, 692	III, 229
761	Sewing-Machine	I, 630	III, 197
762	Securing Cutters in Rotary Planing-Machines	II, 346	III, 502
763	Sewing-Machine	I, 630	III, 198
764	Quilling-Frame	II, 574	III, 590
765	Revolving Fire-Arm	II, 553	III, 634
766	Drawing Rollers	I, 617	III, 185
767	Apparatus for Heating Tires	I, 723	III, 244
768	Valve Gearing of Steam-Engines	II, 42	III, 294
769	Railroad Car-Brake	II, 190	III, 397
770	Machine for Cutting Corks	II, 589	III, 658
771	Machine for Cutting Corks	II, 590	III, 658
772	Machine for Raking and Loading Hay	I, 426	III, 58
773	Sewing Machine	I, 632	III, 198
774	Machine for Gathering Stones	I, 490	III, 104
775	Sewing-Machine	I, 632	III, 198
776	Breech Loading Fire-Arm	II, 547	III, 631
777	Railroad Car Seats and Berths	II, 149	III, 370
778	Stopper for Bottles	II, 594	III, 656
779	Boring-Machine	II, 331	III, 490
780	Machine for Upsetting Carriage Axles	I, 503	III, 110
781	Corn-Planter	I, 436	III, 65
782	Steam Engine	II, 12	III, 273
783	Pump	II, 248	III, 434
784	Mill for Cutting and Crushing Sugar-Cane	II, 360	III, 471
785	Attaching Lamps to Lanterns	I, 736	III, 251
786	Registering Attachment for Clocks	II, 90	III, 327
787	Pump	II, 248	III, 434
788	Faucet	II, 237	III, 427
789	Machine for Turning the Heads and for Nicking Screws	I, 571	III, 145
790	Plough	I, 457	III, 81
791	Washing-Machine	II, 492	III, 602
792	Machine for Testing the Strength in Springs	II, 281	III, 459
793	Chair for Railways	II, 164	III, 377
794	Lathe for Turning in Metals	I, 547	III, 137
795	Running Gear for Wagons	II, 233	III, 425
796	Rotary Lamp	II, 254	III, 438
797	Constructing Iron Railings	II, 148	III, 369
798	Cultivator	I, 367	III, 19
799	Measuring Faucet	II, 238	III, 428
800	Rotating Shafts Without Using a Crank	II, 320	III, 485
801	Skirt Hoops	II, 576	III, 647
802	Steam Boiler	II, 2	III, 266
803	Churn	I, 349	III, 5
804	Churn	I, 349	III, 6
805	Raking and Binding Attachment to Harvester	I, 418	III, 52
806	Harvester	I, 401	III, 40
807	Track Clearers for Harvester	I, 424	III, 57
808	Harvester-Finger	I, 414	III, 49
809	Mode of Securing Grain in Bundles or Sheaves	I, 378	III, 668
810	Burglars' Alarm Clock	II, 585	III, 651
811	Dust Pan	II, 479	III, 589
20,812	Hill-Side Plough	I, 464	III, 85

No.	Invention or Discovery.	Text.	Plates.
20,813	Harvester	I, 401	III, 40
814	Machine for Paring, Slicing, and Coring Apples	II, 421	560
815	Sausage-Filler	II, 478	594
816	Machine for Stuffing Horse-Collars	II, 401	550
817	Railroad Car-Coupling	II, 195	400
818	Ventilating Millstones	II, 311	479
819	Machine for Leathering Tacks	II, 410	555
820	Attaching Carriage Springs	II, 211	411
821	Machine for Leathering Tacks	II, 409	554
822	Sash-Holder	I, 564	149
823	Cotton-Cultivator	I, 371	21
824	Arrangement of Devices for Planing Mouldings	II, 343	499
825	Breech-Loading Fire-Arm	II, 547	631
826	Tailors' Measure	II, 580	649
827	Treatment of Fibre of Tampico Hemp	I, 603	
828	Continuous Chain-Rails	II, 1[illegible]1	III, 375
829	Nail-Machine	I, 549	139
830	Rice Hulling Machine	I, 428	59
831	Corn-Sheller	I, 362	15
832	Trunk-Protector	II, 419	559
833	Machine for Hulling Rice	I, 430	60
834	Ear, Cheek, and Chin Muff	II, 572	646
835	Steam Alarm and Safety Apparatus	II, 31	288
836	Furnace	I, 709	236
837	Machinery for Pressing Straw Bonnets, &c	I, 585	163
838	Machine for Making Paper Bags	II, 513	614
839	Bedstead-Fastening	II, 428	563
840	Furnaces of Steam-Boilers	II, 5	268
841	Railway Bridge Signalizer	II, 164	377
842	Water-Metre	II, 246	432
843	Stopper for Bottles	II, 595	655
844	Horse Hay Rakes	I, 470	91
845	Valve-Regulator	II 43	294
846	Punch for Perforating Metal	I, 545	136
847	Water and Steam Indicator	II, 24	284
848	Pressure-Gauge	II, 20	280
849	Corn-Husker	I, 358	12
850	Lock	I, 534	129
851	Magnetic Steam-Gauge	II, 19	279
852	Burglars' Alarm Clock	II, 584	651
853	Faucet	II, 237	427
854	Knitting-Machine	I, 665	177
855	Spoke-Shave	II, 368	526
856	Kettle for Rendering Lard	I 723	244
857	Spring-Pulley for Window-Sashes	II, 182	389
858	Machine for Cutting Paper	II, 545	615
859	Door-Plate	II, 602	659
860	Machine for Hulling Rice	I, 430	60
861	Machine for Dressing Hides and Leather	II, 405	553
862	Propeller for Canal Boats	II, 68	310
863	Rocking-Chair	II, 447	575
864	Machine for Cutting Barrel-Heads	II, 327	488
865	Bustles and Skirts	II, 569	643
866	Tool for Cutting Cylindrical or Tapering Stocks	II, 372	529
867	Force-Pump for Fire-Engines	I, 707	235
868	Clothes-Drying Apparatus	II, 430	577
869	Metallic Hub for Carriage-Wheel	II, 214	413
870	Sawing-Machine	II, 352	509
871	Railroad Car-Box Cases and Pedestals	II, 148	369
872	Washing-Machine	II, 492	602
20,873	Trap for Animals	II, 615	III, 666

No.	Invention or Discovery.	Text.	Plates.
20,874	Printing-Press	II, 531	III, 624
875	Fire-Escape Ladders	I, 707	236
876	Shingle-Machine	II, 363	520
877	Coppering Interior of Ships to Protect from Lightning	II, 75	316
878	Churn	I, 350	6
879	Tailors' Shears	II, 581	649
880	Pump	II, 248	434
881	Machine-Pulleys	II, 317	483
882	Shoemakers' Edge-Plane	II, 414	557
883	Adjustable Pile-Driver	II, 146	368
884	Paper Stock from Reeds	I, 617	
885	Machine for Drilling and Splitting Stone	II, 392	III, 544
886	Carriage for Sawing-Machines	II, 353	509
887	Reaping and Mowing-Machine	I, 472	93
888	Escapement of Watches	II, 118	348
889	Boat Propeller	II, 67	310
890	Hemp-Brake	I, 601	174
891	Apparatus for Cleaning and Polishing Coffee	I, 354	7
892	Endless Chain for Threshing-Machine	I, 498	108
893	Knit Gloves	I, 603	176
894	Governor for Steam-Engines	II, 22	282
895	Refrigerator	II, 476	593
896	Medicated Vapor Apparatus	II, 564	641
897	Gas Generator	I, 677	222
898	Churn	I, 350	6
899	Grain-Cleaning Machine	I, 378	25
900	Scroll-Sawing Machine	II, 356	511
901	Rolling Railway-Chairs	I, 563	148
902	Butter-Cooler	II, 436	569
903	Attaching Sleigh-Runners	II, 228	421
904	Cotton Gin	I, 597	172
905	Apparatus as Aids in Extracting Teeth	II, 566	642
906	Earthenware Dish	II, 456	580
907	Refrigerator	II, 476	593
908	Automatic Operator of the Surveyor's Graphodometer	II, 106	341
909	Smoke-Stack for Steam Vessels	I, 745	256
910	Saw-Mill Block	II, 349	505
911	Leather-Shaving Knife	II, 408	554
912	Self-Dumping Coal-Bucket	II, 130	357
913	Floor Clamp	II, 333	492
914	Boot-Tree	II, 395	546
915	Tripod Head for Surveyors	II, 106	340
916	Securing Lightning Rods	II, 98	334
917	Radiator for Heating Buildings, &c., by Combustion of Gas or Alcohol	I, 722	243
918	Machine for Manufacturing Chair Backs	II, 332	492
919	Atmospheric Regulator for Stoves, Furnaces, &c.	I, 759	265
920	Spinning Frame	I, 655	211
921	Water-Wheels	II, 259	440
922	Hand-Stamp	II, 539	628
923	Machine for Cleaning Grain	I, 379	26
924	Cooling Car Wheels	II, 207	408
925	Machine for Polishing Thread	I, 656	214
926	Furnace for Manufacturing Oxide of Zinc	I, 712	238
927	Tube-Joint for Condensers	II, 9	299
928	Connecting the Ends of Railroad Rails	II, 154	372
929	Knife-Cleaner	II, 464	585
930	Rendering Telegraphic Magnets Easy of Adjustment	II, 112	345
931	Twine-Box	II, 617	667
932	Washing Machine	II, 493	602
20,933	Machine for Sharpening Gin-Saws	I, 567	III, 151

No.	Invention or Discovery.	Text.	Plates.
20,934	[Cancelled]		
935	Plough	I, 457	III, 81
936	Machine for Cutting Out the Soles of Boots and Shoes	II, 397	547
937	Fire-Boxes for Locomotive Engines	II, 27	286
938	Manufacture of Hard Rubber Goods	I, 693	
939	Steam-Heater	I, 721	III, 242
940	Spring-Bolt	I, 506	112
941	Grinding-Mill	II, 306	475
942	Watch-Case	II, 117	347
943	Carpenter's Rule	II, 104	338
944	Canal-Boat	II, 52	300
945	Saw-Filing Machine	I, 565	149
946	Seed-Drill	I, 375	23
947	Machine for Pressing Grapes	II, 279	456
948	Casting Hinges	I, 509	114
949	Machine for Digging Potatoes	I, 467	88
950	Millstone Dress	II, 310	478
951	Cast-Iron Kettles	I, 510	114
952	Vapor-Burning Lamp	I, 736	251
953	Propeller	II, 66	309
954	Breech-Loading Fire-Arm	II, 547	631
955	Machine for Making Chain	I, 510	115
956	Feeding the Tool-Carriage in Turning Lathes	II, 341	497
957	Machine for making Axe Poles	I, 502	110
958	Straw-Cutter	I, 493	106
959	Railroad-Switch	II, 157	374
960	Heel-Shavers for Boots and Shoes	II, 397	547
961	Firemen's Trumpets	II, 603	660
962	Cutting both Bevels simultaneously on Barrel-Heads	II, 327	488
963	Steam-Stove	II, 36	291
964	Clothes-Dryer	II, 449	576
965	Hanging up and carrying off Paper Hangings	II, 515	615
966	Manufacture of Steatite Articles	I, 696	230
967	Apparatus for Rectifying	I, 692	229
968	Plough	I, 457	81
969	Loom	I, 608	178
970	Electro-Magnetic House-Alarm	II, 95	332
971	Machine for Hulling and Cleaning Rice	I, 427	59
972	Flouring-Mill	II, 299	471
973	Cotton-Press	II, 276	453
974	Clothes Rack	II, 474	590
975	Soldering-Iron	I, 573	155
976	Straw-Shaker	I, 496	107
977	Burners and Wick-Tubes of Vapor Lamps	I, 728	246
978	Horse Power	II, 292	466
979	Fluid Metre	II, 245	432
980	Converting Rotary into Reciprocating Motion	II, 314	481
981	Stone-Sawing Machine	II, 392	544
982	Self-Adjusting and Embossing Telegraphic Machine	II, 110	344
983	Coupling for Railroad Cars	II, 219	415
984	Plough	I, 458	81
985	Water-Proof Cements	I, 663	
986	Omnibus-Register	II, 227	III, 420
987	Bearing Blocks of Truss Bridges	II, 122	352
988	Counterpoising Gasometers	I, 685	226
989	Plates for Burglar-Proof Safes	I, 744	256
990	Sewing-Machine	I, 633	199
991	Axle Box	II, 184	390
992	Cutting Boot Fronts	II, 394	545
993	Paints	I, 688	227
994	Sewing-Machine	I, 633	
20,995	Sawing-Machine	II, 353	III, 509

No.	Invention or Discovery.	Text.	Plates.
20,996	Operating Window-Blinds	II, 180	III, 388
997	Harness Tug-Buckle	II, 405	552
998	Railroad Car-Spring	II, 205	407
999	Stock for Cutters in Rotary Planing-Machines	II, 347	503
21,000	Apparatus for Distributing Steam	II, 31	288
1	Valves for Gas Apparatus	I, 676	221
2	Wheelwrights'-Machine	II, 375	532
3	Regulating the Supply of Water to Steam-Boilers	II, 4	267
4	Machinery for Piling Paper	I, 614	183
5	Nails	I, 552	141
6	Signal Lantern for Railroad Switches	II, 157	373
7	Compound Rail for Railroads	II, 159	375
8	Paper-Making Machines	I, 614	184
9	Bran-Duster	II, 287	462
10	Churn	I, 350	I, 6
11	"Flushing Valve" Trap for Sinks, Sewers, &c.	II, 171	III, 380
12	Hanging Carriages for Children	II, 215	413
13	Grate for Steam-Boilers	II, 6	268
14	Splice Piece for Railroad-Rails	II, 155	372
15	Sewing-Machine	I, 632	199
16	Closet for Milk	II, 469	588
17	Steam-Boiler	II, 2	266
18	Wheat-Drill	I, 376	24
19	Adjusting Mosquito-Bars	II, 469	588
20	Combination of the Needle and Sun-Dial	II, 113	345
21	Grate for Locomotive Engines	II, 27	286
22	Gas-Regulator	I, 681	224
23	Compounds for Treating Potato-Rot	I, 668	.....
24	Operating Printing Telegraphic-Machines	II, 112	III, 345
25	Brick-Machine	II, 383	537
26	Coupling for Horse-Railing Cars	II, 218	415
27	Illuminating Gas	I, 678	222
28	Machine for Weighing and Registering Grain	II, 281	459
29	Clothes-Wringer	II, 452	579
30	Feeding Quartz, &c., to Crushing and Grinding Machines	II, 287	463
31	Corn-Harvester	I, 410	47
32	Horse-Power Machine	II 294	467
33	Protecting Trees from Insects	I, 668	216
34	Seed-Planter	I, 448	74
35	Clothes-Dryer	II, 449	576
36	Machine for Cleaning Grain	I, 379	26
37	Brace for Locking the Panels of Field Fences	II, 137	363
38	Railroad Car-Brake	II, 191	396
39	Steel Rolls	I, 576	157
40	Alarm-Guage for Steam-Boilers	II, 4	267
41	Drawing Instrument	II, 91	328
42	Batter Machine	II, 422	560
43	Pump	II, 248	434
44	Mangle	II, 465	586
45	Knitting-Machine	I, 605	177
46	Stove for Burning Soft Coal	I, 756	263
47	Steam-Heating Apparatus	II, 35	290
48	Gas-Regulator	I, 681	224
49	Sewing-Machine	I, 633	199
50	Illuminating Glasses for Vault Covers	II, 176	385
51	Machine for Pegging Shoes	II, 415	557
52	Railroad Car-Seat	II, 198	402
53	Burner for Vapor Lamps	I, 729	247
54	Revolving Fire-Arm	II, 553	634
55	Cultivator	I, 367	19
21,056	Governor for Steam-Engines	II, 23	III, 283

No.	Invention or Discovery	Text.	Plates.
21,057	Wheat-Separators	I, 500	III, 109
58	Knife-Sharpener	II, 464	585
59	Steam-Engine	II, 12	274
60	Removing Sub-Marine Deposits	II, 166	378
61	Substitute for the Crank	II, 287	463
62	Flouring-Mill	II, 300	471
63	Grain and Grass Harvester	I, 415	49
64	Metallic Fence	II, 135	362
65	Converting Reciprocating into Rotary Motion	II, 314	481
66	Apparatus for making Coffee	II, 453	579
67	Railroad Frog	II, 152	371
68	Cap-Tubes for Shuttles	I, 652	210
69	Lamp	I, 725	245
70	Sleeping-Car for Railroads	II, 224	418
71	Tube for Conveyance of Sound	II, 255	438
72	Apparatus for Condensing and Purifying Gas	I, 673	220
73	Field-Fence	II, 134	361
74	Field-Fence	II, 134	361
75	Gas-Stove	I, 757	263
76	Gas-Burner	I, 717	241
77	Separating the Fibres of Wood	I, 592	167
78	Preserve-Can	II, 439	570
79	Mode of Operating Presses	II, 278	456
80	Printing-Press	II, 531	623
81	Safety Whiffletrees	II, 234	425
82	Money-Table	II, 608	663
83	Hub for Carriage-Wheel	II, 213	412
84	Stove	I, 747	258
85	Combined Broiling-Furnace and Cooking-Stove	I, 701	232
86	Brake for Railroad-Cars	II, 217	414
87	Ox-Yoke	I, 500	109
88	Chuck for Centering, &c	I, 511	116
89	Sewing-Machine	I, 633	199
90	Argand Gas-Burner	I, 719	241
91	Pegging-Machine	II, 411	555
92	Case Shoe Brush	II, 435	568
93	Harvester	I, 402	40
94	Fire-Place	I, 707	236
95	Apparatus for Purifying Gas	I, 675	220
96	Apparatus for Purifying Gas	I, 675	221
97	Connecting Railroad-Rails	II, 154	372
98	Loom	I, 609	179
99	Sleeping-Car for Railroads	II, 224	418
100	Sewing-Machine	I, 634	200
101	Registering the Motion of Machinery	II, 103	337
102	Seed Planter	I, 448	75
103	Stove	I, 747	257
104	Machine for Manufacturing Shoe-Pegs	II, 413	557
105	Electro-Magnetic Engine	II, 94	332
106	Butter-Worker	II, 437	569
107	Mechanical Jack	II, 268	446
108	Making Beef and other Steaks Tender	II, 431	565
109	Centrifugal Gun	II, 557	636
110	Straw-Cutter	I, 494	107
111	Machine for Threshing and Separating Grain	I, 496	107
112	Seed-Planter	I, 448	74
113	Harrow	I, 385	29
114	Machine for Rolling Leather into Bales	II, 408	554
115	Wind-Guard for Chimneys	I, 703	233
116	Operating the Teeth of Cylinders for Burring Wool, &c.	I, 658	214
117	Machine for Chamfering and Crozing Barrels	II, 327	488
21,118	Metallic Lath-Surface	II, 143	III, 366

No.	Invention or Discovery.	Text.	Plates.
21,119	Safety-Guard for Safe-Doors	I, 744	III, 256
120	Applying Brakes to Hand-Trucks	II, 121	351
121	Apparatus for Purifying Gas	I, 676	221
122	Treatment of Caoutchouc	I, 662	.....
123	Bed-Bottom	II, 423	III, 561
124	Hinge	I, 522	122
125	Harvester	I, 402	40
126	Apparatus for Tanning Hides	II, 417	559
127	Seed-Planter	I, 449	75
128	Cultivator	I, 367	19
129	Sewing-Machine	I, 634	200
130	Locomotive Steam-Engine	II, 28	286
131	Clothes Rack	II, 475	590
132	Telegraphic Instrument	II, 110	344
133	Apparatus for Heating and Cooling Air, as a Motive Power	II, 316	482
134	Ships' Windlass	II, 75	316
135	Cable-Stopper	II, 56	302
136	Hanging Window-Sash	II, 181	388
137	Seed-Planter	I, 449	75
138	Bathing Apparatus	II, 561	639
139	Machine for Cleaning Wheat	II, 324	486
140	Rock-Drill	II, 128	357
141	Machine for Coring and Quartering Apples	II, 421	562
142	Apparatus for Generating Gas	I, 674	220
143	Retorts for Distilling Oils from Coal	I, 671	217
144	Machine for Fanning and Assorting Grain	II, 290	465
145	Counter Scales	II, 280	456
146	Escapement for Time-Keepers	II, 114	346
147	Bake-Oven	I, 739	253
148	Printing Ink-Roller	II, 529	.....
149	Repeating Fire-Arm	II, 550	III, 633
150	Hay-Elevators	I, 425	58
151	Steam-Valve	II, 45	296
152	Seeding-Machine	I, 480	99
153	Harrow	I, 385	30
154	Printing-Press	II, 532	624
155	Steam-Valve	II, 46	296
156	Machine for Pounding Rice	II, 317	483
157	Folding Gridiron	I, 720	242
158	Cement for Roofing Purposes	I, 663	.....
159	Billiard-Cushions	II, 590	III, 654
160	Variable Boring Bit	II, 330	490
161	Reducing Wood-Fibres to Paper-Pulp	I, 616	185
162	Seeding-Machine	I, 479	99
163	Bee-Hives	I, 344	1
164	Machinery for Forming Bats for Felting	I, 591	167
165	Steam-Engine	II, 12	274
166	Burner for Vapor-Lamps	I, 729	247
167	Plough	I, 458	82
168	Tanning Hides	II, 417	.....
169	Gas-Retort	I, 683	III, 225
170	Cultivator	I, 367	19
171	Cooking-Stove	I, 754	262
172	Machine for Folding Paper	II, 516	615
173	Machine for Preparing Frames for Gilding	II, 506	564
174	Corn-Sheller	I, 362	15
175	Washing-Machine	II, 493	602
176	Churn	I, 351	6
177	Cross-Cut Sawing Machine	II, 354	510
178	Railroad Car-Seat	II, 199	403
21,179	Securing Cutters to the Spindles of Augers	II, 325	III, 487

No.	Invention or Discovery.	Text.	Plates.
21,180	Corn-Planter	I, 436	III, 65
181	Machine for Sowing Fertilizers	I, 488	103
182	Plough	I, 458	82
183	Operating Steam Trip-Hammers	II, 38	291
184	Mill Pick-Holders	II, 308	478
185	Steam-Heating Apparatus	I, 722	243
186	Brick-Machine	II, 383	538
187	Corn-Planter	I, 437	66
188	Revolving Fire-Arm	II, 554	634
189	Pessaries	II, 565	641
190	Metallic Bands for Binding Bales	II, 264	443
191	Stove	I, 748	257
192	Machine for Preparing Oval Picture-Frames	II, 524	619
193	Lock	I, 534	129
194	Machine for Cutting Mitres	II, 342	499
195	Apparatus for Heating Mash-Tubs	I, 722	243
196	Wrench	I, 583	162
197	[Suspended]	.....	.....
198	Nail-Plate Feeder	I, 550	III, 140
199	Securing and Adjusting the Steps of Mill-Spindles	II, 309	478
200	Reciprocating Sawing-Machine for Sawing Plank	II, 355	510
201	Construction of Canal-Boats	II, 55	302
202	Smut-Machine	II, 322	486
203	Bridge	II, 121	352
204	Amalgamating Gold and Silver	I, 502	110
205	Rock-Drill	II, 128	357
206	Excavating Machine	II, 130	358
207	Reaping-Machine	I, 473	94
208	Feed-Motion for Carotypography	II, 500	607
209	Lantern for Burning Coal-Oil	I, 738	252
210	Steering-Apparatus	II, 77	317
211	Carpet-Cleaner	II, 440	571
212	Grain-Drill	I, 372	22
213	Machine for Forging Nails	I, 552	141
214	Threshing-Machine	I, 497	108
215	Revolving Fire-Arm	II, 553	634
216	Washing-Machine	II, 493	603
217	Seed-Planter	I, 449	75
218	Andiron	II, 420	560
219	Bob-Lance	II, 541	629
220	Butter-Bucket	II, 436	569
221	Operating-Churn	I, 353	7
222	Nail-Plate Feeder	I, 550	140
223	Combination Shoe-Tool	II, 414	557
224	Sewing-Machine	I, 635	200
225	Machine for Digging Potatoes	I, 467	89
226	Machine for Digging Potatoes	I, 467	89
227	Grain-Separator	I, 381	27
228	Printing-Press	II, 532	624
229	Gas-Burner	I, 717	241
230	Sewing-Machine	I, 631	200
231	Clothes-Horse	II, 451	577
232	Chuck for Lathes	II, 338	495
233	Carpet-Sweeper	II, 443	572
234	Sewing-Machine	I, 635	201
235	Steam-Valve	II, 46	296
236	Addometer	II, 85	324
237	Steam-Cock	II, 32	288
238	Machine for Making Rope	I, 618	185
239	Vapor Lamp-Burner	I, 731	248
21,240	Lathe for Turning Beaded-Work	II, 339	III, 495

No.	Invention or Discovery.	Text.	Plates.
21,241	Railroad-Rail	II, 154	III, 372
242	Spinning-Mules	I, 655	213
243	Addometer	II, 86	324
244	Coupling for Railroad-Cars	II, 220	416
245	Apparatus for Cooling and Ventilating Grain	II, 289	465
246	Roofing Composition	II, 168	378
247	Carpenters' Work-Bench	II, 332	491
248	Quartz-Crushers	I, 562	148
249	Writing-Desk	II, 601	659
250	Sewing-Machine	I, 635	201
251	Car-Seats and Couches	II, 201	405
252	Seeding-Machine	I, 480	99
253	Cartridge for Fire-Arms	II, 545	630
254	Machine for Cutting up Cornstalks	I, 363	16
255	Metallic Springs	II, 228	421
256	Cross-cut Sawing-Machine	II, 354	510
257	Seeding-Machine	I, 481	99
258	Sewing-Machine	I, 636	201
259	Running-Gear for Railroad-Car	II, 221	416
260	Portable Field-Fence	II, 136	362
261	Washing-Machine	II, 494	602
262	Music-Stool	II, 540	611
263	Bed-Bottom	II, 423	561
264	Machine for Breaking Hemp	I, 603	177
265	Rotary-Harrow	I, 387	30
266	Rail for Switching Cars off the Track	II, 161	376
267	Harness	II, 403	550
268	Horse-Rake	I, 469	90
269	Harrow	I, 386	30
270	Elastic Fabrics	I, 590	.....
271	Oven	I, 739	III, 253
272	Metallic Bands or Ties for Bales	II, 265	443
273	Seeding-Machine	I, 480	99
274	Packages for Dry-Goods	II, 609	664
275	Ice-Stand	II, 481	595
276	Steam-Cock	II, 32	288
277	Machinery for Bolting Flour	II, 286	462
278	Harpoon-Lance	II, 58	304
279	Bolt-Machine	I, 506	111
280	Windlass	II, 85	323
281	Gas-Regulator	I, 682	225
282	Fire Escape	II, 602	660
283	Water-Meter	II, 247	433
284	Apparatus Attached to Steam Coils in Vats	I, 698	231
285	Composition for Miniature Cases	I, 665	.....
286	Tempering Wire and Steel	I, 581	III, 161
287	Corn-Planter	I, 437	65
288	Corn-Shelling Machine	I, 363	16
289	Attachments to Artificial Legs	II, 564	641
290	Locomotive Engine	II, 26	285
291	Obstetrical Chair	II, 564	641
292	Machine for Setting Staples in Blind Slats	II, 120	350
293	Lock	I, 534	129
294	Water-Closet	II, 124	353
295	Valve Gear of Steam-Engines	II, 40	293
296	Chain Stopper	II, 57	303
297	Apparatus for Broiling, Toasting, &c	I, 701	232
298	Anchor Ball	II, 52	300
299	Sewing-Machine	I, 636	201
300	Cut-off Valve of Steam-Engines	II, 48	298
21,301	Horse-Collar Blocks	II, 401	III, 549

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21,302	Trap for Animals	II, 615	III, 666
303	Carpet-Stretcher	II, 442	572
304	Burnishing-Machine	I, 508	113
305	Coupling for Bale-Hoops	II, 263	443
306	Hill-side Plough	I, 464	86
307	Machine for Cleaning Hose, &c	II, 240	429
308	Cotton-Seed Planter	I, 440	67
309	Removing Sparks from Smoke-Stacks of Locomotives	II, 27	286
310	Sewing-Machine	I, 637	201
311	Screwing Plane-Irons to the Stocks of Bench Planes	II, 345	501
312	Looms for Weaving Skirt-Fringe	I, 610	180
313	Umbrella	II, 581	650
314	Seeding-Machine	I, 482	100
315	Portable Fence	II, 136	362
316	Seed-Drill	I, 375	23
317	Cotton-Press	II, 276	453
318	Rotary Pump	II, 254	438
319	Shears	I, 573	155
320	Recumbent Chair	II, 446	574
321	Printers' Composing Stick	II, 526	620
322	Sewing-Machine	I, 637	201
323	Seeding-Machine	I, 482	100
324	Sun-Shade	II, 580	649
325	Carpet Fastener	II, 441	571
326	Railroad Car-Seat	II, 199	404
327	Upsetting Carriage-Tire	I, 577	158
328	Sash-Fastener	I, 516	118
329	Sending and Receiving Messages Simultaneously over the same Telegraphic Wire	II, 109	343
330	Hanging Millstones	II, 311	479
331	Car Seats and Couches	II, 201	405
332	Steam-Cock	II, 33	288
333	Spinning-Machine	I, 655	212
334	Stretching Boots and Shoes	II, 398	548
335	Portable House-Bell	II, 431	565
336	Drawing Boards	II, 502	608
337	Sad-Iron Heater Cover	II, 478	594
338	Hydrant	II, 243	431
339	Prison Alarm	II, 587	652
340	Flouring-Mill	II, 300	472
341	Lock-Joint Fastener for Steeds, &c	II, 540	628
342	Lifting-Jack	II, 268	446
343	Harvesting Machine	I, 424	57
344	Lamp	I, 725	245
345	Attaching the Spreader to Saws of Circular Sawing-Machines	II, 357	512
346	Lock	I, 535	129
347	Hinge for Window-Blinds	I, 523	123
348	Sealing Preserve-Cans	II, 440	571
349	Seeding-Machine	I, 482	100
350	Seeding-Machine	I, 482	100
351	Machine for Bending Fellies	II, 329	489
352	Railroad Car-Seat	II, 199	404
353	Children's Carriages	II, 210	410
354	Seeding-Machine	I, 481	99
355	Hemming Guides for Sewing-Machines	I, 640	209
356	Car-Seat	II, 196	401
357	Cotton-Gin	I, 597	172
358	Horse-Rake	I, 469	90
359	Welding Bellows-Pipe	I, 581	161
360	Tightening and Securing Metallic Bands for Cotton-Bales	II, 264	443
21,361	Oiling the Thread for Sewing-Machines	I, 650	III, 210

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21,362	Machine for Making Chain	I, 511	III, 114
363	Corn-Husker	I, 358	12
364	Carding-Machine	I, 586	164
365	Carpet-Fastener	II, 441	571
366	Valve-Cock	II, 38	292
367	Straw-Carriers for Threshing-Machines	I, 499	109
368	Shutter-Operators	I, 573	156
369	Shears	II, 573	646
370	Window-Fastener	I, 518	119
371	Apparatus for Paying Out Telegraphic Cable	II, 107	341
372	Fare-Box for Omnibusses	II, 227	420
373	Clasp for Hoop-Skirts	II, 576	647
374	Churn	I, 351	6
375	Seeding-Machine	I, 481	100
376	Feet Warming Device	I, 760	265
377	Cultivator	I, 368	20
378	Propeller for Boats	II, 68	310
379	Machine for Cutting Irregular Forms	II, 335	493
380	Rolling Railway-Chairs	II, 164	377
381	Bracelet	II, 509	607
382	Hat Body Machinery	I, 599	173
383	Grain-Separator	I, 381	27
384	Travelling-Casket	II, 596	656
385	Washing-Machine	II, 494	603
386	Implement for Rolling and Piling Logs	II, 144	367
387	Apparatus for Roasting Coffee	I, 744	255
388	Bridge	II, 122	352
389	Seeding-Machine	I, 481	99
390	Safety-Valve and Pressure-Gauge	II, 44	295
391	Attaching the Props of Carriage-Bows	II, 209	409
392	Ox-Yokes	I, 501	109
393	Corn-Planter	I, 437	66
394	Trace-Fastening	II, 419	559
395	Inkstand	II, 508	610
396	Knitting-Machine	I, 605	177
397	Seed-Planter	I, 450	75
398	Regulating Tension of Thread in Sewing Machines	I, 651	210
399	Cut-Off for Steam-Engines	II, 17	278
400	Revolving Fire-Arm	II, 554	634
401	Harvester	I, 402	40
402	Sewing-Machine	I, 638	202
403	Harrow	I, 386	30
404	Corn-Planter	I, 438	66
405	Coal or Ashes Sifter	I, 745	256
406	Joints for Railroad Tracks	II, 159	374
407	Water-Closet	II, 124	354
408	Operating Window-Blinds	II, 181	388
409	Cane Seat for Chairs	II, 447	575
410	Grates for Coal-Stoves	I, 758	264
411	Machine for Ruling Paper	II, 516	616
412	Car-Seats and Couches	II, 202	405
413	Machine for Digging Potatoes	I, 468	89
414	Cutting Devices for Harvesters	I, 413	48
415	Fruit-Box	II, 459	582
416	Coffee-Roaster	I, 743	255
417	Window-Blinds	II, 179	387
418	Printing and Numbering Press	II, 527	621
419	Machine for Moulding Clay	II, 386	540
420	Convertible Carriage-Shafts	II, 211	410
421	Meat-Cutter	II, 468	587
21,422	Hanging Bells	II, 432	III, 565

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21,423	Plough	I, 459	III, 82
424	Applying Soles to Boots and Shoes	II, 396	546
425	Escapement of Time-Keepers	II, 114	346
426	Railroad Indicator	II, 153	371
427	Iron Safe	I, 564	149
428	Cultivator	I, 368	20
429	Printing Addresses on Newspapers, &c	II, 527	621
430	Preparing Elliptical Frames for Gilding	II, 505	609
431	Hoisting and Dumping Apparatus	II, 142	366
432	Paddle-Wheel Propellers	II, 65	309
433	Governor-Valve for Steam-Engines	II, 42	294
434	Binding Attachment to Reaping-Machine	I, 473	94
435	Calipers and Dividers	II, 88	325
436	Couches for Railroad-Cars	II, 219	415
437	Raking Attachments to Harvester	I, 422	56
438	Scythe-Blades	I, 572	154
439	Harrow	I, 386	30
440	Seed-Planter	I, 450	75
441	[Suspended]		
442	Kneading-Machine	II, 463	III, 585
443	Machine for Turning Hubs	II, 373	530
444	Billiard-Balls	II, 590	654
445	Coal-Stove	I, 750	259
446	Stove	I, 748	258
447	Construction of Coal-Stove Lining	I, 758	264
448	Loom	I, 609	179
449	Hose-Carriage	II, 210	410
450	Machine for Ironing Clothes	II, 462	584
451	Carpet-Sweeper	II, 443	573
452	Seeding-Machine	I, 483	100
453	Manufacturing Shingles from the Log	II, 366	523
454	Trap for Animals	II, 615	667
455	Operating Valves of Steam-Engines	II, 51	299
456	Portable Copying Apparatus	II, 501	607
457	Alarm Lock	II, 586	651
458	Brick-Machine	II, 384	528
459	Allowing for Expansion and Contraction of Wire Fences	II, 138	363
460	Butter-Worker	II, 437	569
461	Sewing-Machine	I, 639	202
462	Life-Boat Constructed of Mattresses	II, 60	305
463	Bullet-Machine	II, 542	629
464	Brushes	II, 435	568
465	Sewing-Machine	I, 637	202
466	Sewing-Machine	I, 638	202
467	Flues of Elevated Oven Cooking-Stoves	I, 759	264
468	Steam Pressure and Water Indicator	II, 36	290
469	Couch Seats for Railroad-Cars	II, 218	415
470	Diaphragm for Photographic Cameras	II, 521	617
471	Railroad-Chair	II, 150	370
472	Steam Trap	II, 37	291
473	Apparatus for Stamping Milk-Cans	II, 640	665
474	Journal Box	II, 295	468
475	Governor for Steam-Engines	II, 23	283
476	Washing-Machine	II, 494	603
477	Washing-Machine	II, 494	603
478	Revolving Fire-Arm	II, 554	635
479	Ladies' Hoop Skirts	II, 577	648
480	Joints for T-Rails	II, 162	376
481	Skirting Material	I, 654	212
482	Endless Sectional Sawing-Machine	II, 355	510
21,483	Saw-Filer	I, 564	III, 149

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21,484	Printing-Press	II, 533	III, 625
485	Lantern Attachment to Caps	I, 737	252
486	Railroad Car-Coupling	II, 196	400
487	Moulds for Making Warp-Dresser Guides of Glass or other Plastic Anti-Corrosive Material	I, 657	214
488	Warp-Dresser Guides	I, 657	213
489	Steam-Hammer	II, 34	289
490	Shingle-Machine	II, 364	522
491	Mole Plough	II, 146	368
492	Telegraph Insulator	II, 108	342
493	Combination of a Governor with a Side Valve	II, 44	295
494	Rotary Steam-Engine	II, 11	273
495	Horse-Power	II, 293	466
496	Gate-Hinge	I, 524	123
497	Gas-Burner	I, 718	241
498	Building Walls under Water	II, 178	386
499	Cutting Apparatus for Harvesters	I, 412	48
500	Heating Apparatus for Manufacture of Cemented Sole Shoes	II, 415	.....
501	Churn	I, 351	III, 6
502	Railroad Car-Coupling	II, 196	400
503	Machine for Cutting Dovetails	II, 334	492
504	Door-Lock	I, 541	133
505	Bullet-Machine	II, 542	629
506	Machine for Working Clay	II, 356	540
507	Machine for Notching and Trimming Hoops	II, 334	492
508	Cutting and Finishing the Locks of Wooden Hoops	II, 334	492
509	Machine for Coating Electrotype Moulds	II, 503	608
510	Valve-Cock	II, 39	292
511	Bedstead-Fastening	II, 428	564
512	Tenoning-Machine	II, 371	528
513	Hemp-Brake	I, 601	174
514	Meat-Cutter	II, 468	587
515	Temples for Looms	I, 613	182
516	Corn-Harvester	I, 411	47
517	Clasps for Cotton-Bale Hoops	II, 263	443
518	Cooking-Stove	I, 754	262
519	Bed-Bottom	II, 423	561
520	Spring Balance in Combination with a Knife	II, 262	443
521	Lantern	I, 737	251
522	Corn-Husker	I, 358	12
523	Fire-Arm	II, 547	631
524	Combination Steam-Valve	II, 39	292
525	Pliers	I, 560	147
526	Gate	II, 138	363
527	Bedstead	II, 426	562
528	Printing-Press	II, 533	625
529	Portable Field-Fence	II, 136	362
530	Filling Water-Tanks at Railway Stations	II, 175	384
531	Screw-Cutter	I, 568	152
532	Apparatus for Raising Sunken Vessels	II, 82	321
533	Guard-Fingers for Harvester	I, 416	49
534	Launching Vessels	II, 80	319
535	Pressure and Vacuum Valve	II, 43	294
536	Car-Seats and Couches	II, 202	405
537	Sewing-Machine	I, 639	202
538	Machinery for Drawing and Twisting Wool	I, 658	214
539	Stone-Holding Machine	II, 391	543
540	Raking and Binding Apparatus for Harvester	I, 418	52
541	Pin-Sticking Machine	I, 558	145
542	Harrow	I, 356	30
21,543	Lock	I, 535	III, 129

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21,544	Gas-Regulator	I, 682	III, 225
545	Brick-Machine	II, 384	538
546	Shears	I, 572	154
547	Press and Drill-Plough	I, 464	86
548	Truss-Pad	II, 568	643
549	Portable Field-Fence	II, 136	362
550	Rotary Pump	II, 254	438
551	Nut-Machine	I, 554	143
552	Raking Attachment for Harvester	I, 421	55
553	Roofing-Cement	II, 167	.....
554	Inkstand	II, 508	III, 610
555	Burglars' Alarm	II, 583	650
556	Machine for Sorting Silk or Thread According to its Size	I, 653	210
557	[Suspended]	.....	.....
558	Cigar-Wrapper	II, 597	.....
559	Machine for Washing Coal	I, 704	III, 234
560	Pump	II, 249	434
561	Pump	II, 249	434
562	Dentists' Chair	II, 562	639
563	Smut-Machine	II, 322	486
564	Applying Soles to Boots and Shoes	II, 396	546
565	Washing-Machine	II, 495	603
566	Needles for Knitting-Machines	I, 608	178
567	Machine for Cutting Metal Bars	I, 544	134
568	Brush-Cylinders for Spreaders, Cotton-Gins, &c	I, 585	163
569	Self-Acting Wagon-Brake	II, 232	424
570	Expansible Floats for Life-Boats	II, 60	305
571	Horse-Shoe	I, 525	123
572	Canal Boat	II, 53	301
573	Machine for Cutting Grass	I, 382	28
574	Mode of Preventing Nuts from Unscrewing	I, 555	144
575	Churn	I, 351	6
576	Lamp	I, 725	245
577	Rotary Harrow	I, 387	31
578	Water-Wheel	II, 259	440
579	Rotary-Valve for Steam-Engines	II, 39	292
580	Rotary Harrow	I, 387	31
581	Eylet Fastenings for Ladies' Skirts	II, 577	648
582	Cotton-Gin	I, 598	172
583	Corn-Planter	I, 438	66
584	Apparatus for Coloring Paper	II, 517	616
585	Skate-Irons	II, 610	664
586	Gas-Burner	I, 718	241
587	Harvester	I, 403	40
588	Saw-Mill	II, 348	504
589	Tea-Pot	II, 473	590
590	Machine for Cutting Veneers	II, 374	530
591	Automatic Paper-Feeder for Printing-Presses	II, 535	626
592	Sewing-Machine	I, 639	203
593	Machine for Pegging Boots and Shoes	II, 397	547
594	Corn-Sheller	I, 362	15
595	Seeding-Machine	I, 483	100
596	Machine Belting	II, 285	461
597	Expansive-Bit	II, 330	490
598	Plough	I, 459	82
599	Nut-Blank	I, 554	143
600	Couch for Railroad-Cars	II, 219	415
601	Sugar-Mill	II, 311	480
602	Attachment for Tackle-Blocks	II, 52	300
603	Tempering Steel Car-Springs	II, 206	407
21,604	Compound Railroad Axles	II, 148	III, 369

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21,605	Metallic Frames for Vault-Light	II, 177	III, 386
606	Cracker-Machine	II, 454	579
607	Mowing-Machine	I, 432	62
608	Combined Cooking-Range and Heating-Apparatus	I, 741	254
609	Balance Sail Rig for Ships	II, 73	314
610	Heating Ovens by Steam	I, 740	253
611	Mechanical Power	II, 317	483
612	Harvester	I, 403	41
613	Dredging-Machine	II, 127	356
614	Cast-Iron Car-Wheels	II, 207	408
615	Ambulance Wagon	II, 231	423
616	Key-Hole Stop	I, 531	127
617	Lamp	I, 726	246
618	Machine for Planing Irregular Surfaces	II, 346	502
619	Bread and Cracker Machine	II, 433	566
620	Baker's Oven	I, 739	253
621	Machine for Adding Numbers	II, 85	324
622	Machine for Sawing Marble, Stone, &c	II, 390	542
623	Revolving Fire-Arm	II, 555	635
624	India-Rubber Car-Springs	II, 204	406
625	Cultivator	I, 368	20
626	Clothes-Dryer	II, 450	577
627	Lamp	I, 726	246
628	Riddles for Threshing-Machine	I, 499	109
629	Laying Submarine Telegraph Cables	II, 108	342
630	Plough	I, 459	82
631	Railroad Switch	II, 174	383
632	Rotary Pump	II, 254	438
633	Embroidering and Sewing Stand	II, 480	595
634	Laying Submarine Telegraph-Cables	II, 108	341
635	Machine for Making Wire Springs for Furniture	I, 582	161
636	Lock	I, 535	129
637	Churn	I, 352	7
638	Blind Operator	I, 504	111
639	Clothes-Dryer	II, 449	577
640	Hangers and Boxes for Shafting	II, 320	485
641	Cutting Threads of Wood Screws	I, 571	154
642	Seed-Drill	I, 375	23
643	Roofing-Machine	II, 169	379
644	Steam-Boiler Furnace	I, 715	240
645	Gate	II, 139	363
646	Fly-Trap	II, 614	666
647	Construction of Animal Traps	II, 613	666
648	Rolling Window-Blind	II, 179	387
649	Slate-Pencil Sharpener	II, 520	617
650	Screw Propeller	II, 69	310
651	Deflecting Plates for Circular Saws	II, 359	514
652	Lubricating Car-Axles	II, 184	390
653	Washing-Machine	II, 495	604
654	Carpet-Stretcher	II, 442	572
655	Cam for Throwing Bolts in Locks	I, 543	134
656	Fog-Signal Machine	II, 105	339
657	Knife to Cut Paper Bags	II, 514	614
658	Railroad Switch	II, 174	383
659	Folding Guides	I, 593	167
660	Carpet-Sweeper	II, 443	572
661	Steam Plough	I, 465	86
662	Grain-Cleaning Machine	I, 378	25
663	Gas-Metre	I, 679	223
664	Hay Rake	I, 468	89
21,665	Washing-Machine	II, 495	III, 603

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21,666	Rolling Railway Iron	I, 563	III, 149
667	Cotton-Scraper	I. 364	17
668	Gearing of Cut-off Valves for Steam-Engines	II, 49	298
669	Sewing-Machine	I, 640	203
670	Sewing-Machine	I, 641	204
671	Sewing-Machine	I. 641	204
672	Sewing-Machine	I, 640	204
673	Carpet-Sweeper	II, 444	573
674	Halters and Bridles for Horses	II, 402	549
675	Machine for Cutting Lathe	II, 337	494
676	Construction of Animal Trap	II, 614	666
677	Baggage-Check	II, 596	656
678	Packing Pistons for Steam-Engines	II, 30	287
679	Photographic Baths	II, 520	617
680	Hemp-Brake	I, 602	175
681	Harvester	I, 403	41
682	Valve for Steam-Engines	II, 49	298
683	Raising Dough for Bread	II, 456	580
684	Ballot-Box	II, 589	653
685	Card-Clothing	I, 586	164
686	Water Alarm for Steam-Boilers	II, 8	269
687	Spark-Arrester	II, 31	287
688	Transmitting Magnetic Signals on Railroads	II, 105	339
689	Bank Lock	I, 538	130
690	Cultivator	I, 368	20
691	Trip-Hammer and Anvil	I, 520	121
692	Rolls for Making Sheet Iron	I, 530	127
693	Distillation of Fresh Water from Salt Water	I, 669	216
694	Steam Water Tank	II, 38	292
695	Apple-Paring Knife	II, 421	560
696	Windlass for Moving Cars and Locomotives without Steam	II, 217	414
697	Tools for Manufacturing Goods of Caoutchouc	I, 662	216
698	Hay Rake	I, 468	89
699	Water Indicator for Steam-Boilers	II, 24	284
700	Machine for Cutting Root Grafts	I, 377	24
701	Carpet-Stretcher	II, 444	573
702	Cooking Boiler for Ranges and Stoves	I, 742	254
703	Ticket-Holder	II, 612	665
704	Wrappers for Cigars	II, 598	
705	Tannery	II, 417	III, 558
706	Manufacture of Candles	I, 661	215
707	Lining for Coal-Stoves and Furnaces	I, 758	264
708	Machine for Numbering the Pages of Books	II, 499	606
709	Slide for Skirt-Hoops	II, 577	648
710	Machine for Trimming the Edges of Paper Hangings	II, 515	615
711	Apparatus for Manufacturing Acids	I. 660	215
712	Hay Rake	I, 468	89
713	Sewing-Machine	I, 640	203
714	Cotton-Gin	I, 598	173
715	Seed Drill	I, 3.6	24
716	Machine for Stamping Trade-Marks on Cloth, &c	II, 607	662
717	Ice-Pitcher	II, 472	589
718	Crozing, Chamfering, and Bevelling Barrels	II, 328	489
719	Construction of Aquaria	II, 588	653
720	Machine for Planing Wood	II. 347	502
721	Artificial Leather	II. 407	
722	Sewing-Machine	I, 639	III, 203
723	Rollers for Calico-Printing	II, 528	621
724	Furnace for Heating Buildings	I. 711	238
725	Machine for Forming Barrels	II, 328	489
21,726	Roach-Trap	II, 616	III, 667

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21,727	Railroad-Car	II, 200	III, 404
728	Gas-Burner	I, 718	241
729	Saw-Gummer	I, 566	150
730	Revolving Fire-Arm	II, 555	635
731	Hot-Air Cook Stove	I, 751	259
732	Adjusting Window-Blinds	II, 180	388
733	Gas-Burner	I, 719	241
734	Water-Closet	II, 124	354
735	Hinge	I, 523	122
736	Grain-Drill	I, 373	22
737	Car Coupling	II, 192	398
738	Escapement for Time-Keepers	II, 114	346
739	Cultivator	I, 369	20
740	Machine for Peeling Willow	II, 617	667
741	Harvester	I, 404	41
742	Machine for Dressing Stone	II, 392	544
743	Machine for Sweeping Streets	II, 611	665
744	Circular Sawing Shingle-Machines	II, 384	522
745	Sewing-Machine	I, 642	205
746	Grinding and Polishing Knives	II, 465	585
747	Fastenings for Skirt-Hoops	II, 577	647
748	Portable-Boxes	II, 500	607
749	Machine for Cross-Seaming Sheet-Metal	I, 546	137
750	Construction of Iron Railings	II, 147	368
751	Sewing-Machine	I, 641	204
752	Sewing-Machine	I, 642	205
753	Water-Wheel	II, 259	441
754	Self-Closing Door	II, 125	355
755	Tanning	II, 416	.....
756	Centrifugal Pump	II, 251	III, 436
757	Water-Wheel	II, 260	441
758	Pen-holder	II, 519	616
759	Index for Book-Marker	II, 499	606
760	Tool for Chamfering Soles for Boots and Shoes	II, 399	548
761	Apparatus for Preserving Malt Liquors	I, 686	226
762	Knitting-Machine	I, 605	178
763	Cultivator	I, 369	21
764	Stirrup	II, 416	558
765	Gas-Regulator	I, 682	225
766	Box for Carriage-Wheel	II, 213	411
767	Truss-Pad	II, 568	643
768	Frames for Wire-Cloth, Paper-Making Cylinders	I, 644	184
769	Machine for Chamfering and Crozing Barrels	II, 328	489
770	Portable and Water-Proof Friction-Match Safe	II, 608	663
771	Separating Fibres from Pulp in Hemp Leaves	I, 592	167
772	Sheet-Iron	I, 530	.....
773	Compound-Shell for Ordnance	II, 559	III, 638
774	Fire Brick	II, 379	.....
775	Paper-Clamp	II, 514	III, 614
776	Life Preserver	II, 60	305
777	Mowing Machine	I, 433	62
778	Composition used as Building Material	I, 667	.....
779	Horse-Shoe Machine	I, 527	III, 125
780	Seeding-machine	I, 483	101
781	Lighting Street-Lamps by Electricity	II, 92	328
782	Rotary Planing Cutter	II, 345	502
783	Revolving the Chisel in Mortising-Machines	II, 343	499
784	Rule for Describing Polygonal Forms	II, 104	338
785	Farm-Gate	II, 139	363
786	Manufacture of Sugar	I, 697	.....
787	Cultivator	I, 369	III, 668
21,788	Steam-Generator	II, 33	III, 289

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21,789	Cylinders and Pistons for Pumps and Steam-Engines	II, 16	III, 20
790	Corn-Eradicator	II, 562	639
791	Water-Wheel and Chute	II, 260	441
792	Harvester	I, 403	41
793	Loom for Weaving Hair-Cloth	I, 609	179
794	Rack for Holding Comb-Mach Cards	II, 607	663
795	Cotton-Gin	I, 598	173
796	Cans for Preserving Paint	I, 598	113
797	Coating Metals	I, 664	.....
798	Spelling-Block	II, 538	III, 628
799	Elastic Stair-Pad	II, 480	595
800	Sewing-Machine	I, 642	204
801	Pump	II, 249	434
802	Breech-Loading Fire-Arm	II, 548	632
803	Spading-Machine	I, 488	103
804	Harvester	I, 404	41
805	Extraction of Volatile Oils, &c., from Coal	I, 687	227
806	Skeleton Skirts	II, 578	648
807	Seeding Machine	I, 484	101
808	Coffee-Pot	II, 472	589
809	Gauge for Contents of Casks	II, 239	429
810	Composition for Paints	I, 688	.....
811	Opening and Closing Farm-Gates	II, 141	III, 365
812	Wrought Nails	I, 553	142
813	Cut-Off Valve for Steam-Engines	II, 48	297
814	Liquid Gauge	II, 239	429
815	Carpet-Sweeper	II, 444	573
816	Lubricator	II, 270	449
817	Sheet-Iron	I, 530	127
818	Post for Clothes-Lines	II, 451	578
819	Making Tight Joints around the Faucets of Water-Coolers	II, 497	605
820	Hammer	I, 520	124
821	Horse-Collar	II, 401	549
822	Machine for Lifting Heavy Weights	II, 268	446
823	Hammer Heads	I, 521	124
824	Plough	I, 460	82
825	Marine Propeller	II, 69	311
826	Paddle-Wheel	II, 65	308
827	Harvester	I, 404	41
828	Furnace for Tempering Steel	I, 712	238
829	Photographic Shield	II, 522	618
830	Stave-Jointer	II, 368	526
831	Apparatus for making Glass Stoppers for Bottles, &c	II, 378	534
832	Writing-Table	II, 483	596
833	Sewing Machine	I, 643	205
834	Metallic Side Pavement	II, 146	368
835	Bottle for containing Mercury	I, 686	227
836	Water-Gauges for Steam-Boilers	II, 9	269
837	Hoisting Jack	II, 267	446
838	Re-sawing Machine	II, 358	513
839	Hoop-Skirts	II, 575	647
840	Maize Harvester	I, 417	50
841	Bedstead	II, 425	563
842	Combined Mop and Brush	II, 469	588
843	Field Fence	II, 134	364
844	Rolls for Planishing Iron	I, 529	127
845	Coffee-Roaster	I, 743	255
846	Plough	I, 469	83
847	Raking-Attachment to Harvester	I, 423	56
848	Clasps for Metallic or Other Flexible Bands	II, 265	444
849	Burglars' Alarm	II, 583	651
21,850	Seeding-Machine	I, 483	III, 101

No.	Invention or Discovery.	Text.	Plates.
21,851	Opening and Closing Gates by Approaching Vehicles	II, 141	III, 365
852	Submarine-Explorer	II, 78	318
853	Applying Electricity During Extraction of Teeth	II, 567	642
854	Harvester	I, 405	42
855	Umbrella	II, 582	650
856	Machine for Cutting Staves from the Bolt	II, 370	528
857	Cultivator	I, 370	21
858	Hydrant	II, 243	431
859	Paper-Feeder for Printing-Presses	II, 537	627
860	Nut-Machine	I, 555	143
861	Adjusting at a Right Angle the Joiner's Square	II, 336	493
862	Bank-Lock	I, 548	131
863	Car-Wheels of Cast-Iron	I, 529	----------
864	Lathe for Cutting Screws from Wire	I, 570	III, 153
865	Chronometer-Escapement	II, 88	325
866	Tools for Manufacturing Iron Riddles	I, 581	161
867	Washing Machine	II, 496	604
868	Scrubbing Machine	II, 479	594
869	Grain-Discharging Attachment to Harvesting Machine	I, 425	58
870	Car-Seat	II, 197	401
871	Churn	I, 352	7
872	Extension Splints	II, 566	641
873	Steam-Pumping Engine	II, 15	275
874	Cider-Mill	II, 297	469
875	Washing-Machine	II, 495	604
876	Brick-Machine	II, 385	539
877	Grain Separator	I, 382	28
878	Bedstead Bottom	II, 427	563
879	Self-Mousing Hook	II, 58	304
880	Railroad-Switch	II, 174	383
881	Pen Fountain	II, 518	616
882	Machine for Making Candles	I, 661	215
883	Cheese Press	II, 272	451
884	Chimney-Cap	I, 702	233
885	Dining and Other Tables	II, 484	597
886	Spoke Machine	II, 357	525
887	Gasometer	I, 685	226
888	Brick-Machine	II, 385	539
889	Bridles to Prevent Horses from Kicking or Running Away	II, 400	549
890	Lamp-Wicks	I, 736	251
891	Flat-Iron	II, 462	584
892	Paddle-Wheel	II, 65	309
893	Hydro Carbon Vapor-Burner	I, 701	233
894	Cotton Press	II, 276	454
895	Transit Instrument	II, 116	346
896	Ornamenting Glass	II, 586	609
897	Refrigerator	II, 476	593
898	Elevating Water by Combustion of Volatisable Hydro-Carbon	II, 256	439
899	Rail for Street-Railways	II, 165	377
900	Cooking-Stove	I, 754	262
901	Railroad Car-Coupling	II, 196	400
902	Copying-Press	II, 525	619
903	Washing Machine	II, 496	604
904	Operating-Pumps	II, 255	438
905	Insulating and Supporting Lightning-Rods	II, 98	334
906	Rope-Protector	II, 79	318
907	Steam-Engine	II, 13	274
908	Machine for Mining Coal	II, 144	367
909	Washing-Machine	II, 496	604
21,910	Machine for Drawing Bolts	I, 506	III, 112

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21,911	Applying Power to the Cranks of Engines	II, 16	III, 276
912	Bee-Hive	I, 315	2
913	Machinery for Pearling and Polishing Rice	II, 317	483
914	Apparatus for Generating Gas	I, 674	220
915	Apparatus for Cooling Worts	I, 699	231
916	Window-Stop	II, 183	389
917	Steam Vessel	II, 79	318
918	Steam Vessel	II, 81	321
919	Construction of Ocean Steamers	II, 76	316
920	Connection of Steam-Engines with Propellers	II, 82	321
921	Arithmetical Proof-Rule	II, 87	324
922	Preparation of Aluminium	I, 660	----------
923	Manufacture of Aluminium and Calomel	I, 660	----------
924	Patching Balls for Breech-Loading Rifles	II, 560	III, 638
925	Hinge	I, 523	122
926	Bureau Bedstead	II, 427	563
927	Composition for Roofing	II, 168	----------
928	Water-Metres	II, 256	III, 439
929	Sewing-Machine	I, 643	205
930	Forming Bats for Felt Cloth	I, 587	164
931	Machinery for Fulling the Cloth in the Piece	I, 588	164
932	Machinery for Combing Cotton	I, 590	166
933	Method of Hanging Swords	II, 672	665
934	Mechanism for Transmitting Rotary Motion	II, 315	481
935	Saw-Gummer	I, 566	450
936	Trucks for Locomotive Engines	II, 28	286
937	Tool for Chamfering Leather Straps	II, 409	554
938	Stove	I, 748	258
939	Gate-Hinge	I, 524	123
940	Raking Attachment to Harvesters	I, 423	57
941	Arithometer for Addition	II, 87	325
942	Railroad Ditching-Machine	II, 152	371
943	Car Axle Boxes	II, 184	390
944	Machine for Cutting Corks	II, 600	659
945	Grain Separator	I, 382	28
946	[Suspended]	----------	----------
947	Bank Lock	I, 530	III, 131
948	Manufacturing Steel	I, 576	----------
949	Harpoon	II, 58	III, 303
950	Tackle Blocks	II, 281	459
951	Gas-Fitters' Vise	I, 581	160
952	Car Spring	II, 204	406
953	Plough	I, 460	83
954	Straw-Cutter	I, 494	107
955	Drinking Cup	II, 600	659
956	Railroad Chair	II, 151	370
957	Joint for T-Rail	II, 162	376
958	Seeding Machine	I, 485	102
959	Seeding-Machine	I, 485	102
960	Tap for Cutting Wooden Screws	II, 378	533
961	Die for Cutting Wooden Screws	II, 377	533
962	Lock and Key	I, 537	130
963	Threshing Machine	I, 408	108
964	Filtering Rock	II, 238	428
965	Sausage-Machine	II, 478	594
966	Shield Pin	II, 573	646
967	Car Seat	II, 197	401
968	Sash Fastener	I, 516	118
969	Seeding-Machine	I, 485	101
970	Straw-Cutter	I, 494	107
21,971	Miners' Railroad Turn or Circular Switch	II, 159	III, 375

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21,972	Machine for Soldering	I, 574	III, 156
973	Smoking Tube	II, 610	664
974	[Suspended]		
975	Improvement in Ploughs	I, 460	III, 83
976	Presses for Embossing and Figuring Velvet	II, 525	620
977	Refrigerator	II, 476	593
978	Trap for Animals	II, 616	667
979	Tripping-Blocks for Boat Davits	II, 53	301
980	Hand Printing-Press	II, 536	627
981	Lifting-Handles	I, 522	122
982	Adjusting the Plummet in Surveying Instruments	II, 106	339
983	Hemp-Brake	I, 602	175
984	Combined Book and Slate	II, 499	606
985	Car Seat	II, 197	401
986	Railroad Chair	II, 151	370
987	Candlestick	I, 702	233
988	Preparing Wool and other Fibres for Spinning	I, 657	214
989	Creasing and Blacking Leather for Harness	II, 403	550
990	Pedal Attachment for Pianos	II, 524	619
991	Safety-Apparatus for Steam-Boilers	II, 7	269
992	Speed-Indicator and Recorder for Railroad Cars	II, 223	417
993	Harvester	I, 405	42
994	Lock	I, 536	129
995	Seeding-Machine	I, 484	101
996	Car-Brake	II, 146	391
997	Self-Inking Hand Press	II, 525	620
998	Axle-Box	II, 183	390
999	Weighing Carts	II, 252	459
22,000	Padlock	I, 542	133
1	Billiard Table	II, 591	654
2	Improved Rudder	II, 81	320
3	Mechanical Movement	II, 296	468
4	Knitting-Machine	I, 607	178
5	Revolving Fire-Arm	II, 555	635
6	Flour Coolers	II, 258	464
7	Sewing-Machine	I, 644	206
8	Hoisting-Machine	II, 267	446
9	Apparatus for Wetting Paper	II, 517	616
10	Printing Press	II, 534	625
11	Feeding out Paper from Printing-Presses	II, 536	626
12	Blacksmith's Tuyere	I, 580	160
13	Plough	I, 460	83
14	Machinery for Pressing Tobacco	II, 279	456
15	Rendering Paper and other Fabrics Incorrodible	I, 689	
16	Propeller	II, 66	III, 319
17	Pen Fountain	II, 519	616
18	Lacteal Instruments	II, 563	640
19	Aquaria	II, 588	653
20	Cushion for Billiard Tables	II, 593	655
21	Life Preserving Vests	II, 63	307
22	Operating Churn	I, 353	7
23	Opening and Closing Farm Gates	II, 140	364
24	Burglars' Alarm	II, 584	651
25	Sleeping Berths for Railroad Cars	II, 222	417
26	Rotary Harrow	I, 388	31
27	Printing Press	II, 534	625
28	Shears for Cutting Sheet Metal	I, 573	155
29	Galvano-Electric Machine	II, 96	353
30	Bee-Hive	I, 345	2
31	Securing the Ends of Railway Bars	II, 164	377
22,032	Harvester	I, 405	III, 42

No.	Invention or Discovery.	Text.	Plates.
22,033	Frames for Umbrellas and Parasols	II, 582	III, 650
34	Drop for Forging Metals	I, 519	119
35	Connecting Metallic Tiles, Plates, Beams, &c.	II, 155	384
36	Manufacture of White-Lead	I, 699	230
37	Elastic Material for Mattresses and Cushions	II, 406	586
38	Machinery for Manufacturing Shirred Goods	I, 694	229
39	Shirt-Bosom Folders	II, 574	646
40	Machine for Filing Saws	I, 567	152
41	Furnace for Tempering Steel	I, 712	239
42	Fringe Looms	I, 640	180
43	Lathe for Turning Wood	II, 340	497
44	Machine for Coiling Metal Pipe	I, 545	136
45	Sewing-Machine	I, 644	206
46	Rock-Drill	II, 128	357
47	Grubbing-Machine	II, 142	365
48	Lock	I, 536	130
49	Railroad Car-Wheel	II, 208	409
50	Sewing-Machine	I, 643	205
51	Skeleton Hoop-Skirts	II, 578	648
52	Dredging-Crane	II, 127	356
53	Washboard	II, 485	597
54	Bomb-Lance	II, 542	629
55	Knife-Sharpener	II, 404	585
56	Infant's Cradle	II, 484	579
57	Safe-Lock	I, 543	134
58	Lath Machine	II, 336	494
59	Bee-Hive	I, 345	2
60	[illegible]achine for Making Spoons	I, 575	157
61	Shoe-Peg Machine	II, 403	556
62	Devices for Saving the Seed from Hay Fed to Stock	I, 426	58
63	Connecting Electro-Magnetic Apparatus with Tooth-Forceps	II, 563	640
64	Billiard-Table	II, 591	654
65	Power-Loom	I, 611	181
66	Sealing Preserve Jars	II, 463	585
67	Furnace for Burning Coal Dust	I, 710	237
68	Safe-Lock	I, 543	134
69	Vault-Light	II, 177	385
70	Vegetable-Cutter and Coffee-Mill Combined	II, 484	597
71	Electro-Magnetic Fire-Alarm Apparatus	II, 94	330
72	Straw-Cutter	I, 494	107
73	Hand-Hammer	I, 521	121
74	Binding Attachment to Harvester	I, 408	44
75	Astronomical Instrument	II, 87	325
	Automatic Feed-Boxes for Animals	I, 376	24
77	Harvester	I, 406	43
78	Animal-Traps	II, 613	665
79	Horse-Power Draught	II, 293	467
80	Breast-Pipes	II, 562	639
81	Registering Speed of Railroad Trains	II, 103	338
82	Telegraphic Instrument	II, 110	343
83	Machine for Sawing and Planing Shingles	II, 366	524
84	Harvester	I, 405	42
85	Hand-Drill	I, 514	117
86	Tongs for Coal	II, 484	597
87	Washboard	II, 485	597
88	Centre-Boards for Vessels	II, 70	318
89	Melodeon	II, 569	610
90	Churn	I, 353	7
91	Mould for Glass Bottles	II, 387	540
92	Forge-Hammer	I, 521	121
22,093	Churn	I, 352	III, 669

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22,094	Breech-Loading Fire-Arm	II, 548	III, 631
95	Machine for Moulding Boot and Shoe Soles	II, 394	545
96	Hame-Fastener	II, 402	550
97	Ship-Building	II. 73	313
98	Spring-Bed Bottom	II, 424	561
99	Locomotive Lamp-Case	I, 732	249
100	Brai ing-Machine	I, 585	163
101	Machine for Cutting Bungs	II, 332	491
102	Trimming the Edges of Boot and Shoe Soles	II, 393	545
103	Rail for Railroads	II, 161	375
104	Refrigerator	II, 477	593
105	Sash Fastener	I, 517	118
106	Truss-Bridge	II, 122	352
107	Clamping and Feeding the Bolt in Felloe Sawing Machines	II, 357	513
108	Machine for Splitting Leather	I, 408	554
109	Apparatus for Heating and Ventilating Buildings	I, 721	244
110	Regulating the Winding of Time-Keepers	II, 115	346
111	Blacksmiths' Tuyere	I, 580	160
112	Chimney-Cap	I, 702	233
113	Machine for Breaking Stones	II, 391	543
114	Picker Staff for Looms	I, 611	181
115	Mode of Baking Articles Composed of Carbon	I, 662	.....
116	Gearing	II, 288	III, 464
117	Straw Carriers	I, 490	104
118	Gearing	II, 288	464
119	Back-Moulds	II, 386	539
120	Cooking-Range	I, 742	254
121	Cooking-Stove	I, 755	262
122	Screw-Wrench	I, 581	162
123	Inkstand	II, 508	610
124	Tournure	II, 581	649
125	Neutralizing Local Attraction of the Needle	II, 88	325
126	Furnace for Evaporating Sugar Juices	I, 696	230
127	Refrigerator	II, 477	593
128	Smut-Machine	II, 323	486
129	Moulds for Making Bottles	II, 378	534
130	Saddle-Tree	II, 412	555
131	Farm-Gate	II, 139	364
132	Preserving Surfaces of Cast or Wrought-Iron	I, 690	.....
133	Bustle for Ladies' Dresses	II, 509	III, 614
134	Grate-Bars	I, 720	242
135	Knitting-Machine	I, 607	178
136	Printing Names or Directions on Packages	II, 529	.....
137	Sewing-Machine	I, 645	III, 206
138	Ore-Separator	I, 557	145
139	Wind Musical Instrument	II, 541	612
140	Sewing Needles	I, 652	.....
141	Threshing Machine	I, 498	III, 108
142	Parasols and Umbrellas	II, 582	650
143	Sewing Machine	I, 646	207
144	Grain and Fruit-Dryer	I, 706	235
145	Reclining Chair	II, 446	574
146	Lock	I, 536	130
147	Cooking-Stove	I, 755	262
148	Sewing-Machine	I, 645	206
149	Machine for Making Envelopes	II, 595	669
150	Machine for Tarring Rope Yarn	I, 618	186
151	Apparatus for Boring Wells	II, 178	387
152	Kettle for Trying Oils	I, 687	227
153	Curtain Fixture	II, 455	580
22,154	Tackle-Block	II. 52	III, 300

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22,155	Tool for Cutting Key-Seats in Wheels and Pulleys	I, 578	III, 159
156	Seed-Planter	I, 450	75
157	Pipe-Tongs	I, 560	147
158	Photographic Plate-Shield	II, 521	617
159	Scissors	II, 573	646
160	Sewing-Machine	I, 646	207
161	Apparatus for Assorting Eggs	II, 457	581
162	Fire-Engine	I, 706	235
163	Harvester	I, 406	43
164	Cut-Off Valves of Steam-Engines	II, 50	299
165	Pump	II, 250	435
166	Hose-Coupling	II, 240	429
167	Arrangement of Cutters for Turning Hubs	II, 373	529
168	Securing the Ends of Railway Bars	II, 163	376
169	Furnace for Steam-Boilers	II, 5	268
170	Steam-Trap	II, 37	291
171	Seeding-Machine	I, 486	102
172	Blind-Operator	I, 505	111
173	Hot-Air Furnace	I, 714	240
174	Preventing Injury from Rupture of Main-Spring of Watches	II, 149	348
175	Extensible Life-Raft	II, 63	307
176	Ashes and Garbage Safe	II, 588	653
177	Machine for making Window-Blind Slats	II, 179	387
178	Sediment Collector for Steam-Boilers	II, 7	269
179	Sewing-Machine	I, 646	207
180	Seeding-Machine	I, 486	102
181	Printing-Press	II, 534	626
182	Pump	II, 250	435
183	Corn-Planter	I, 438	66
184	Seeding-Machine	I, 486	102
185	Preservation of Flesh for Food	I, 689	227
186	Screw-Neck Bottles	II, 594	655
187	Shutter Fastener	I, 517	118
188	Supporting Insulator for Lightning-Rods	II, 98	334
189	Gauge-Cock	II, 18	279
190	Apparatus for Holding Sheep	I, 487	103
191	Valve-Gear of Steam-Engines	II, 41	293
192	Valve of Steam-Engines	II, 49	298
193	Cutting Surfaces on Angular Pieces of Wood	II, 376	531
194	Under-Drain Plough	II, 147	368
195	Auger for Wood	II, 324	487
196	Securing the Ends of Railway Bars	II, 163	377
197	Ladies' Hoop-Skirts	II, 578	648
198	Valve Gear of Locomotive-Engines	II, 40	292
199	Pasting Apparatus for Bag-Machines	II, 498	606
200	Steam-Engine	II, 13	274
201	Pump	II, 249	435
202	Brace-Post for Feld-Fences	II, 135	361
203	Harvester	I, 407	43
204	Stop-Gate for Canals	II, 123	353
205	Crimping Boot-Soles	II, 395	545
206	Corn-Shelling Machine	I, 363	I, 16
207	Straw Cutter	I, 495	III, 107
208	Seeding-Machine	I, 485	102
209	Propeller	II, 66	309
210	Apparatus for Hoisting and Storing Ice	II, 605	661
211	Machine for Placing Nail-Heads	I, 548	138
212	Machine for Distributing Guano, &c	I, 383	28
213	Railroad Car-Brake	II, 191	397
214	Hinge for Window-Blinds	I, 524	123
215	Cultivator	I, 370	21
22,216	Hay and Cotton-Press	II, 277	III, 454

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22,217	Restoring Waste Vulcanized Rubber	I, 694	
218	Manufacture of Hard Rubber	I, 693	
219	Air Engine	II, 235	III, 426
220	Sewing Machine	I, 647	208
221	Weavers' Shuttles	I, 653	21
222	Machine for Cutting Dovetailed-Mouldings	II, 342	499
223	Cooking Stove	I, 755	263
224	Extension-Table	II, 482	596
225	Sewing Machine	I, 647	208
226	Sewing-Machine	I, 649	209
227	Washing-Machine	II, 497	605
228	Seed Planter	I, 451	75
229	Railroad-Car Brake	II, 191	397
230	Burner for Lamps	I, 728	247
231	Machine for Cutting Staves from the Bolt	II, 371	528
232	Horse-Rake	I, 469	90
233	Composition for Purifying Gas	I, 665	216
234	Door Latch	I, 512	116
235	Horse-Rake	I, 469	90
236	Washing Machine	II, 496	604
237	Harvester	I, 407	43
238	Wrought Nail Machine	I, 551	
239	Lime Kiln	II, 389	542
240	Sewing Machine	I, 647	208
241	Measuring and Recording by the Tape	II, 100	335
242	Bustles	II, 569	643
243	Supporting Furniture-Casters	II, 460	583
244	Platform-Scales	II, 284	458
245	Amalgamator	I, 501	110
246	Water-Proof Cork-Composition	I, 667	
247	Sealing Preserve-Cans	II, 440	III, 571
248	Edge-Keys for Boots	II, 399	548
249	Preventing Incrustation of Steam-Boilers	I, 690	228
250	Stove	I, 748	258
251	Grain and Grass-Harvester	I, 415	49
252	Guard for Circular-Saws	II, 359	514
253	Burner for Lamps	I, 728	247
254	Watch-Case	II, 117	347
255	Sewing-Machine	I, 648	208
256	Saw-Set	I, 566	150
257	Furnace for Melting Iron	I, 712	238
258	Life-Berth for Vessels	II, 59	304
259	Corn-Harvester	I, 411	47
260	Saw-Set	I, 566	150
261	Opening and Closing Gates by Approaching Vehicles	II, 141	365
262	Spindles for Throstle Spinning	I, 654	212
263	Billiard Table Cushion	II, 592	654
264	Sewing-Machine	I, 648	208
265	Manufacture of Vulcanized Rubber-Goods	I, 693	
266	Securing the Arms to the Hubs of Propellers	II, 71	III, 311
267	Valves for Gas-Metres	I, 680	223
268	Saw-Mill	II, 349	504
269	Sewing Machine	I, 647	208
270	Burner for Vapor Lamp	I, 730	247
271	Device for Preventing Explosions in Steam Boilers	II, 4	268
272	Stencil	II, 539	
273	Sewing Machine	I, 649	III, 209
274	Wristband-Fastener	II, 582	650
275	Sewing Machine	I, 649	209
276	Stove	I, 749	259
22,277	Stove	I, 749	III, 258

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22,278	Tea and Coffee Pot	II, 473	III, 590
279	Excavator	II, 132	359
280	Railroad-Brake	II, 121	350
281	Air-Engine	II, 235	426
282	Water-Wheel	II, 260	441
283	Car-Seats and Couches	II, 202	406
284	Feed-water and Blow-off Apparatus for Steam-Boilers	II, 5	268
285	Compositions for Tanning Leather	I, 666	
286	Machine for Making Hollow Bullets	II, 543	III, 629
287	Steam and Water-Alarm Gauge for Steam-Boilers	II, 21	281
288	Machinery for Forming Hat-Bodies	I, 599	173
289	Steam-Radiators	I, 740	254
290	Harness-Snaps	II, 404	551
291	Car-Brake	II, 187	391
292	Car-Spring	II, 204	406
293	Bandages	II, 561	639
294	Folding-Table	II, 482	596
295	Sled-Brake	II, 227	420
296	Engine-Hose	II, 240	
297	Folding-Chair	II, 445	III, 573
298	Shower-Bath	II, 561	639
299	Breech-Loading Cannon	II, 543	630
300	Children's Carriage	II, 210	410
301	Stair-Sweeper	II, 480	595
302	Machine for Turning Irregular Forms	II, 336	493
303	Steam-Boiler	II, 3	267
304	Adjustable Carriage-Seats	II, 210	410
305	Escapement for Time-Pieces	II, 115	346
306	Steam-Generator	II, 34	
307	Furnace for Evaporating Sugar Juices	I, 696	III, 230
308	Forceps for Fastening Clasps on Hoop-Skirts	II, 579	649
309	Bee-Hive	I, 345	2
310	Nut-Machine	I, 555	144
311	Lamp-Shade Supporter	I, 734	250
312	Harvester	I, 407	43
313	Water-Gauge for Steam-Boilers	II, 22	282
314	Attaching Carriage Thills to Axles	II, 212	411
315	Fluid-Metre	II, 245	432
316	Cultivator	I, 371	21
317	Cradle for Dry Docks and Marine Railways	II, 129	357
318	Slide Valve-Gear of Steam-Engines	II, 42	293
319	Lock	I, 536	130
320	Apparatus for Operating Valves of Steam-Engines	II, 50	299
321	Valve-Gear of Steam-Engines	II, 41	293
322	Valve of Steam-Engines	II, 50	299
323	Machine for Drilling Metals	I, 514	117
324	Fire Escape-Ladder	I, 707	236
325	Breech-Loading Cannon	II, 544	630
326	Raking Attachments to Harvesters	I, 423	57
327	Lamp	I, 726	246
328	Heels for Boots and Shoes	II, 397	547
329	File Cutting-Machine	I, 518	119
330	Machine for Cutting Soap	I, 695	229
331	Applying Gas for Heating and Illuminating	I, 719	242
332	Plough	I, 461	83
333	Slide Valve-Gear for Oscillating-Engines	II, 41	293
334	Steam-Boiler	II, 3	267
335	Gas-Burning Stove	I, 757	263
336	Straw-Cutter	I, 495	107
337	Cleaning Rice	II, 318	483
22,338	Car Seats and Couches	II, 203	III, 406

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340	Pegging Jacks	II, 410	555
341	Harvester	I, 408	44
342	Stove	I, 749	259
343	Composition for Roofing	II, 168	.....
344	Cut-off Gear for Steam-Engines	II, 17	III, 278
345	Harvester	I, 408	43
346	Propeller for Life-Boats	II, 68	310
347	Ellipsograph	II, 95	332
348	Breech-Loading Revolving Fire-Arm	II, 549	632
349	Pepper Cruet	II, 455	580
350	Shingle	II, 366	523
351	Preserve-Can	II, 439	570
352	Buckle	II, 400	548
353	Bagasse Furnace	I, 709	236
354	Carpet-Fastener	II, 441	571
355	Slide and Fastening for Skirt-Hoops	II, 577	648
356	Balancing Millstones	II, 310	479
357	Hydrant	II, 243	431
358	Extension Finger-Ring	II, 538	628
359	Machine for Separating Garlic from Grain	II, 290	465
360	Horse-Power for Driving Reciprocating Saws	II, 293	467
361	Cut-off Gear for Steam-Engines	II, 17	279
362	Medicated Fabrics	II, 564	.....
363	Paper File	II, 515	III, 614
364	Seats and Sleeping Couches for Railroad Cars	II, 222	417
365	Hanging Window-Sash	II, 182	388
366	Portable Fan	II, 571	645
367	Scissors	I, 568	152
368	Gathering Grain upon and Discharging it from Harvester	I, 424	57
369	Hoop Lock	II, 334	492
370	Bottle Stopper	II, 594	655
371	Folding-Bench	II, 590	654
372	Machine for Elevating Hay	II, 265	444
373	Buoyant Propeller	II, 67	310
374	Seeding-Machine	I, 487	103
375	Draughting Shirts	II, 574	647
376	Railroad Rail	II, 154	372
377	Quoins for Gun Carriages	II, 557	636
378	Self-Adjustable Levelling Instrument	II, 97	334
379	Machine for Boring Wood	II, 331	490
380	Governor for Steam-Engines	II, 24	283
381	Brush	II, 434	567
382	Boiler-Furnace	I, 710	237
383	Harness Buckles	II, 403	550
384	Hominy-Mill	II, 300	471
385	Buckle for Skirt Hoops	II, 576	647
386	Mitre-Box	II, 342	499
387	Cam-Press	II, 272	449
388	Dynanometer	II, 90	327
389	Plough	I, 461	83
390	Labels for Trees	II, 606	662
391	Apparatus for Purifying Gas	I, 676	221
392	Stove	I, 750	259
393	Glass Furnaces and Pots	II, 387	540
394	Attaching Cutting Lips to Auger Shanks	II, 325	487
395	Smut-Machine	II, 323	486
396	Instrument for Measuring Altitudes	II, 86	324
397	Watch-Faces	II, 118	348
398	Clothes-Frame	II, 450	577
22,399	Hemp-Brake	I, 602	III, 175

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22,400	Machine for Turning Tapering Twists on Wood	II, 374	III, 530
401	Paper Pulp from Wood	I, 615	184
402	Faucet	II, 237	428
403	Ice-Pick	II, 606	662
404	Bootjack	II, 432	566
405	Letter Envelope	II, 504	608
406	Manufacture of Pyrogenic Oil	I, 687	227
407	Apparatus for Destructive Distillation	I, 669	216
408	Apparatus for Destructive Distillation of Wood, &c	I, 669	217
409	Lamp	I, 726	246
410	Manufacture of Artificial Fuel	I, 708	.....
411	Grain Measure	II, 99	III, 334
412	Revolving Fire-Arm	II, 555	635
413	Compensating Pendulum for Clocks	II, 90	326
414	Printing-Press	II, 535	626
415	Stump-Extractor	II, 173	382
416	Stove	I, 750	259
417	Steering Propeller	II, 69	311
418	Seeding-Machine	I, 487	103
419	Spring Bottom for Chairs and other Seats	II, 447	575
420	Shuttle Boxes for Looms	I, 613	182
421	Sash-Fastener	I, 517	118
422	Propeller for Boats	II, 68	310
423	Mechanical Typographer	II, 541	628
424	Furnace for Burning Lime	I, 710	237
425	Lock	I, 537	130
426	Ladies' Hooped Skirts	II, 578	648
427	Breech-Loading Cannon	II, 544	630
428	Adjusting Tripper to Escapement Lever of Time Keepers	II, 115	346
429	Inkstand	II, 429	610
430	Tool for Slotting Clothes Pins	II, 372	529
431	Propelling and Steering Apparatus	II, 71	312
432	Spring Tackle Block	II, 52	300
433	Preserving Fruit	II, 459	.....
434	Gas Retort	I, 684	III, 225
435	Clothes-Horse	II, 451	578
436	Fruit-Can	II, 438	570
437	Cultivator	I, 371	21
438	Seed-Planter	I, 451	76
439	Locomotive Axle Bearings	II, 25	284
440	Machine for Picking Corn	I, 359	12
441	Door-Spring	I, 575	157
442	Shirt-Stud	II, 574	646
443	Corsets	II, 571	644
444	Iron Pavement	II, 145	367
445	Device for Transmitting Rotary Motion	II, 315	481
446	Blind-Fastener	I, 515	117
447	Lathe for Turning Masts, &c	II, 339	496
448	Iron Railing	II, 147	369
449	Lath-Machine	II, 336	493
450	Core for Moulding Plastic Substances	II, 387	540
451	Pestles for Cleansing Clothes	II, 452	578
452	Burnishing Attachment for Lathes	I, 507	113
453	Steering Apparatus	II, 77	317
454	Trace-Fastening	II, 419	559
455	Railroad Car-Brake	II, 192	397
456	Bedstead-Fastening	II, 423	563
457	Apparatus for Walking on the Water	II, 84	322
458	Dredging-Machine	II, 127	356
459	Burnishing-Machine	I, 508	113
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462	Railroad Car Seats and Couches	II, 203	406
463	Apparatus for Generating Illuminating Gas	I, 678	221
464	Closet for Sewing-Machines	II, 448	576
465	Burner for Vapor Lamps	I, 730	247
466	Edge Tools	I, 578	159
467	Life-Preserving Trunk	II, 63	306
468	Cutting Apparatus for Harvesters	I, 413	48
469	Door-Fastener	I, 512	116
470	Turn-Buckle for Window-Blinds	I, 507	112
471	Railroad Car-Seat	II, 200	404
472	Blasting or removing Sub-marine Bodies	II, 119	350
473	Stacking Agricultural Products	I, 489	104
474	Expanding Bit	II, 329	490
475	Stacking Agricultural Products	I, 489	104
22,476	Cast-Iron Mercury Bottle	I, 529	III, 127

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186	Machine for Smoothing Planed Surfaces, [17,992]	653	674
187	Cider-Mill, [16,040]	653	672
188	Covering for Drawing-Rolls, [17,754]	654	.....
189	Millstone Dress for Hulling Rice, [12,408]	654	III, 673
190	Bullet-Mould, [16,910]	654	.....
191	Life-Preserving Berths, [18,090]	654	III, 672
192	Limekiln, [18,635]	654	672
193	Cutting Flour-Mill, [15,060]	654	672
194	Steam Plough, [19,427]	654	673
195	Clasps for Metallic Hoops, [18,779]	655	671
196	Hanging Carriage Bodies, [8,236]	655	671
197	Automatic Railroad Car-Brake, [18,150]	655	.....
198	Hand Printing-Press, [18,557]	655	III, 673
199	Rotary Blast-Producing Chair, [19,343]	655	671
200	Tightening the Tires of Carriage-Wheels, [19,721]	656	671
201	Polishing Apparatus for Watchmaker's Lathes, [12,502]	656	674
202	Shingle-Machine, [17,906]	656	674
203	Trap for Animals, [17,297]	656	674
204	Revolving Fire-Arm, [20,765]	656	671
205	Corn-Planter, [19,242]	656	674
206	Swing-Bolt for Fastening Shutters, [14,912]	656	670
207	Clasps for Metallic Hoops, [18,779]	657	671
208	Attaching Lamps to Lanterns, [20,785]	657	672
209	Propeller, [12,823]	657	674
210	Cotton-Gin Feeder, [18,410]	657	671
211	Rotary Pump, [21,318]	657	674
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